ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
REPEALING AND CREATING RULES

The Wisconsin Natural Resources Board proposes an order to repeal chs. NR 590, 600, 605 and appendices I, II, III, IV and V, 610, 615, 620, 625, 630, 631, 632, 633, 635 and appendix I, 636, 640, 645, 655, 656, 660, 665, 670, 675 and appendices I, II, III, V, VI, VII, VIII and IX, 680 and appendix I, 685 and 690, and create chs. NR 660, 661 and appendices I, II, III, VII and VIII, 662, 663, 664 and appendices I, IV, V and IX, 665 and appendices I, III, IV, V and VI, 666 and appendices I, II, III, IV, V, VI, VII, VIII, IX, XI, XII and XIII, 668 and appendices III, IV, VI, VII, VIII, IX and XI, 670 and appendices I and II, 673 and 679 relating to hazardous waste management.

WA-10-05

Analysis Prepared by the Department of Natural Resources

1. Statutes interpreted: Sections 227.14(1m)(b), 287.15, 289.06, 289.24, 289.30, 289.41, 289.46 and 289.67, Stats., ch. 291, Stats., and ss. 299.05 and. 299.53, Stats.

2. Statutory Authority: : Sections 227.11(2)(a), 227.14(1m), 287.03(1)(a), 289.05, 289.06, 289.21, 289.24, 289.30, 289.31, 289.33, 289.41, 289.43, 289.61, 289.63, 291.05, 291.07, 291.25, 299.05 and 299.53 Stats.

3. Explanation of agency authority to promulgate the rules under the statutory authority: These rules replace and update current rules that comprehensively regulate the generation, transportation, recycling, treatment, storage and disposal of hazardous waste and used oil. The department has determined that all or part of the state's hazardous waste regulatory program is to be administered according to standards, requirements, or methods which are similar to standards, requirements or methods of U.S. Environmental Protection Agency (EPA). Accordingly, as authorized by s. 227.14(1m)(b), Stats., the format of the rules is similar to the federal regulations published in the code of federal regulations by the EPA under the resource conservation and recovery act (RCRA).

When the Wisconsin legislature passed the Hazardous Waste Management Act in 1977 it set out a declaration of policy in what is now s. 291.001, Stats., regarding hazardous waste management. It found that hazardous wastes, when mismanaged, pose a substantial danger to the environment and public health and safety. To provide for proper management of hazardous waste within the state, the legislature called upon the department to develop and administer a regulatory program that met 9 specific objectives.

Section 291.001, Stats., calls for a program that: (1) Relies upon private industry or local units of government to provide hazardous waste management services, (2) Requires the transportation, storage, treatment and disposal of hazardous wastes to be performed only by licensed operators, (3) Requires generators of hazardous waste to utilize operators licensed to transport, treat, store or dispose of hazardous wastes, (4) Does not interfere with, control or regulate the manufacturing processes which generate hazardous wastes, (5) Ensures the maintenance of adequate records on, and the reporting of, the disposition of all hazardous wastes either generated in or entering this state, (6) Encourages to the extent feasible, the reuse, recycling or reduction of hazardous wastes, (7) Provides adequate care and protection of disposal facilities after the facilities cease to accept hazardous wastes, (8) Provides members of the public and units of local government an opportunity to review and comment upon the construction, operation and long–term care of hazardous waste management facilities, and (9) Meets the minimum requirements of RCRA.

In furtherance of its objectives, the legislature adopted a number of statutes setting out general and specific hazardous waste rulemaking authority. Some of these rulemaking provisions are mandatory, while others are discretionary. Section 291.05, Stats., requires the department to adopt by rule EPA's criteria for identifying the characteristics of hazardous waste, and to adopt EPA's lists of hazardous wastes and hazardous constituents, with limited exceptions. Rules governing hazardous waste transportation are also mandated, as are rules governing specific aspects of hazardous waste generation, treatment, storage and disposal, corrective action, licensing, closure, long term care, and license and plan review and approval fees. Discretionary rulemaking authority was granted to prohibit certain methods of treatment or disposal of particular wastes, and to exempt by rule certain persons who generate, transport, treat, store or dispose of hazardous wastes if such action does not present a significant hazard to public health and safety or the environment.

Since hazardous wastes are a subset of solid wastes, rulemaking authority in various sections of ch. 289, Stats., is also relied upon by the department, in particular that authority relating to hazardous waste facility location, design, construction, operation, maintenance, closure, long term care, negotiation and arbitration, financial responsibility and licensing and recycling. Finally, the department also relies in part on rulemaking authority in ss. 287.03(1)(a) and 299.53, Stats., to regulate waste or used oil.

4. Related statute or rule: Chapters 160, 287, 289, 292, 293 and 299, Stats., and chs. NR 2, 140, 141, 182, 500 to 590, 700 to 754 and 812, Wis. Adm. Code.

5. Plain language analysis of the rule: Like the current rules that they replace, the revised rules define the types of materials that are regulated as hazardous waste, universal waste and used oil. The rules describe siting, equipment design, operating, recordkeeping, training and reporting standards that apply to anyone who generates, transports or recycles these wastes, as well as to the facilities that treat, store and dispose of the wastes.

Wisconsin's hazardous waste management program under ch. 291, Stats., is intended to ensure that hazardous waste is managed safely from the moment it is generated to the moment it is finally disposed. The current and revised rules implement that program. They include procedures to facilitate the proper identification and classification of hazardous waste. Generators of hazardous waste are classified as Large Quantity, Small Quantity, and Very Small Quantity, based on the amounts and types of waste generated, and are subject to different degrees of regulation accordingly. The rules require generators to properly identify and handle their hazardous wastes, and to ensure that the wastes are properly recycled or transported to authorized facilities for treatment, storage or disposal. Hazardous waste treatment, storage and disposal facilities are subject to extensive licensing requirements, including department review and approval, and input from the public before receiving a license to operate the facilities. Licenses require compliance with the department's hazardous waste rules and with the facilities' approved plans of operation. Facility owners and operators also must provide proof of financial responsibility to ensure that the facilities meet closure requirements at the end of their operating lives without leaving behind environmental pollution. Companies that recycle hazardous waste are conditionally exempt from most of the facility licensing requirements to encourage the recycling and reuse of hazardous waste that would otherwise be sent for disposal. Upon referral to the Attorney General, violations of the hazardous waste rules may be enjoined by state courts and are subject to civil and criminal penalties.

The revised rules also include an increase to the hazardous waste plan review, license and manifest fees. The current hazardous waste fee schedule has been in place since 1994. The reasons for the fee increases are: inflationary costs have affected salaries, fringe benefits, and supplies and services, and the revenue from the hazardous waste fees approved in 1994 never met expectations. Two new hazardous waste positions approved in the 2001-03 Biennial Budget were never filled because of lack of sufficient revenue. Based on current revenue and expenditure levels, we are projecting a deficit in the hazardous

waste program revenue account at the end of FY2005. The Waste Management Program uses General Program Revenue (GPR), Program Revenue and federal grant funding to cover the costs of operating the hazardous waste program in Wisconsin. Through the last several biennial budget cycles, the amount of GPR available to the Waste Management Program has decreased. In addition, the amount of hazardous waste federal funding we receive from EPA has remained at the same level since FY1995, and was actually decreased in FY2005. As a result, we are no longer able to cover the costs necessary to operate the hazardous waste program.

If we are not able to bring in additional revenues, the Waste Management Program will need to reduce staffing levels. This will impact our ability to continue our current level of hazardous waste plan review, inspections, complaint response, and technical assistance we provide to our customers and stakeholders. These activities ensure that hazardous waste facilities are managed in ways that protect human health and the environment. Mishandling of the generation, transport and disposal of hazardous waste can cause serious threats to human health and the environment through soil and groundwater contamination. Preventing pollution through proper management of hazardous wastes is a good investment. Reduced staffing available to work on hazardous waste management activities will also affect our ability to maintain Wisconsin's hazardous waste program authorization from EPA. Being an authorized state allows hazardous waste facility owners and operators to work directly with department staff who are familiar with and located near their facilities. If Wisconsin lost its program authorization, the hazardous waste management activities in Wisconsin would be carried out by EPA staff. Reduced staffing levels would also result in Wisconsin not being able to earn the federal grant money we currently receive from EPA, which would cause a further reduction in federal funding.

The new hazardous waste plan review and license fees are effective October 1, 2006. The majority of the fee increases represent about a 3% increase per year since 1994 to account for inflation. A few of the fees represent a higher percentage increase, and there are some fees that are decreased or eliminated. In addition, we are proposing to add a per vehicle fee to the Transportation Service License fee. This will make the hazardous waste transportation license similar in structure to the solid waste transportation license. We are also proposing an increase in the Manifest Fee from $2 to $6 per manifest effective January 1, 2006. Wisconsin's manifest revenue at the $2/manifest level has never generated sufficient funds to cover the costs of managing the manifest data. The current fees are roughly half of the revenue projected when the fee was implemented in 1994. Wisconsin's current manifest fee is also significantly below that of neighboring states.

The rules incorporate a number of technical standards by reference, as do the current rules. Consent for incorporation of these standards for the current rules was obtained from the Revisor of Statutes and Attorney General pursuant to s. 227.21(2)(a), Stats., and will be obtained for the rules prior to promulgation.

6. Summary of and preliminary comparison with any existing or proposed federal regulation: The rules are based on the current federal hazardous waste regulations, at 40 CFR§ 260, et seq. The rules add a number of federal regulations that Wisconsin is not currently authorized by EPA to administer, such as air emission standards for containers and tanks, the recovery of precious metals and standards for boilers and industrial furnaces. The rules incorporate updates to the federal regulations, including rules that reduce the paperwork burden on generators, and allow alternate standards for disposal of contaminated soils from clean up sites, emergency response actions and activities at military installations.

The rules continue to require Wisconsin small quantity hazardous waste generators to submit annual reports and copies of designated facility-signed manifests for out-of-state hazardous waste shipments, and pay an annual, environmental repair fee for hazardous waste generated. However, the annual reports required of Wisconsin small quantity generators are significantly reduced in scope compared to the

federal biennial report requirements for large quantity generators. Under the federal regulations, small quantity generators are not required to submit biennial reports or copies of designated facility-signed manifests, or pay environmental repair fees.

The rules continue to require Wisconsin very small quantity hazardous waste generators to comply with: 1) container and tank standards, and 2) notification, manifest, exception reporting and manifest recordkeeping requirements, if they use a manifest. Under the federal regulations, the equivalent conditionally exempt small quantity generators are not required to comply with these requirements.

The rules continue to require hazardous waste transporters operating in Wisconsin to be licensed by the department. Under the federal regulations, hazardous waste transporters are not required to be licensed by EPA.

The rules continue to prohibit land treatment of hazardous waste. Under the federal regulations, land treatment of hazardous waste is allowed if it meets the applicable requirements of Subpart M-Land Treatment of 40 CFR Part 264 or 265. The rules also continue to prohibit underground injection of department-approved hazardous waste through a well, except for certain underground injection of contaminated groundwater as part of a remedial action necessary for the cleanup of soil or groundwater contamination. Under the federal regulations, underground injection of hazardous waste is allowed if it meets applicable federal requirements.

The rules continue to regulate as hazardous waste household hazardous waste, that has been separated from household waste and managed at a regulated collection facility and very small quantity generator hazardous waste. The rules codify the department's 1995 Interim Guidance for Household and Very Small Quantity Generator Hazardous Waste Collection Facilities. This is more stringent than federal requirements, but less stringent than fully regulating household and conditionally exempt small quantity generator hazardous waste collection facilities as hazardous waste management facilities.

Under the federal regulations: 1) household waste is excluded from hazardous waste regulation, and 2) conditionally exempt small quantity generator waste is exempt from hazardous waste generator, transporter and treatment, storage and disposal facility requirements.

The process to obtain an operating license for treatment, storage or disposal facilities in Wisconsin is equivalent to the comparable federal facility permitting process, but also includes additional unique state statutory requirements.

7. Comparison of similar rules in adjacent states (Minnesota, Iowa, Illinois and Michigan)

EPA authorization of state hazardous waste and used oil management programs ensure that they are at least as stringent as the federal programs on which they are based. Because the State of Iowa is not authorized to administer the federal RCRA hazardous waste or used oil management programs, EPA Region 7 administers those programs in that state. For a comparison of the Wisconsin rules to the similar federal regulations in effect in Iowa, see the previous section 6 (Summary of and preliminary comparison with any existing or proposed federal regulation).

EPA Region 5 has authorized the States of Illinois, Michigan and Minnesota to administer the federal RCRA hazardous waste management program in their respective states (except in Indian Country). Because the States of Illinois, Michigan and Minnesota are authorized, the authorized portions of their state hazardous waste management rules apply instead of the federal rules.

EPA Region 5 has authorized the States of Illinois and Michigan to administer the federal RCRA used oil management program in their respective states (except in Indian Country). In 1995, the State of

Minnesota adopted used oil management rules that are based on the similar federal regulations at 40 CFR Part 279. The State of Minnesota has not submitted a request to EPA Region 5 to be authorized for its used oil management program. Thus, EPA Region 5 has not reviewed the State of Minnesota's used oil management program to determine whether it is at least as stringent as the federal used oil management program.

The State of Illinois hazardous waste and used oil management rules are similar to the federal regulations on which they are based, with some adoption of the federal regulations by reference. The State of Michigan adopts the federal regulations by reference, but not entirely (i.e., some re-write and some material identical in substance). The State of Minnesota has adopted some of the federal regulations by reference. Some of its earlier rules preceded RCRA and even though they are "equivalent", they are different enough to make comparison to the federal regulations difficult. The State of Minnesota can also adopt some federal regulations by reference prospectively.

Small Quantity Hazardous Waste Generator Comparison

Wisconsin: The rules continue to require Wisconsin small quantity hazardous waste generators to submit annual reports and copies of designated facility-signed manifests for out-of-state hazardous waste shipments, and pay an annual, environmental repair fee for hazardous waste generated. However, the annual reports required of Wisconsin small quantity generators are significantly reduced in scope compared to the federal biennial report requirements for large quantity generators.

Illinois: Illinois small quantity generators are not required to submit annual reports or copies of designated facility-signed manifests, or pay environmental repair fees. However, Illinois small quantity generators must submit a copy of each manifest after the generator and initial transporter signs it.

Iowa: Under the federal regulations, Iowa small quantity generators are not required to submit biennial reports or copies of designated facility-signed manifests, or pay environmental repair fees.

Michigan: Michigan small quantity generators must submit a copy of: 1) each manifest after it is signed by the generator and initial transporter, and 2) each designated facility-signed manifest for out-of-state hazardous waste shipments. Michigan small quantity generators are not required to submit biennial reports or pay environmental repair fees.

However, Michigan small quantity generators must pay their share of tipping fees for hazardous waste they send to Michigan landfills or solidification facilities. The State assesses the tipping fees on the landfills and solidification facilities, and requires them to assess the fees on off-site generators they receive hazardous waste from. The State deposits the fees in its waste reduction fund.

Minnesota: Minnesota small quantity generators are not required to submit the information required for federal biennial reports. However, Minnesota small quantity generators must: 1) submit a copy of each manifest after it is signed by the generator and initial transporter, and 2) for out-of-state hazardous waste shipments, ensure that the designated facility submits a copy of each designated facility-signed manifest. Minnesota small quantity generators must also have a hazardous waste generator license and pay an annual, hazardous waste generator fee.

Very Small Quantity Hazardous Waste Generator Comparison

Wisconsin: The rules continue to require Wisconsin very small quantity hazardous waste generators to comply with: 1) container and tank standards, and 2) if they use a manifest, notification, manifest, exception reporting and manifest recordkeeping requirements.

Illinois: The equivalent Illinois conditionally exempt small quantity generators are not required to comply with: 1) container or tank standards, or 2) notification, manifest, exception reporting or manifest recordkeeping requirements.

Iowa: Under the federal regulations, the equivalent Iowa conditionally exempt small quantity generators are not required to comply with: 1) container or tank standards, or 2) notification, manifest, exception reporting or manifest recordkeeping requirements.

Michigan: The equivalent Michigan conditionally exempt small quantity generators are not specifically required to comply with: 1) container or tank standards, or 2) notification, manifest, exception reporting or manifest recordkeeping.

However, Michigan conditionally exempt small quantity generators are required to store hazardous waste: 1) in an area where the waste is protected from weather, fire, physical damage, and vandals, and 2) so that hazardous waste or hazardous waste constituents cannot escape by gravity into the soil, directly or indirectly, into surface or groundwaters, or into drains or sewers and so that fugitive emissions are not in violation. Michigan conditionally exempt small quantity generators, who generate liquid hazardous waste or other liquid industrial waste, are required to comply with State liquid industrial waste manifest and exception reporting requirements

Minnesota: Minnesota very small quantity generators are required to comply with container and tank standards, and notification, manifest, exception reporting and manifest recordkeeping requirements. (Very small quantity generators located outside the Twin Cities seven county metropolitan area are not required to submit manifest copies to the State.) Minnesota very small quantity generators are also required to: 1) protect storage areas from unauthorized access and inadvertent damage from vehicles or equipment, 2) place containers holding free liquids on a containment surface that is impermeable to the waste stored and, if outside, is curbed, and 3) meet preparedness and prevention requirements. Minnesota very small quantity generators who accumulate acute hazardous waste, in quantities less than the large quantity generator acute hazardous waste accumulation limits, must comply with more stringent, small quantity generator accumulation requirements. Minnesota very small quantity generators must also have a hazardous waste generator license and pay an annual, hazardous waste generator fee.

Hazardous Waste Transporter Comparison

Wisconsin: The rules continue to require hazardous waste transporters operating in Wisconsin to be licensed by the department, as required by s. 291.23, Wis. Stats.

Illinois: Hazardous waste transporters operating in Illinois must be registered with and permitted in the Uniform Hazardous Materials Registration Program by the IL DOT, Uniform Hazardous Waste Program by the IL EPA or another reciprocal base-state.

Iowa: Under the federal regulations, hazardous waste transporters operating in Iowa are not required to be registered with, or permitted or licensed by, U.S. EPA.

Michigan: Hazardous waste transporters operating in Michigan must be registered with and permitted in the Uniform Hazardous Materials Registration Program by the MI DEQ or another reciprocal base-state. Persons who transport liquid industrial waste in Michigan, which includes liquid, conditionally exempt small quantity generator hazardous waste, must be registered with and permitted by MI DEQ for liquid industrial waste transportation.

Minnesota: Hazardous waste transporters operating in Minnesota must be registered with and permitted in the Uniform Hazardous Materials Registration Program by the MN DOT or another reciprocal base-state.

Hazardous Waste Land Treatment Comparison

Wisconsin: The rules continue to prohibit land treatment of hazardous waste.

Illinois: Land treatment of hazardous waste is allowed if it meets the State's hazardous waste land treatment requirements.

Iowa: Under the federal regulations, land treatment of hazardous waste is allowed if it meets the applicable requirements of Subpart M-Land Treatment of 40 CFR Part 264 or 265.

Michigan: Land treatment of hazardous waste is allowed if it meets the federal requirements in Subpart M-Land Treatment of 40 CFR Part 264.

Minnesota: Land treatment of most hazardous waste is allowed if it meets the State's hazardous waste land treatment requirements. Facilities not in interim status are prohibited from placing listed hazardous wastes F020, F021, F022, F023, F026 and F027 in a land treatment unit.

Hazardous Waste Underground Injection Comparison

Wisconsin: The rules continue to prohibit underground injection (disposal) of hazardous waste through a well, except for certain underground injection of contaminated groundwater as part of a department-approved remedial action necessary for the cleanup of soil or groundwater contamination.

Illinois: Underground injection of hazardous waste is allowed if it meets applicable State requirements.

Iowa: Under the federal regulations, underground injection of hazardous waste is allowed if it meets applicable federal requirements.

Michigan: Underground injection of hazardous waste is allowed if it meets applicable federal requirements. Before drilling a multi-source commercial hazardous waste disposal well, or converting a well to such a use, a person is required to have a Michigan construction permit, for an on-site treatment facility and storage facility.

Minnesota: Minnesota rules prohibit the discharge of sewage, industrial waste or other wastes directly into the saturated zone by injection wells or other devices used for the purpose of injecting materials into the saturated zone.

Household Hazardous Waste and Very Small Generator Collection Facility Comparison_

Wisconsin: The rules continue to regulate, as hazardous waste, household hazardous waste, that has been separated from household waste and managed at a regulated collection facility, and very small quantity generator hazardous waste. The rules codify the Department's 1995 Interim Guidance for Household and Very Small Quantity Generator Hazardous Waste Collection Facilities. This is more stringent than federal requirements (see Iowa below), but less stringent than fully regulating household and very small quantity generator hazardous waste collection facilities as hazardous waste management facilities.

Illinois: Same requirements as Iowa below, except the Illinois non-hazardous waste landfill rules do not allow the disposal of hazardous waste in a landfill regulated under those rules.

Iowa: Under the federal regulations: 1) household waste is excluded from hazardous waste regulation, and 2) conditionally exempt small quantity generator waste is exempt from hazardous waste generator, transporter and treatment, storage and disposal facility requirements. Thus, Iowa facilities that collect only these wastes do not need to comply with hazardous waste management requirements.

Michigan: Household waste is excluded from hazardous waste regulation. Michigan facilities that collect only excluded household waste do not need to comply with hazardous waste management requirements. However, Michigan facilities that collect and store limited quantities of conditionally exempt small quantity generator waste are regulated similar to small quantity hazardous waste generators, except they may send the collected waste to a Michigan solid waste storage, treatment or disposal facility. This is more stringent than federal requirements (see Iowa above), but less stringent than fully regulating conditionally exempt small quantity generator waste collection facilities as hazardous waste management facilities.

Minnesota: Household waste is exempt from Minnesota hazardous waste regulation, except for: 1) waste collected by a household hazardous waste management program, and 2) spent or waste household batteries collected by a household battery management program. Household hazardous waste management program operators are regulated similar to large quantity hazardous waste generators. The regulation of household battery management program operators varies depending on whether the batteries are recycled, and whether the operators speculatively accumulate or reclaim the batteries on-site.

Minnesota regulates very small quantity generator hazardous waste as hazardous waste, but has reduced requirements for very small quantity generator hazardous waste collection program operators. The program operators are regulated similar to large quantity hazardous waste generators. This is more stringent than federal requirements (see Iowa above), but less stringent than fully regulating very small quantity generator hazardous waste collection sites as hazardous waste management facilities. Minnesota household and very small quantity generator hazardous waste collection program operators are not allowed to send the collected waste to a Minnesota non-hazardous waste landfill.

Used Oil Transporter Comparison

Wisconsin: The rules continue to require used oil transporters operating in Wisconsin to have a solid waste collection and transportation service license.

Illinois: Most used oil transporters operating in Illinois must have an Illinois special waste identification number and be permitted by the State to haul special waste.

Iowa: Under the federal regulations, used oil transporters operating in Iowa are not required to be registered with, or permitted or licensed by, EPA.

Michigan: Used oil transporters operating in Michigan must be registered with and permitted by the State to transport liquid industrial waste.

Minnesota: Used oil transporters operating in Minnesota are not required to be registered with, or permitted or licensed by, the State. However, used oil transporters based in the Twin Cities seven county metropolitan area may be required to be licensed by the county.

8. Summary of the factual data and analytical methodologies that the agency used in support of the rule and how any related findings support the regulatory approach chosen for the rule: The intent has been to update the NR 600 series and NR 590 rules, and retain EPA authorization to administer the hazardous waste program, by paralleling the federal rules as much as possible. The reasons for this change are as follows:

- Portions of the existing Hazardous Waste (NR 600 series) and Used Oil (NR 590) rules are outdated.
- More federal regulations have been promulgated and we need additional EPA authorization for these rules.
- Errors have crept into the rules over the years.
- Wisconsin-unique provisions added complexity and are not all needed to effectively implement the hazardous waste program.
- Keeping the rules consistent with EPA using the Wisconsin-unique rules organization is difficult and often confuses the public and businesses on what is required.
- The Waste Management Program must develop Wisconsin-unique guidance rather than using EPA guidance, which may not be an efficient use of limited resources.

In the rule development and review process, staff has identified the Wisconsin-unique provisions that are in the existing NR 600 series and NR 590 rules and made recommendations to only keep the Wisconsin unique requirements when needed to:

- Comply with Wisconsin statute.
- Address documented public health or environmental problems.
- Allow effective operation of the hazardous waste program.
- Maintain consistent facility standards with other appropriate Wisconsin environmental programs.
- Encourage safe recycling and reuse.

9. Any analysis and supporting documentation that the agency used in support of the agency's determination of the rule's effect on small businesses under s. 227.114, Stats., or that was used when the agency prepared an economic impact report: The department received Hazardous Waste Program authorization from EPA in 1986. Since that time, there have been numerous revisions to the federal requirements with the department lagging behind in seeking further authorization and implementing updates to existing authorization. In order to maintain authorization, the Wisconsin program must be at least equivalent to the federal requirements. Thus, our flexibility to do something different than required by federal requirements is limited.

10. and 11. Anticipated costs incurred by the private sector and Effects on small business, including how the rule will be enforced.

Note: If the costs are the same as under the current rules or are reduced under the rules, no new costs are indicated in the summary (below).

The current rules regulate the management of hazardous waste, have significant impacts on the regulated community and were intended to be consistent with the EPA regulations with some exceptions (like specific Wisconsin statutory requirements). The revised rules are again intended to be consistent with the EPA regulations and add the most recent EPA regulations to the rules.

The rules will affect facilities that generate, transport, recycle, treat, store or dispose of hazardous waste. The largest parts of the current and rules apply to treatment, storage and disposal facilities (TSDs), and none of the existing 18 TSDs are defined as small business (25 employees or $5,000,000 in gross sales).

Like the current rules, the revised rules will be enforced by department staff through compliance assistance, complaint follow-up and inspections. If a violation is found, the department uses a stepped enforcement process similar to the process it uses for other environmental programs. This stepped process includes the following:

- Notice of non-compliance, this is typically the first step in dealing with a problem and is usually done by a program specialist through a letter to the facility. It's expected that the facility, once notified of the problem will, correct the problem quickly.
- Notice of Violation, this is typically the second step in dealing with a problem and is a higher level of enforcement. Typically, the Notice of non-compliance hasn't resulted in the problem being resolved and this step includes an opportunity for a face to face meeting with program and enforcement staff. At this meeting, it's expected that the facility will make commitments to resolve the problem and will follow through.
- Referral to the Attorney General for prosecution and injunctive relief, when appropriate. Formal civil and criminal enforcement mechanisms and penalties for hazardous waste violations are established in subchapter V. of ch. 291, Wis. Stats.

To help ensure consistency, the department will continue to use EPA's (Office of Enforcement and Compliance Assistance) guidance in evaluating the significance of violations and the level of response as part of our stepped enforcement process.

Ch. NR 660 - The purpose of this chapter is to provide definitions and general information regarding hazardous waste management. There are no new costs to the private sector or enforcement impacts to small business compared to the existing rules.

Ch. NR 661 - This chapter provides information for identifying solid wastes that are subject to regulation as hazardous waste, establishes criteria for identifying the characteristics of hazardous waste and a list of hazardous waste.
There are no new costs to the private sector or enforcement impacts to small business compared to the existing rules.

Ch. NR 662 - This chapter establishes standards for hazardous waste generators. The main administrative and waste management standards are as follows:

- Manifest requirements to track shipments of hazardous waste
- On-site accumulation in tanks or containers
- Record keeping, personnel training and annual reporting requirements

There are no new costs or enforcement impacts to the private sector over the existing rules with the exception of indirect cost increases due to the increased manifest, plan review and licensing fees for transporters and TSD facilities to which generators send their hazardous waste. TSDs in Wisconsin will see increased costs due to the plan review, licensing and manifest fees in ch. NR 670 of the rules. There may some indirect costs to small business due to the TSDs and transporters passing part or all of their increased fees back to their clients. These fees have not been increased in over ten years.

Ch. NR 663 - This chapter sets transportation standards for hazardous waste.
There are minor new costs (fees) to the private sector (transporters) some of whom are considered small businesses.

Ch. NR 664 A to E and 665 A to E - The purpose of these subchapters is to establish minimum standards that define the acceptable management of hazardous waste by facilities that treat, store or dispose (TSD) of hazardous waste. There are no new costs or enforcement impacts to the private sector compared to the existing rules with the exception of the fee increases in ch. NR 670.

Ch. NR 664 F and 665 F - This subchapter sets groundwater standards for hazardous waste facilities. There are no new costs to the private sector compared to existing rules and there are no small businesses among the TSDs that are currently licensed in Wisconsin.

Ch. NR 664 G and H and 665 G and H - These subchapters set closure and long-term care requirements for treatment, storage and disposal facilities.
There are no new costs to the private sector compared to existing rules and there are no small business facilities affected.

Ch. NR 664 I and 665 I - This subchapter applies to all hazardous waste facilities that store containers of hazardous waste.
There are no new costs to the private sector compared to existing rules and there are no small business facilities affected.

Ch. NR 664 J and 665 J - This subchapter applies to facilities that use tank systems for storing or treating hazardous waste.
There are no new costs to the private sector compared to existing rules and there are no small business facilities affected.

Ch. NR 664K to O and 665 K to O - These subchapters set design and operating requirements, including liner and closure requirements for specific types of treatment, storage and disposal facilities.
There are no new costs to the private sector compared to existing rules and there are no small business facilities affected.

Ch. NR 665 P and Q - These subchapters set design and operating requirements for specific types of units at treatment, storage and disposal facilities.
There are no new costs to the private sector compared to existing rules and there are no small business facilities affected.

Ch. NR 664 S and X, and 664 W and 665 W - These subchapters set requirements for the following:

- Corrective action management unit rules
- New or existing drip pads to convey treated wood drippage, precipitation or surface water run-off to an associated collection system.
- Treat, store or dispose of hazardous waste in miscellaneous units.

There are no new costs to the private sector compared to existing rules and there are no small business facilities affected.

Ch. NR 664 AA, BB and CC, and 665 AA, BB and CC - These subchapters apply to facilities that treat, store or dispose (TSD) of hazardous wastes. It applies specifically to air emission standards for process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes and licenses.
There are no new costs to the private sector compared to existing rules and there are no small business facilities affected.

Ch. NR 664 DD and EE and 665 DD and EE - The requirements of this subchapter apply to facilities that store or treat hazardous waste in units designed as completely enclosed, self-supporting structures and who store munitions and explosive hazardous wastes.
There are no new costs to the private sector compared to existing rules and there are no small business facilities affected.

Ch. NR 665 R - This subchapter prohibits underground injection of hazardous waste except for specific department-approved remedial activities.
There are no new costs to the private sector compared to existing rules and allows flexibility in site cleanup that will have a positive financial and enforcement impact on small business.

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Ch. NR 666 F to H, M and N

These subchapter provides management standards for specific types of hazardous waste management facilities:

- Recyclable materials used in a manner constituting disposal (applied to or placed on the land)
- Precious metal recovery
- Reclamation of spent lead-acid batteries
- Hazardous waste burned in boilers and industrial furnaces
- Segregated military munitions
- Storage, treatment, transportation and disposal of low-level radioactive waste mixed with hazardous waste.

There are no new costs to the private sector or enforcement impacts to small business over the existing rules.

Ch. NR 666 HH - This subchapter sets minimum design and operating standards for temporary and permanent collection facilities that manage household hazardous waste and very small quantity generator waste.
Normally, local units of government operate these facilities. There may be some minor costs to local government that are associated with the need to upgrade their collection facilities to meet the new design and operating standards, however, most already have been constructed to be in compliance with the standards.

Ch. NR 668 - This chapter sets land disposal standards for hazardous wastes.
There are no new costs to the private sector compared to existing rules and there are no small business facilities affected.

Ch. NR 670 - This chapter sets the requirements for hazardous waste treatment, storage and disposal facility licensing. These requirements incorporate specific state statutory requirements that differ from the federal regulations. There are some new costs through fees for licensing and plan reviews on the private sector compared to existing rules and there are no small business facilities affected.

Ch. NR 673 - This chapter sets standards for universal waste management, which are conditional exemptions from hazardous waste requirements for materials that are legitimately recycled.
There are no new costs to the private sector or enforcement impacts to small business over the existing administrative rules.

Ch. NR 679 - This chapter sets out standards and requirements with respect to the management of used oil.
There are no new costs to the private sector or enforcement impacts to small business over the existing rules.

12. Agency contact person:

Ms. Patricia Chabot, WA/3
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, Wisconsin 53707-7921
608/264-6015
E-mail: Patricia.Chabot@dnr.state.wi.us

WA-10-05

SECTION 1. Chapters NR 590, 600, 605 and appendices I, II, III, IV and V, 610, 615, 620, 625, 630, 631, 632, 633, 635 and appendix I, 636, 640, 645, 655, 656, 660, 665, 670, 675 and appendices I, II, III, V, VI, VII, VIII and IX, 680 and appendix I, 685 and 690 are repealed.

SECTION 2. Chapters NR 660, 661 and appendices I, II, III, VII and VIII, 662, 663, 664 and appendices I, IV, V and IX, 665 and appendices I, III, IV, V and VI, 666 and appendices I, II, III, IV, V, VI, VII, VIII, IX, XI, XII and XIII, 668 and appendices III, IV, VI, VII, VIII, IX and XI, 670 and appendices I and II, 673 and 679 are created to read:

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NOTE: Chapters NR 660 to 679 are similar to federal regulations contained in 40 CFR parts 260 to 279 (July 1, 2002), unless otherwise noted.

CHAPTER NR 660
HAZARDOUS WASTE MANAGEMENT: GENERAL

Subchapter A —General

NR 660.01	Purpose, scope and applicability.
NR 660.02	Availability of information and confidentiality of information.
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Subchapter A —General

NR 660.01 Purpose, scope and applicability. (1) This chapter provides definitions of terms, general standards and overview information applicable to chs. NR 660 to 679.

(2) In this chapter:

(a) Section NR 660.02 sets forth the rules that the department will use in making information it receives available to the public and sets forth the requirements that generators, transporters, or owners or

operators of treatment, storage or disposal facilities shall follow to assert claims of business confidentiality with respect to information that is submitted to the department under chs. NR 660 to 679.

(c) Section NR 660.10 defines terms which are used in chs. NR 660 to 679.

(d) Section NR 660.20 establishes procedures for petitioning the department to amend, modify or revoke any provision of chs. NR 660 to 679 and establishes procedures governing the department's action on the petitions.

(e) Section NR 660.21 establishes procedures for petitioning the department to approve testing methods as equivalent to those prescribed in ch. NR 661, 664 or 665.

(f) Section NR 660.22 references procedures for petitioning EPA to amend subch. D of ch. NR 661 to exclude a waste from a particular facility.

NR 660.02 Availability of information and confidentiality of information. (1) AVAILABILITY OF INFORMATION. Any information provided to or obtained by the department under chs. NR 660 to 679 in the administration of s. 287.15 or 299.53, Stats., or ch. 291, Stats., will be made available to the public to the extent and in the manner authorized by ss. 19.31 to 19.39, Stats., and s. NR 2.195.

(2) CONFIDENTIALITY OF INFORMATION. Any person who submits information to the department according to chs. NR 660 to 679 may seek confidential status for part or all of that information, except emission data, by following the procedures set forth in s. 291.15 or 299.55 Stats., and s. NR 2.19. Information granted confidential status will be disclosed by the department only to the extent, and by means of the procedures, set forth in s. 291.15 or 299.55, Stats., and s. NR 2.19. However, if no application for confidential status accompanies the information when it is received by the department, it may be made available to the public without further notice to the person submitting it.

NR 660.07 Notification of hazardous waste activities. (1) NEW ACTIVITIES. Any person who generates or transports hazardous waste, or owns or operates a facility for the treatment, storage or disposal of hazardous waste, shall notify the department of the activities using EPA Form 8700-12.

(2) EXISTING ACTIVITIES. Any person who, after the effective date of a rule that makes the person subject to regulation under chs. NR 660 to 679, generates or transports hazardous waste, or owns or operates a facility for the treatment, storage or disposal of hazardous waste shall notify the department of the activities using EPA form 8700-12 within 90 days of the effective date of the rule, unless the person has previously notified EPA or the department.

(3) SEPARATE FORMS. A separate EPA notification form shall be submitted to the department for each generation site, transportation service and hazardous waste facility.

Note: EPA notification form 8700-12 may be obtained from: www.epa.gov/epaoswer/hazwaste/data/form8700/form, or the department by E-mail: waste.management@dnr.state.wi.us, phone (608) 266-2111, or Fax (608) 267-2768.

Subchapter B —Definitions

NR 660.10 Definitions. Terms not defined in this section or elsewhere in chs. NR 660 to 679 have the meanings given them in ch. 291, Stats. When used in chs. NR 660 to 679, the following terms have the following meanings:

(1) "Above ground tank" means a device meeting the definition of "tank" in this section and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

(2) "Active life" of a facility means the period from the initial receipt of hazardous waste at the facility until the department receives certification of final closure.

(3) "Active portion" means that portion of a facility where treatment, storage or disposal operations are being or have been conducted after the effective date of ch. NR 661… [revisor inserts date] and which is not a closed portion.

Note: See also "closed portion" and "inactive portion".

(4) "Ancillary equipment" means any device including, but not limited to, such devices as piping, fittings, flanges, valves and pumps, that is used to distribute, meter or control the flow of hazardous waste from its point of generation to a storage or treatment tank or tanks, between hazardous waste storage and treatment tanks to a point of disposal onsite, or to a point of shipment for disposal off-site.

(5) "Aquifer" means a geologic formation, group of formations or part of a formation capable of yielding a significant amount of ground water to wells or springs.

(6) "Authorized representative" means the person responsible for the overall operation of a facility or an operational unit (i.e., part of a facility), e.g., the plant manager, superintendent or person of equivalent responsibility.

(7) "Battery" means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

(8) "Boiler" means an enclosed device using controlled flame combustion and having all of the characteristics in par. (a) or the characteristic in par. (b):

(a) 1. The unit shall have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids or heated gases.

2. The unit's combustion chamber and primary energy recovery sections shall be of integral design. To be of integral design, the combustion chamber and the primary energy recovery sections (such as waterwalls and superheaters) shall be physically formed into one manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery sections are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment (such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: process heaters (units that transfer energy directly to a process stream), and fluidized bed combustion units.

3. While in operation, the unit shall maintain a thermal energy recovery efficiency of at least 60 %, calculated in terms of the recovered energy compared with the thermal value of the fuel.

4. The unit shall export and utilize at least 75 % of the recovered energy, calculated on an annual basis. In this calculation, no credit shall be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps).

(b) The unit is one which the department has determined, on a case-by-case basis, to be a boiler, after considering the standards in s. NR 660.32.

(9) "Carbon regeneration unit" means any enclosed thermal treatment device used to regenerate spent activated carbon.

(10) "Certification" means a statement of professional opinion based upon knowledge and belief.

(11) "Closed portion" means that portion of a facility which an owner or operator has closed according to the approved facility closure plan and all applicable closure requirements.

Note: See also "active portion" and "inactive portion".

(12) "Component" means either the tank or ancillary equipment of a tank system.

(13) "Confined aquifer" means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined ground water.

(14) "Container" means any portable device in which a material is stored, transported, treated, disposed of or otherwise handled.

(15) "Containment building" means a hazardous waste management unit that is used to store or treat hazardous waste under the provisions of subch. DD of ch. NR 664 or 665.

(16) "Contingency plan" means a document setting out an organized, planned and coordinated course of action to be followed in case of a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

(17) "Corrosion expert" means a person who, by reason of the person's knowledge of the physical sciences and the principles of engineering and mathematics, acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. The person shall be certified as being qualified by the national association of corrosion engineers (NACE) or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control on buried or submerged metal piping systems and metal tanks.

(18) "Construct" means to engage in a program of on-site construction including but not limited to the erection or building of new structures, replacement, expansion, remodeling, alteration or extension of existing structures, the acquisition and installation of initial equipment associated with the new or expanded, remodeled structures, and site clearing, grading, dredging or landfilling.

(19) "Critical habitat" means any habitat determined by the department to be critical to the continued existence of any threatened or endangered species listed in ch. NR 27.

(19m) "CWA" or "Clean Water Act" means the Federal Water Pollution Control Act, 33 USC 1251 to 1387, and regulations adopted under that act.

(20) "Department" means the Wisconsin department of natural resources.

(21) "Designated facility" means a hazardous waste treatment, storage or disposal facility which (1) has received a license (or interim license) according to ch. NR 670, (2) has received a permit (or interim permit) from a state authorized according to 40 CFR part 271 or (3) is regulated under s. NR 661.06(3)(b) or subch. F of ch. NR 666, and (4) that has been designated on the manifest by the generator pursuant to s. NR 660.20. If a waste is destined to a facility in an authorized state which has not yet obtained authorization to regulate that particular waste as hazardous, then the designated facility shall be a facility allowed by the receiving state to accept such waste.

(22) "Destination facility" means a facility that treats, disposes of or recycles a particular category of universal waste, except those management activities described in subs. (1) and (3) of ss. NR 673.13 and 673.33. A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

(23) "Dike" means an embankment or ridge of either natural or human-made materials used to prevent the movement of liquids, sludges, solids or other materials.

(24) "Dioxins and furans (D/F)" means tetra, penta, hexa, hepta and octa-chlorinated dibenzo dioxins and furans.

(25) "Discharge" or "hazardous waste discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying or dumping of hazardous waste into or on any land or water.

(26) "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

(27) "Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure. The term disposal facility does not include a corrective action management unit into which remediation wastes are placed.

(28) "Drip pad" is an engineered structure consisting of a curbed, free-draining base, constructed of non-earthen materials and designed to convey preservative kick-back or drippage from treated wood, precipitation and surface water run-on to an associated collection system at wood preserving plants.

(29) "Elementary neutralization unit" means a device which meets all of the following conditions:

(a) Is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in s. NR 661.22, or they are listed in subch. D of ch. NR 661 only for this reason.

(b) Meets the definition of tank, tank system, container, transport vehicle or vessel in this section.

(30) "Enforceable document " means a special order, variance, license or plan approval issued by the department.

(31) "EPA" means the United States environmental protection agency.

(32) "EPA administrator" means the administrator of the EPA or anyone designated to act for the administrator of the EPA.

(33) "EPA hazardous waste number" means the number assigned by EPA to each hazardous waste listed in subch. D of ch. NR 661 and to each characteristic identified in subch. C of ch. NR 661.

(34) "EPA identification number" means the number assigned by EPA to each generator, transporter, and treatment, storage or disposal facility.

(35) "EPA region" means the states and territories found in any one of the following 10 regions:
Region I—Maine, Vermont, New Hampshire, Massachusetts, Connecticut and Rhode Island.
Region II—New York, New Jersey, Commonwealth of Puerto Rico and the U.S. Virgin Islands.
Region III—Pennsylvania, Delaware, Maryland, West Virginia, Virginia and the District of Columbia.
Region IV—Kentucky, Tennessee, North Carolina, Mississippi, Alabama, Georgia, South Carolina and Florida.
Region V—Minnesota, Wisconsin, Illinois, Michigan, Indiana and Ohio.
Region VI—New Mexico, Oklahoma, Arkansas, Louisiana and Texas.
Region VII—Nebraska, Kansas, Missouri and Iowa.
Region VIII—Montana, Wyoming, North Dakota, South Dakota, Utah and Colorado.
Region IX—California, Nevada, Arizona, Hawaii, Guam, American Samoa, Commonwealth of the Northern Mariana Islands.
Region X—Washington, Oregon, Idaho and Alaska.

(36) "Equivalent method" means any testing or analytical method approved by the department under ss. NR 660.20 and 660.21.

(37) "Existing hazardous waste management (HWM) facility" or "existing facility" means a facility which was in operation or for which construction commenced on or before November 19, 1980. A facility has commenced construction if par. (a) and either par. (b)1. or 2. are met:

(a) The owner or operator has obtained the federal, state and local approvals or licenses necessary to begin physical construction.

(b) 1. A continuous on-site, physical construction program has begun.

2. The owner or operator has entered into contractual obligations—which cannot be canceled or modified without substantial loss—for physical construction of the facility to be completed within a reasonable time.

(38) "Existing portion" means that land surface area of an existing waste management unit, included in the original Part A of the license application, on which wastes have been placed prior to the issuance of a license.

(39) "Existing tank system" or "existing component" means a tank system or component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation has commenced on or prior to March 1, 1991. Installation will be considered to have commenced if the owner or operator has obtained all federal, state and local approvals or licenses necessary to begin physical construction of the site or installation of the tank system and if either (1) a continuous on-site physical construction or installation program has begun or (2) the owner or operator has entered into contractual

obligations—which cannot be canceled or modified without substantial loss—for physical construction of the site or installation of the tank system to be completed within a reasonable time.

(40) "Explosives or munitions emergency" means a situation involving the suspected or detected presence of unexploded ordnance (UXO), damaged or deteriorated explosives or munitions, an improvised explosive device (IED), other potentially explosive material or device, or other potentially harmful military chemical munitions or device, that creates an actual or potential imminent threat to human health, including safety or the environment, including property, as determined by an explosives or munitions emergency response specialist. Such situations may require immediate and expeditious action by an explosives or munitions emergency response specialist to control, mitigate or eliminate the threat.

(41) "Explosives or munitions emergency response" means all immediate response activities by an explosives and munitions emergency response specialist to control, mitigate or eliminate the actual or potential threat encountered during an explosives or munitions emergency. An explosives or munitions emergency response may include in-place render-safe procedures, treatment or destruction of the explosives or munitions or transporting those items to another location to be rendered safe, treated or destroyed. Any reasonable delay in the completion of an explosives or munitions emergency response caused by a necessary, unforeseen or uncontrollable circumstance will not terminate the explosives or munitions emergency. Explosives and munitions emergency responses can occur on either public or private lands and are not limited to responses at hazardous waste management facilities.

(42) "Explosives or munitions emergency response specialist" means an individual trained in chemical or conventional munitions or explosives handling, transportation, render-safe procedures or destruction techniques. Explosives or munitions emergency response specialists include department of defense (DOD) emergency explosive ordnance disposal (EOD), technical escort unit (TEU) and DOD-certified civilian or contractor personnel; and other federal, state or local government, or civilian personnel similarly trained in explosives or munitions emergency responses.

(43) "Facility" means:

(a) All contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing or disposing of hazardous waste. A facility may consist of several treatment, storage or disposal operational units (e.g., one or more landfills, surface impoundments or combinations of them).

(b) For the purpose of implementing corrective action under s. NR 664.0101, all contiguous property under the control of the owner or operator seeking a license under ch. 291, Stats., and 42 USC 6928(h). This definition also applies to facilities implementing corrective action under s. 291.37, Stats., and 42 USC 6928(h).

(c) Notwithstanding par. (b), a remediation waste management site is not a facility that is subject to s. NR 664.0101, but is subject to corrective action requirements if the site is located within such a facility.

(44) "Federal agency" means any department, agency or other instrumentality of the federal government, any independent agency or establishment of the federal government including any government corporation, and the government printing office.

(45) "Federal, state and local approvals or licenses necessary to begin physical construction" means licenses and approvals required under federal, state or local hazardous waste control statutes, regulations, rules or ordinances.

(46) "Final closure" means the closure of all hazardous waste management units at the facility according to all applicable closure requirements so that hazardous waste management activities under chs. NR 664 and 665 are no longer conducted at the facility unless subject to the provisions in s. NR 662.034.

(47) "Food chain crops" means tobacco, crops grown for human consumption and crops grown for feed for animals whose products are consumed by humans.

(48) "Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

(49) "Freeboard" means the vertical distance between the top of a tank or surface impoundment dike, and the surface of the waste contained therein.

(50) "Generator" means any person, by site, whose act or process produces hazardous waste identified or listed in ch. NR 661 or whose act first causes a hazardous waste to become subject to regulation.

(51) "Ground water" means water below the land surface in a zone of saturation.

(52) "Hazardous waste" means a hazardous waste as defined in s. NR 661.03.

(53) "Hazardous waste constituent" means a constituent that caused the department to list the hazardous waste in subch. D of ch. NR 661, or a constituent listed in table 1 of s. NR 661.24.

(54) "Hazardous waste management unit" is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.

(55) "In operation" refers to a facility which is treating, storing or disposing of hazardous waste.

(56) "Inactive portion" means that portion of a facility which is not operated after the effective date of ch. NR 661 . . . [revisor inserts date].

Note: See also "active portion" and "closed portion".

(57) "Incinerator" means any enclosed device that is one of the following:

(a) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer or carbon regeneration unit, nor is listed as an industrial furnace.

(b) Meets the definition of infrared incinerator or plasma arc incinerator.

(58) "Incompatible waste" means a hazardous waste which is unsuitable for one of the following:

(a) Placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g., container inner liners or tank walls).

(b) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

Note: See ch. NR 665, Appendix V for examples.

(59) "Individual generation site" means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

(60) "Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use thermal treatment to accomplish recovery of materials or energy:

(a) Cement kilns.

(b) Lime kilns.

(c) Aggregate kilns.

(d) Phosphate kilns.

(e) Coke ovens.

(f) Blast furnaces.

(g) Smelting, melting and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machine, roasters and foundry furnaces).

(h) Titanium dioxide chloride process oxidation reactors.

(i) Methane reforming furnaces.

(j) Pulping liquor recovery furnaces.

(k) Combustion devices used in the recovery of sulfur values from spent sulfuric acid.

(L) Halogen acid furnaces (HAFs) for the production of acid from halogenated hazardous waste generated by chemical production facilities where the furnace is located on the site of a chemical production facility, the acid product has a halogen acid content of at least 3%, the acid product is used in

a manufacturing process, and, except for hazardous waste burned as fuel, hazardous waste fed to the furnace has a minimum halogen content of 20% as-generated.

(m) Such other devices as the department may, after notice and comment, add to this list on the basis of one or more of the following factors:

1. The design and use of the device primarily to accomplish recovery of material products.
2. The use of the device to burn or reduce raw materials to make a material product.
3. The use of the device to burn or reduce secondary materials as effective substitutes for raw materials, in processes using raw materials as principal feedstocks.
4. The use of the device to burn or reduce secondary materials as ingredients in an industrial process to make a material product.
5. The use of the device in common industrial practice to produce a material product.
6. Other factors, as appropriate.

(61) "Infrared incinerator" means any enclosed device that uses electric powered resistance heaters as a source of radiant heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

(62) "Inground tank" means a device meeting the definition of "tank" in this section whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

(63) "Injection well" means a well into which fluids are injected.

Note: See also "underground injection".

(64) "Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste.

(65) "Installation inspector" means a person who, by reason of that person's knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of tank systems.

(66) "International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

(67) "Lamp", also referred to as "universal waste lamp", is defined as the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible and infra-red regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium and metal halide lamps.

(68) "Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave or a corrective action management unit.

(69) "Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

(70) "Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure.

(71) "Leachate" means any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

(72) "Leak detection system" means a system capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure. Such a system shall employ operational controls (e.g., daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary

or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.

(73) "Liner" means a continuous layer of natural or human-made materials, beneath or on the sides of a waste pile, surface impoundment, landfill or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents or leachate.

(74) "MACT" means maximum achievable control technology, as defined in the clean air act, 42 USC 7412(g).

(75) "Management" or "hazardous waste management" means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery and disposal of hazardous waste.

(76) "Manifest" has the meaning given in s. 291.01(11), Stats. "Manifest" also means the shipping document department form 4400-66P and, if necessary, EPA form 8700-22A, originated and signed by the generator.

(77) "Manifest document number" means the EPA 12 digit identification number assigned to the generator plus a unique 5 digit document number the generator assigns to the manifest for recording and reporting purposes.

(78) "Military munitions" means all ammunition products and components produced or used by or for the U.S. department of defense or the U.S. armed services for national defense and security, including military munitions under the control of the department of defense, the U.S. coast guard, the U.S. department of energy (DOE) and national guard personnel. The term military munitions includes: confined gaseous, liquid and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes and incendiaries used by DOD components, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges and devices and components thereof. Military munitions do not include wholly inert items, improvised explosive devices and nuclear weapons, nuclear devices and nuclear components thereof. However, the term does include non-nuclear components of nuclear devices, managed under DOE's nuclear weapons program after all required sanitization operations under the atomic energy act of 1954 (42 USC parts 2011 to 2114), as amended, have been completed.

(79) "Mining overburden returned to the mine site" means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

(80) "Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored or disposed of and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well, containment building, corrective action management unit, unit eligible for a research, development and demonstration license under s. NR 670.065, or staging pile.

(81) "Movement" means that hazardous waste transported to a facility in an individual vehicle.

(82) "New hazardous waste management facility" or "new facility" means a facility which began operation, or for which construction commenced after October 21, 1976.

Note: See also "existing hazardous waste management facility".

(83) "New tank system" or "new tank component" means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation has commenced after March 1, 1991; except, however, for purposes of ss. NR 664.0193(7)(b) and 665.0193(7)(b), a new tank system is one for which construction commences after July 14, 1986.

Note: See also "existing tank system."

(84) "On ground tank" means a device meeting the definition of "tank" in this section and that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

(85) "On-site" means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which the owner controls and to which the public does not have access, is also considered on-site property.

(86) "Open burning" means the combustion of any material without any of the following characteristics:

(a) Control of combustion air to maintain adequate temperature for efficient combustion.

(b) Containment of the combustion-reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion.

(c) Control of emission of the gaseous combustion products.

Note: See also "incineration" and "thermal treatment".

(87) "Operator" means the person responsible for the overall operation of a facility.

(88) "Owner" means the person who owns a facility or part of a facility.

(89) "Partial closure" means the closure of a hazardous waste management unit according to the applicable closure requirements of chs. NR 664 and 665 at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile or other hazardous waste management unit, while other units of the same facility continue to operate.

(90) "Person" means an individual, trust, firm, joint stock company, limited liability company, federal agency, corporation (including a government corporation), partnership, association, state, municipality, commission, political subdivision of a state or any interstate body.

(91) "Personnel" or "facility personnel" means all persons who work at or oversee the operations of a hazardous waste facility, and whose actions or failure to act may result in noncompliance with ch. NR 664 or 665.

(92) "Pesticide" means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest, or intended for use as a plant regulator, defoliant or desiccant, other than any article that is one of the following:

(a) A new animal drug under the federal food, drug and cosmetic act (FFDCA), 21 USC 321(v).

(b) An animal drug that has been determined by regulation of the federal secretary of health and human services to not be a new animal drug.

(c) An animal feed under the federal food, drug and cosmetic act (FFDCA), 21 USC 321(w) that bears or contains any substances described by par. (a) or (b).

(93) "Pile" means any non-containerized accumulation of solid, non-flowing hazardous waste that is used for treatment or storage and that is not a containment building.

(94) "Plasma arc incinerator" means any enclosed device using a high intensity electrical discharge or arc as a source of heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

(95) "Point source" has the meaning given in s. 283.01(12), Stats.

(96) "Publicly owned treatment works" or "POTW" means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "state" or "municipality" (as defined by s. 283.01(7), Stats.). This definition includes sewers, pipes or other conveyances only if they convey wastewater to a POTW providing treatment.

(97) "Qualified ground water scientist" means a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and has sufficient training and experience in ground-water hydrology and related fields as may be demonstrated by state registration, professional certifications or completion of accredited university courses that enable that individual to make sound professional judgments regarding ground-water monitoring and contaminant fate and transport.

(98) "Remediation waste" means all solid and hazardous wastes, and all media (including ground water, surface water, soils and sediments) and debris, that are managed for implementing cleanup.

(99) "Remediation waste management site" means a facility where an owner or operator is or will be treating, storing or disposing of hazardous remediation wastes. A remediation waste management site is not a facility that is subject to corrective action under s. NR 664.0101, but is subject to corrective action requirements if the site is located in such a facility.

(100) "Replacement unit" means a landfill, surface impoundment or waste pile unit (1) from which all or substantially all of the waste is removed and (2) that is subsequently reused to treat, store or dispose of hazardous waste. Replacement unit does not apply to a unit from which waste is removed during closure, if the subsequent reuse solely involves the disposal of waste from that unit and other closing units or corrective action areas at the facility, according to an approved closure plan or EPA or state approved corrective action.

(101) "Representative sample" means a sample of a universe or whole (e.g., waste pile, lagoon, ground water) which can be expected to exhibit the average properties of the universe or whole.

(102) "Run-off" means any rainwater, leachate or other liquid that drains over land from any part of a facility.

(103) "Run-on" means any rainwater, leachate or other liquid that drains over land onto any part of a facility.

(104) "Saturated zone" or "zone of saturation" means that part of the earth's crust in which all voids are filled with water.

(105) "Sludge" means any solid, semi-solid or liquid waste generated from a municipal, commercial or industrial wastewater treatment plant, water supply treatment plant or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

(106) "Sludge dryer" means any enclosed thermal treatment device that is used to dehydrate sludge and that has a maximum total thermal input, excluding the heating value of the sludge itself, of 2,500 Btu/lb of sludge treated on a wet-weight basis.

(107) "Small quantity generator" means a generator who generates less than 1,000 kg (2,205 pounds) of hazardous waste in a calendar month.

(108) "Solid waste" means a solid waste as defined in s. NR 661.02.

(109) "Sorbent" means a material that is used to soak up free liquids by either adsorption or absorption, or both. "Sorb" means to either adsorb or absorb, or both.

(110) "Staging pile" means an accumulation of solid, non-flowing remediation waste (as defined in this section) that is not a containment building and that is used only during remedial operations for temporary storage at a facility. Staging piles shall be designated by the department according to s. NR 664.0554.

(111) "State" means any of the several states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa and the Commonwealth of the Northern Mariana Islands.

(112) "Storage" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of or stored elsewhere.

(113) "Subsurface fluid distribution system" means an assemblage of perforated pipes or drain tiles, or any similar conveyance, intended to place or distribute a fluid underground.

(114) "Sump" means any pit or reservoir that meets the definition of tank and those troughs or trenches connected to it that serve to collect hazardous waste for transport to hazardous waste storage, treatment or disposal facilities; except that as used in the landfill, surface impoundment and waste pile rules, sump means any lined pit or reservoir that serves to collect liquids drained from a leachate collection and removal system or leak detection system for subsequent removal from the system.

(115) "Surface impoundment" or "impoundment" means a facility or part of a facility which is a natural topographic depression, human-made excavation or diked area formed primarily of earthen

materials (although it may be lined with human-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling and aeration pits, ponds and lagoons.

(116) "Tank" means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

(117) "Tank system" means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

(118) "TEQ" means toxicity equivalence, the international method of relating the toxicity of various dioxin/furan congeners to the toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin.

(119) "Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation and microwave discharge.

Note: See also "incinerator" and "open burning".

(120) "Thermostat" means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with s. NR 673.13(3)(b) or 673.33(3)(b).

(121) "Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized.

(122) "Transfer facility" means any transportation related facility including loading docks, parking areas, storage areas and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

(123) "Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

(124) "Transportation" means the movement of hazardous waste by air, rail, highway or water.

(125) "Transporter" means a person engaged in the off-site transportation of hazardous waste by air, rail, highway or water.

(126) "Treatability study" means all of the following:

(a) A study in which a hazardous waste is subjected to a treatment process to determine any of the following:

1. Whether the waste is amenable to the treatment process.
2. What pretreatment (if any) is required.
3. The optimal process conditions needed to achieve the desired treatment.
4. The efficiency of a treatment process for a specific waste or wastes.
5. The characteristics and volumes of residuals from a particular treatment process.

(b) Also included in this definition for the purpose of the s. NR 661.04(5) and (6) exemptions are liner compatibility, corrosion and other material compatibility studies and toxicological and health effects studies. A treatability study is not a means to commercially treat or dispose of hazardous waste.

(127) "Treatment" has the meaning given in s. 291.01(21), Stats. Treatment also includes recovering energy or material resources from the waste.

(128) "Treatment zone" means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed or immobilized.

(129) "Underground injection" or "well injection" means the placement of a fluid or any substance underground through a well.

Note: See also "injection well".

(130) "Underground tank" means a device meeting the definition of "tank" in this section whose entire surface area is totally below the surface of and covered by the ground.

(131) "Unfit for use tank system" means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

(132) "United States" means the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa and the Commonwealth of the Northern Mariana Islands.

(133) "Universal waste" means any of the following hazardous wastes that are managed under the universal waste requirements of ch. NR 673:

(a) Batteries as described in s. NR 673.02.

(b) Pesticides as described in s. NR 673.03.

(c) Thermostats as described in s. NR 673.04.

(d) Lamps as described in s. NR 673.05.

(134) "Universal waste handler":

(a) Means any of the following:

1. A generator (as defined in this section) of universal waste.

2. The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste and sends universal waste to another universal waste handler, to a destination facility or to a foreign destination.

(b) Does not mean any of the following:

1. A person who treats (except under the provisions of s. NR 673.13(1) or (3) or 673.33(1) or (3)), disposes of or recycles universal waste.

2. A person engaged in the off-site transportation of universal waste by air, rail, highway or water, including a universal waste transfer facility.

(135) "Universal waste transporter" means a person engaged in the off-site transportation of universal waste by air, rail, highway or water.

(136) "Unsaturated zone" or "zone of aeration" means the zone between the land surface and the water table.

(137) "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

(138) "Used oil" means any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of the use is contaminated by physical or chemical impurities.

(139) "Very small quantity generator" means a generator who generates no more than 100 kilograms (220 pounds) of non-acute hazardous waste or 1 kilogram of acute hazardous waste listed in ss. NR 661.31 to 661.33 in a calendar month.

(140) "Vessel" includes every description of watercraft, used or capable of being used as a means of transportation on the water.

(141) "Wastewater treatment unit" means a device which is all of the following:

(a) Part of a wastewater treatment facility that is subject to regulation under either 33 USC part 1317(b) or 1342.

(b) Receives and treats or stores an influent wastewater that is a hazardous waste as defined in s. NR 661.03, or that generates and accumulates a wastewater treatment sludge that is a hazardous waste as defined in s. NR 661.03, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in s. NR 661.03.

(c) Meets the definition of tank or tank system in this section.

(142) "Water (bulk shipment)" means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

(143) "Well" means any of the following: a bored, drilled or driven shaft, a dug hole whose depth is greater than its largest surface dimension, an improved sinkhole or a subsurface fluid distribution system.

(144) "Well injection": (See "underground injection".)

(145) "Wetlands" has the meaning given in s. 23.32(1), Stats.

(146) "Zone of engineering control" means an area under the control of the owner or operator that, upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to ground water or surface water.

Note: See chs. 289 and 291, Stats., for additional definitions.

NR 660.11 Incorporation by reference. This section is adopted under ss. 227.21(2) and 285.11, Stats., to incorporate by reference testing, monitoring and other technical standards, established by the federal government and technical societies and organizations, to which reference is made in chs. NR 660 to 670. Some materials that are incorporated by reference in other references are hereby incorporated by reference and made a part of this subsection.

Note: Copies of these materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin, the web address listed after the name of the publication or may be obtained for personal use at the corresponding address noted.

(1) CODE OF FEDERAL REGULATIONS APPENDICES

Note: Copies of these materials may be purchased from:
Superintendent of Documents
PO Box 371954
Pittsburgh, PA 15250-7954
(866) 512-1800
http://www.access.gpo.gov/su_docs/chklst/chklst.html

Table 1
CFR Appendix References

CFR Reference	Title	Incorporated by Reference For
(a) 40 CFR part 51, Appendix M, Method 204	Criteria for and Verification of a Permanent or Temporary Total Enclosure	NR 664, subch. CC NR 665, subch. CC
(b) 40 CFR part 51, Appendix W	Guideline on Air Quality Models (Revised)	NR 666, subch. H
(c) 40 CFR part 60, Appendix A	Test Methods	NR 666, Appendix IX
(d) 40 CFR part 60, Appendix A, Methods 1 to 5	Various Titles	NR 666, subch. H
(e) 40 CFR part 60, Appendix A, Method 1	Sample and Velocity Traverses for Stationary Sources	NR 666, Appendix IX
(f) 40 CFR part 60, Appendix A, Method 2	Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)	NR 664, subch. AA NR 665, subch. AA
(g) 40 CFR part 60, Appendix A, Method 2A	Direct Measurement of Gas Volume through Pipes and Small Ducts	NR 664, subch. AA NR 665, subch. AA
(h) 40 CFR part 60, Appendix A, Method 2C	Determination of Gas Velocity and Volumetric Flow Rate in	NR 664, subch. AA NR 665, subch. AA

	Small Stacks or Ducts (Standard Pitot Tube)	
(i) 40 CFR part 60, Appendix A, Method 2D	Measurement of Gas Volume Flow Rates in Small Pipes and Ducts	NR 664, subch. AA NR 665, subch. AA
(j) 40 CFR part 60, Appendix A, Method 3	Gas Analysis for the Determination of Dry Molecular Weight	NR 664, subch. O NR 666, Appendix IX
(k) 40 CFR part 60, Appendix A, Method 3A	Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)	NR 666, Appendix IX
(L) 40 CFR part 60, Appendix A, Method 10	Determination of Carbon Monoxide Emissions from Stationary Sources	NR 666, Appendix IX
(m) 40 CFR part 60, Appendix A, Method 10A	Determination of Carbon Monoxide Emissions in Certifying Continuous Emission Monitoring Systems at Petroleum Refineries	NR 666, Appendix IX
(n) 40 CFR part 60, Appendix A, Method 10B	Determination of Carbon Monoxide Emissions from Stationary Sources	NR 666, Appendix IX
(o) 40 CFR part 60, Appendix A, Method 18	Measurement of Gaseous Organic Compound Emissions by Gas Chromatography	NR 664, subch. AA NR 665, subch. AA
(p) 40 CFR part 60, Appendix A, Method 21	Determination of Volatile Organic Compounds Leaks	NR 664, subchs. AA and BB NR 665, subchs. AA, BB and CC
(q) 40 CFR part 60, Appendix A, Method 22	Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares	NR 664, subchs. AA and DD NR 665, subch. AA
(r) 40 CFR part 60, Appendix A, Method 25D	Determination of the Volatile Organic Concentration of Waste Samples	NR 664, subch. CC NR 665, subch. CC
(s) 40 CFR part 60, Appendix A, Method 25E	Determination of Vapor Phase Organic Concentration in Waste Samples	NR 665, subch. CC
(t) 40 CFR part 60, Appendix A, Method 27	Determination of Vapor Tightness of Gasoline Delivery Tank using Pressure-Vacuum Test	NR 664, subch. CC
(u) 40 CFR part 63, Appendix A, Method 301	Field Validation of Pollutant Measurement Methods from Various Waste Media	NR 665, subch. CC
(v) 40 CFR part 63, Appendix	Determination of the Fraction	

C	Biodegraded (Fbio) in a Biological Treatment Unit	NR 665, subch. CC
(w) 40 CFR part 63, Appendix D	Alternative Validation Procedure for EPA Waste and Wastewater Methods	NR 665, subch. CC
(x) 40 CFR part 136, Appendix A, Method 624	Purgeables	NR 665, subch. CC
(y) 40 CFR part 136, Appendix A, Method 625	Base/Neutrals and Acids	NR 665, subch. CC
(z) 40 CFR part 136, Appendix A, Method 1624	Volatile Organic Compounds by Isotope Dilution GC/MS	NR 665, subch. CC
(za) 40 CFR part 136, Appendix A, Method 1625	Semivolatile Organic Compounds by Isotope Dilution GC/MS	NR 665, subch. CC

(2) AMERICAN PETROLEUM INSTITUTE (API).

Note: Copies of this document can be purchased from:
American Petroleum Institute
1220 L Street, Northwest
Washington, DC 20005
(202) 682-8000
www.api.org

Table 2
American Petroleum Institute Document Reference

Document Reference	Title	Incorporated by Reference For
(a) Publication 2517, Third Edition, February 1989	Evaporative Loss from External Floating-Roof Tanks	NR 665, subch. CC

(3) AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).

Note: Copies of these documents are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin.

Table 3
American Society for Testing and Materials Document References

Document Reference	Title	Incorporated by Reference For
(a) ASTM D93-79	Standard Test Methods for Flash Point by Pensky-Martens Closed Tester	NR 661, subch. C
(b) ASTM D93-80	Standard Test Methods for Flash Point by Pensky-Martens Closed Tester	NR 661, subch. C
(c) ASTM D140-70	Standard Practice for Sampling Bituminous Materials	NR 661, Appendix I
(d) ASTM D346-75	Standard Practice for Collection and Preparation of	NR 661, Appendix I

	Coke Samples for Laboratory Analysis	
(e) ASTM D420-69	Guide to Site Characterization for Engineering, Design, and Construction Purposes	NR 661, Appendix I
(f) ASTM D1452-65	Standard Practice for Soil Investigation and Sampling by Auger Borings	NR 661, Appendix I
(g) ASTM D1946-82	Standard Method for Analysis of Reformed Gas by Gas Chromatography	NR 664, subch. AA NR 665, subch. AA
(h) ASTM D2234-76	Standard Practice for Collection of a Gross Sample of Coal	NR 661, Appendix I
(i) ASTM D2267-88	Standard Test Method for Aromatics in Light Naphthas and Aviation Gasolines by Gas Chromatography	NR 664, subch. BB NR 665, subch. BB
(j) ASTM D2382-83	Standard Test Method for Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method)	NR 664, subch. AA NR 665, subch. AA
(k) ASTM D2879-86	Standard Test Method for Vapor Pressure—Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope	NR 664, subch. BB NR 665, subch. BB
(L) ASTM D2879-92	Standard Test Method for Vapor Pressure—Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope	NR 665, subch. CC
(m) ASTM D3278-78	Standard Test Methods for Flash Point of Liquids by Setaflash Closed Tester	NR 661, subch. C
(n) ASTM E168-88	Standard Practices for General Techniques of Infrared Quantitative Analysis	NR 664, subch. BB NR 665, subch. BB
(o) ASTM E169-87	Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis	NR 664, subch. BB NR 665, subch. BB
(p) ASTM E260-85	Standard Practice for Packed Column Gas Chromatography	NR 664, subch. BB NR 665, subch. BB
(q) ASTM G21-70 (1984a)	Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi	NR 664, subch. N NR 665, subch. N
(r) ASTM G22-76 (1984b) [1]	Standard Practice for	NR 664, subch. N

	Determining Resistance of Plastics to Bacteria	NR 665, subch. N

[1]Copies of this document can be purchased from:
American Society for Testing and Materials
100 Barr Harbor Dr.
West Conshohocken, PA 19428-2959
(610) 832-9585
www.astm.org

(4) DEPARTMENT OF DEFENSE EXPLOSIVES SAFETY BOARD.

Note: Copies of this document can be obtained free of charge from:

http://www.ddesb.pentagon.mil/

Table 4
Department of Defense Explosives Safety Board Document References

Document Reference	Title	Incorporated by Reference For
(a) DOD 6055.9-STD	DOD Ammunition and Explosives Safety Standards	NR 666, subch. M

(5) U.S. EPA OFFICE OF SOLID WASTE:

Table 5
EPA Office of Solid Waste Document References

Document Reference	*Title*	**Incorporated by Reference For**

(a) EPA 450/2-78-027R, July 1986 [2]	Guidance on Air Quality Models (Revised)	NR 666, Appendix IX

(b) EPA 450/2-78-041, January 1978 [1]	Measurement of Volatile Organic Compounds Guideline Series	NR 666, Appendix IX

(c) EPA-450/2-81-005,	APTI Course 415: Control of	NR 664, subch. AA NR 665, subch. AA

WA-10-05

December 1981 [1]	Gaseous Emissions	NR 670, subch. B

(d) EPA 450/3-82-026, October	Gaseous Continuous Emissions Monitoring Systems-Performance Specification Guidelines for	

WA-10-05

1982 [1, 2]	SO_2, NO_x, CO_2, O_2 and TRS.	NR 666, Appendix IX

(e) EPA-450/4-88-010, August	Screening Procedures for Estimating the Air Quality	

WA-10-05

1988 [1]	Impact of Stationary Sources	NR 666, Appendix IX

(f) EPA-450/R-92-019, October	Screening Procedures for Estimating the Air Quality Impact of Stationary Sources,	

WA-10-05

1992 [1, 2]	Revised	NR 666, subch. H

(g) EPA 600/2-80-018, January	Samplers and Sampling Procedures for Hazardous	

WA-10-05

1980 [4]	Waste Streams	NR 661, Appendix I

(h) EPA 600/4-82-054, August 1982 [1, 2]	Field Evaluation of Carbon Monoxide and Hydrogen Sulfide Continuous Emission	

WA-10-05

	Monitors at an Oil Refinery	NR 666, Appendix IX

(i) EPA 600/9-76-006, December 1984 [1, 2]	Quality Assurance Handbook for Air Pollution Measurement	

	Systems: Volume I. Principles	NR 666, Appendix IX

(j) EPA 600/S4-83-013,	Performance Test Results and Comparative Data for Designated Reference Methods	

September 1982 [2]	for Carbon Monoxide	NR 666, Appendix IX

(k) EPA 625/3-89-016, March	Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and Dibenzofurans (CDDs and	

1989 [6]	CDFs) and 1989 Update	NR 666, Appendix IX

(L) EPA 625/6-79-005, June 1979 [1]	Handbook: Continuous Air Pollution Source Monitoring	

	Systems	NR 666, Appendix IX

WA-10-05

(m) EMB Report No.	Gasoline Vapor Emission	

76-GAS-6, August 1975 [2]	Laboratory Evaluation-Part 2	NR 666, Appendix IX

(n) EPA Protocol 1, June 1978 [2]	Traceability Protocol for Establishing True Concentrations of Gases Used for Calibration and Audits of Continuous Source Emission Monitors	NR 666, Appendix IX

(o) EPA SW-846 [Third Edition (November 1986), as amended by Updates I (dated July 1992), II (dated September 1994), IIA (dated August 1993), IIB (dated January 1995), III (dated December 1996) and IIIA (dated April 1998)] [1, 3] (except	Test Methods for Evaluating Solid Waste, Physical/Chemical	NR 660, subch. C NR 661, subch. C NR 664, subchs. J, N, S, AA, BB and Appendix IX NR 665, subchs. J, N, AA, BB and CC NR 666, subch. H and Appendix IX NR 668, subchs. A and D

for IIIA) and [5] (only IIIA)	Methods	NR 670, subchs. B and F

Note: Copies of these materials may be purchased from:

[1]National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161
(800) 553-NTIS (6847)
www.ntis.gov
[2]Environmental Protection Agency
Research Triangle Park, NC 27711
[3]Superintendent of Documents
PO Box 371954
Pittsburgh, PA 15250-7954
(866) 512-1800
http://www.access.gpo.gov/su_docs/chklst/chklst.html
[4]U.S. EPA Office of Solid Waste (5307W)
OSW Methods Team
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Washington, DC 20460
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[6]ORD Publications Office
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(513) 569-7562

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Table 6
National Fire Protection Association Document Reference

Title	Incorporated by Reference For
(a) Flammable and Combustible Liquids Code (1977 or 1981)	NR 662, subch. S NR 664, subch. J NR 665, subch. J NR 666, subch. H

(7) ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT.

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http://oecdpublications.gfi-nb.com/cgi-bin/oecdbookshop.storefront

Table 7
Organization for Economic Co-operation and Development Document References

Document Reference	Title	Incorporated by Reference For
(a) OECD test 301B	CO_2 Evolution (Modified	NR 664, subch. N

	Sturm Test)	NR 665, subch. N

Subchapter C —Rulemaking Petitions

NR 660.20 General. (1) As provided under s. 227.12, Stats., and ch. NR 2, a person may petition the department to modify or revoke any provision in chs. NR 660 to 673. Section NR 660.21 sets forth additional requirements for petitions to add a testing or analytical method to ch. NR 661, 664 or 665. Section NR 660.22 references petitions to EPA to exclude a waste or waste-derived material at a particular facility from s. NR 661.03 or the lists of hazardous wastes in subch. D of ch. NR 661. Section NR 660.23 sets forth additional requirements for petitions to amend ch. NR 673 to include additional hazardous wastes or categories of hazardous waste as universal waste.

NR 660.21 Petitions for equivalent testing or analytical methods. (1) Any person seeking to add a testing or analytical method to ch. NR 661, 664 or 665 may petition for a rule amendment under this section and s. NR 660.20. To be successful, the person shall demonstrate to the satisfaction of the department that the proposed method is equal to or superior to the corresponding method prescribed in ch. NR 661, 664 or 665, in terms of its sensitivity, accuracy and precision (i.e., reproducibility).

(2) Each petition shall include all of the following, in addition to the information required by s. NR 660.20:

(a) A full description of the proposed method, including all procedural steps and equipment used in the method.

(b) A description of the types of wastes or waste matrices for which the proposed method may be used.

(c) Comparative results obtained from using the proposed method with those obtained from using the relevant or corresponding methods prescribed in ch. NR 661, 664 or 665.

(d) An assessment of any factors which may interfere with, or limit the use of, the proposed method.

(e) A description of the quality control procedures necessary to ensure the sensitivity, accuracy and precision of the proposed method.

(3) After receiving a petition for an equivalent method, the department may request any additional information on the proposed method which the department may reasonably require to evaluate the method.

(4) If the department amends the rules to permit use of a new testing method, the method will be incorporated in ”Test Methods for the Evaluation of Solid Waste: Physical/Chemical Methods,” SW-846, incorporated by reference in s. NR 660.11.

NR 660.22 Petitions to amend ch. NR 661 to exclude a waste produced at a particular facility. Any person seeking to exclude a waste at a particular generating facility from the lists in subch. D of ch. NR 661 may petition the EPA region 5 administrator for a regulatory amendment under 40 CFR 260.20 and 260.22. The department shall recognize an EPA granted delisting unless the department clearly establishes that a delisting would threaten human health or the environment.

NR 660.23 Petitions to amend ch. NR 673 to include additional hazardous wastes. (1) Any person seeking to add a hazardous waste or a category of hazardous waste to the universal waste rules in ch. NR 673 may petition for a rule amendment under this section, s. NR 660.20, and subch. G of ch. NR 673.

(2) To be successful, the petitioner shall demonstrate to the satisfaction of the department that regulation under the universal waste rules in ch. NR 673 is appropriate for the waste or category of waste, will improve management practices for the waste or category of waste and will improve implementation of the hazardous waste program. The petition shall include the information required by s. NR 660.20(2).

The petition should also address as many of the factors listed in s. NR 673.81 as are appropriate for the waste or category of waste addressed in the petition.

(3) The department shall grant or deny a petition using the factors listed in s. NR 673.81. The decision will be based on the weight of evidence showing that regulation under ch. NR 673 is appropriate for the waste or category of waste, will improve management practices for the waste or category of waste, and will improve implementation of the hazardous waste program.

(4) The department may request additional information needed to evaluate the merits of the petition.

NR 660.30 Variances from classification as a solid waste. According to the standards and criteria in s. NR 660.31 and the procedures in s. NR 660.33, the department may determine on a case-by-case basis that all of the following recycled materials are not solid wastes:

(1) Materials that are accumulated speculatively without sufficient amounts being recycled (as defined in s. NR 661.01(3)(h)).

(2) Materials that are reclaimed and then reused within the original production process in which they were generated.

(3) Materials that have been reclaimed but shall be reclaimed further before the materials are completely recovered.

NR 660.31 Standards and criteria for variances from classification as a solid waste. (1) The department may grant requests for a variance from classifying as a solid waste those materials that are accumulated speculatively without sufficient amounts being recycled if the applicant demonstrates that sufficient amounts of the material will be recycled or transferred for recycling in the following year. If a variance is granted, it is valid only for the following year, but can be renewed, on an annual basis, by filing a new application. The department's decision will be based on all of the following criteria:

(a) The manner in which the material is expected to be recycled, when the material is expected to be recycled, and whether this expected disposition is likely to occur (for example, because of past practice, market factors, the nature of the material or contractual arrangements for recycling).

(b) The reason that the applicant has accumulated the material for one or more years without recycling 75% of the volume accumulated at the beginning of the year.

(c) The quantity of material already accumulated and the quantity expected to be generated and accumulated before the material is recycled.

(d) The extent to which the material is handled to minimize loss.

(e) Other relevant factors.

(2) The department may grant requests for a variance from classifying as a solid waste those materials that are reclaimed and then reused as feedstock within the original production process in which the materials were generated if the reclamation operation is an essential part of the production process. This determination will be based on all of the following criteria:

(a) How economically viable the production process would be if it were to use virgin materials, rather than reclaimed materials.

(b) The prevalence of the practice on an industry-wide basis.

(c) The extent to which the material is handled before reclamation to minimize loss.

(d) The time periods between generating the material and its reclamation, and between reclamation and return to the original primary production process.

(e) The location of the reclamation operation in relation to the production process.

(f) Whether the reclaimed material is used for the purpose for which it was originally produced when it is returned to the original process, and whether it is returned to the process in substantially its original form.

(g) Whether the person who generates the material also reclaims it.

(h) Other relevant factors.

(3) The department may grant requests for a variance from classifying as a solid waste those materials that have been reclaimed but shall be reclaimed further before recovery is completed if, after initial reclamation, the resulting material is commodity-like (even though it is not yet a commercial product, and has to be reclaimed further). This determination will be based on all of the following factors:

(a) The degree of processing the material has undergone and the degree of further processing that is required.

(b) The value of the material after it has been reclaimed.

(c) The degree to which the reclaimed material is like an analogous raw material.

(d) The extent to which an end market for the reclaimed material is guaranteed.

(e) The extent to which the reclaimed material is handled to minimize loss.

(f) Other relevant factors.

NR 660.32 Variances to be classified as a boiler. According to the standards and criteria in s. NR 660.10 (definition of ”boiler”), and the procedures in s. NR 660.33, the department may determine on a case-by-case basis that certain enclosed devices using controlled flame combustion are boilers, even though they do not otherwise meet the definition of boiler contained in s. NR 660.10, after considering all of the following criteria:

(1) The extent to which the unit has provisions for recovering and exporting thermal energy in the form of steam, heated fluids or heated gases.

(2) The extent to which the combustion chamber and energy recovery equipment are of integral design.

(3) The efficiency of energy recovery, calculated in terms of the recovered energy compared with the thermal value of the fuel.

(4) The extent to which exported energy is utilized.

(5) The extent to which the device is in common and customary use as a ”boiler” functioning primarily to produce steam, heated fluids or heated gases.

(6) Other factors, as appropriate.

NR 660.33 Procedures for variances from classification as a solid waste or to be classified as a boiler. The department will use all of the following procedures in evaluating applications for variances from classification as a solid waste or applications to classify particular enclosed controlled flame combustion devices as boilers:

(1) The applicant shall apply to the department for the variance. The application shall address the relevant criteria contained in s. NR 660.31 or 660.32.

(2) The department will evaluate the application and issue a draft notice tentatively granting or denying the application. Notification of this tentative decision will be provided by newspaper advertisement or radio broadcast in the locality where the recycler is located. The department will accept comment on the tentative decision for 30 days, and may also hold a public hearing upon request or at the department’s discretion. The department will issue a final decision after receipt of comments and after the hearing (if any).

NR 660.40 Additional regulation of certain hazardous waste recycling activities on a case-by-case basis. (1) The department may decide on a case-by-case basis that persons accumulating or storing the recyclable materials described in s. NR 661.06(1)(b)4. should be regulated under s. NR 661.06(2) and (3). The basis for this decision is that the materials are being accumulated or stored in a manner that does not protect human health and the environment because the materials or their toxic constituents have not been adequately contained, or because the materials being accumulated or stored together are incompatible. In making this decision, the department will consider all of the following factors:

(a) The types of materials accumulated or stored and the amounts accumulated or stored.

(b) The method of accumulation or storage.

(c) The length of time the materials have been accumulated or stored before being reclaimed.

(d) Whether any contaminants are being released into the environment, or are likely to be so released.

(e) Other relevant factors.

(2) The procedures for this decision are set forth in s. NR 660.41.

NR 660.41 Procedures for case-by-case regulation of hazardous waste recycling activities. The department shall use the following procedures when determining whether to regulate hazardous waste recycling activities described in s. NR 661.06(1)(b)4. under the provisions of s. NR 661.06(2) and (3), rather than under the provisions of subch. F of ch. NR 666.

(1) If a generator is accumulating the waste, the department shall issue a special order setting forth the factual basis for the decision and stating that the person shall comply with subchs. A, C, D and E of ch. NR 662. The special order shall become final within 30 days, unless the person served requests a public hearing to challenge the decision. Upon receiving such a request, the department shall hold a public hearing. The department shall provide notice of the hearing to the public and allow public participation at the hearing. The department shall issue a final order after the hearing stating whether or not compliance with ch. NR 662 is required. The order becomes effective 30 days after service of the decision unless the department specifies a later date.

(2) If the person is accumulating the recyclable material as a storage facility, the special order will state that the person shall obtain a license according to all applicable provisions of ch. NR 670. The owner or operator of the facility shall apply for a license within no less than 60 days and no more than 6 months of the effective date of the order, as specified in the order. If the owner or operator of the facility wishes to object to the department's decision, the owner or operator may do so in the owner or operator's license application, in a public hearing held on the draft license or in comments filed on the draft license or on the notice of intent to deny the license. The fact sheet accompanying the license will specify the reasons for the department's determination. The question of whether the department's decision was proper will remain open for consideration during the public comment period discussed under ch. NR 670 and in any subsequent hearing.

CHAPTER NR 661
HAZARDOUS WASTE IDENTIFICATION AND LISTING

Note: This chapter is similar to federal regulations contained in 40 CFR part 261, revised as of July 1, 2003.

Subchapter A —General

NR 661.01	Purpose and scope.
NR 661.02	Definition of solid waste.
NR 661.03	Definition of hazardous waste.
NR 661.04	Exclusions.
NR 661.06	Requirements for recyclable materials.
NR 661.07	Residues of hazardous waste in empty containers.
NR 661.08	PCB wastes regulated under federal toxic substances control act.
NR 661.09	Requirements for universal waste.

Subchapter B —Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste

NR 661.10	Criteria for identifying the characteristics of hazardous waste.
NR 661.11	Criteria for listing hazardous waste.

Subchapter C —Characteristics of Hazardous Waste
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Subchapter D —Lists of Hazardous Wastes
NR 661.30 General.
NR 661.31 Hazardous wastes from non-specific sources.
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NR 661.33 Discarded commercial chemical products, off-specification species, container residues and spill residues thereof.
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APPENDIX I —REPRESENTATIVE SAMPLING METHODS
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APPENDIX VIII —HAZARDOUS CONSTITUENTS

Subchapter A —General

NR 661.01 Purpose and scope. (1) This chapter identifies those solid wastes which are subject to regulation as hazardous wastes under chs. NR 662 to 665, 668 and 670 and which are subject to the notification requirements of s. NR 660.07. In this chapter:

(a) Subchapter A defines the terms ”solid waste” and ”hazardous waste”, identifies those wastes which are excluded from regulation under chs. NR 662 to 670 and establishes special management requirements for hazardous waste which is recycled.

(b) Subchapter B sets forth the criteria used by the department to identify characteristics of hazardous waste and to list particular hazardous wastes.

(c) Subchapter C identifies characteristics of hazardous waste.

(d) Subchapter D lists particular hazardous wastes.

(2)(a) The definition of solid waste contained in this chapter applies only to wastes that also are hazardous for purposes of chs. NR 660 to 673. For example, it does not apply to materials (such as non-hazardous scrap, paper, textiles or rubber) that are not otherwise hazardous wastes and that are recycled.

(b) This chapter identifies only some of the materials which are solid wastes and hazardous wastes under ss. 291.15, 291.85, 291.91, and 291.93, Stats. A material which is not defined as a solid waste in this chapter, or is not a hazardous waste identified or listed in this chapter, is still a solid waste and a hazardous waste for purposes of these sections if any of the following are met:

1. In the case of ss. 291.15, 291.91 and 291.93, Stats., the department has reason to believe that the material may be a solid waste within the meaning of s. 289.01(33), Stats., and a hazardous waste within the meaning of s. 291.01(7), Stats.

2. In the case of s. 291.85, Stats., the statutory elements are established.

(3) For the purposes of ss. NR 661.02 and 661.06:

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(a) A ”spent material” is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

(b) ”Sludge” has the same meaning used in s. NR 660.10.

(c) A ”by-product” is a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public’s use and is ordinarily used in the form it is produced by the process.

(d) A material is ”reclaimed” if it is processed to recover a usable product, or if it is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(e) A material is ”used or reused” if it is one of the following:

1. Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials).

2. Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

(f) ”Scrap metal” is bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.

(g) A material is ”recycled” if it is used, reused or reclaimed.

(h) A material is ”accumulated speculatively” if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and that during the calendar year (commencing on January 1) the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75% by weight or volume of the amount of that material accumulated at the beginning of the period. In calculating the percentage of turnover, the 75% requirement is to be applied to each material of the same type (e.g., slags from a single smelting process) that is recycled in the same way (i.e., from which the same material is recovered or that is used in the same way). Materials accumulating in units that would be exempt from regulation under s. NR 661.04(3) are not to be included in making the calculation. (Materials that are already defined as solid wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling, however.

(i) ”Excluded scrap metal” is processed scrap metal, unprocessed home scrap metal and unprocessed prompt scrap metal.

(j) ”Processed scrap metal” is scrap metal which has been manually or physically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes, but is not limited to scrap metal which has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted or separated by metal type (i.e., sorted), and, fines, drosses and related materials which have been agglomerated. (Shredded circuit boards being sent for recycling are not processed scrap metal. They are covered under the exclusion from the definition of solid waste for shredded circuit boards being recycled (s. NR 661.04(1)(n)).

(k) ”Home scrap metal” is scrap metal as generated by steel mills, foundries and refineries such as turnings, cuttings, punchings and borings.

(L) ”Prompt scrap metal” is scrap metal as generated by the metal working or fabrication industries and includes scrap metal such as turnings, cuttings, punchings and borings. Prompt scrap is also known as industrial or new scrap metal.

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NR 661.02 Definition of solid waste. (1)(a) A solid waste is any discarded material that is not excluded by s. NR 661.04(1) or that is not excluded by a variance granted under ss. NR 660.30 and 660.31.

(b) A discarded material is any material which is one of the following:

1. Abandoned, as explained in sub. (2).

2. Recycled, as explained in sub. (3).

3. Considered inherently waste-like, as explained in sub. (4).

4. A military munition identified as a solid waste in s. NR 666.202.

(2) Materials are solid waste if they are abandoned by being one of the following:

(a) Disposed of.

(b) Burned or incinerated.

(c) Accumulated, stored or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned or incinerated.

(3) Materials are solid wastes if they are recycled, or accumulated, stored or treated before recycling, according to the following:

(a) *Used in a manner constituting disposal.* 1. Materials noted with a ”*” in column 1 of Table 1 are solid wastes when they are:

a. Applied to or placed on the land in a manner that constitutes disposal.

b. Used to produce products that are applied to or placed on the land or are otherwise contained in products that are applied to or placed on the land (in which cases the product itself remains a solid waste).

2. However, commercial chemical products listed in s. NR 661.33 are not solid wastes if they are applied to the land and that is their ordinary manner of use.

(b) *Burned for energy recovery.* 1. Materials noted with a ”*” in column 2 of Table 1 are solid wastes when they are:

a. Burned to recover energy.

b. Used to produce a fuel or are otherwise contained in fuels (in which cases the fuel itself remains a solid waste).

2. However, commercial chemical products listed in s. NR 661.33 are not solid wastes if they are themselves fuels.

(c) *Reclaimed.* Materials noted with a ”*” in column 3 of Table 1 are solid wastes when reclaimed (except as provided under s. NR 661.04(1)(q)). Materials noted with a ”—”in column 3 of Table 1 are not solid wastes when reclaimed.

(d) *Accumulated speculatively.* Materials noted with a ”*” in column 4 of Table 1 are solid wastes when accumulated speculatively.

Table 1

	Use constituting disposal (s. NR 661.02(3)(a))	Energy recovery or fuel (s. NR 661.02(3)(b))	Reclamation (s. NR 661.02(3)(c)) (except as provided in s. NR 661.04(1)(q) for mineral processing secondary materials)	Speculative accumulation (s. NR 661.02(3)(d))

	1	2	3	4

Spent Materials	(*)	(*)	(*)	(*)

WA-10-05 Sludges (listed in s. NR 661.31 or 661.32).....	(*)	(*)	(*)	(*)

WA-10-05 Sludges exhibiting a characteristic of hazardous waste.....	(*)	(*)	—	(*)

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By-products (listed in s. NR 661.31 or 661.32).....	(*)	(*)	(*)	(*)

WA-10-05 By-products exhibiting a characteristic of hazardous waste .	(*)	(*)	—	(*)

WA-10-05 Commercial chemical products listed in s. NR 661.33	(*)	(*)	—	—

WA-10-05 Scrap metal other than excluded scrap metal (see s. NR 661.01(3)(i))	(*)	(*)	(*)	(*)

Note: The terms spent materials, sludges, by-products, scrap metal and processed scrap metal are defined in s. NR 661.01.

(4) All of the following inherently waste-like materials are solid wastes when they are recycled in any manner:

(a) Hazardous waste numbers F020, F021 (unless used as an ingredient to make a product at the site of generation), F022, F023, F026 and F028.

(b) Secondary materials fed to a halogen acid furnace that exhibit a characteristic of a hazardous waste or are listed as a hazardous waste as defined in subch. C or D, except for brominated material that meets all of the following criteria:

1. The material contains a bromine concentration of at least 45%.

2. The material contains less than a total of 1% of toxic organic compounds listed in Appendix VIII.

3. The material is processed continually on-site in the halogen acid furnace via direct conveyance (hard piping).

(c) The department will use all of the following criteria to add wastes to that list:

1. Any of the following:

a. The materials are ordinarily disposed of, burned or incinerated.

b. The materials contain toxic constituents listed in Appendix VIII and these constituents are not ordinarily found in raw materials or products for which the materials substitute (or are found in raw materials or products in smaller concentrations) and are not used or reused during the recycling process.

2. The material may pose a substantial hazard to human health and the environment when recycled.

(5)(a) Materials are not solid wastes when they can be shown to be recycled by being one of the following:

1. Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed.

2. Used or reused as effective substitutes for commercial products.

3. Returned to the original process from which they are generated, without first being reclaimed or land disposed. The material must be returned as a substitute for feedstock materials. In cases where the original process to which the material is returned is a secondary process, the materials must be managed such that there is no placement on the land. In cases where the materials are generated and reclaimed within the primary mineral processing industry, the conditions of the exclusion found at s. NR 661.04(1)(q) apply rather than this subsection.

(b) All of the following materials are solid wastes, even if the recycling involves use, reuse or return to the original process (described in par. (a)1. to 3.):

1. Materials used in a manner constituting disposal, or used to produce products that are applied to the land.

2. Materials burned for energy recovery, used to produce a fuel or contained in fuels.

3. Materials accumulated speculatively.

4. Materials listed in sub. (4)(a) and (b).

(6) Respondents in actions to enforce ch. 291, Stats., and chs. NR 660 to 673 who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, shall demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they shall provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials shall show that they have the necessary equipment to do so.

NR 661.03 Definition of hazardous waste. (1) A solid waste, as defined in s. NR 661.02, is a hazardous waste if all of the following apply:

(a) It is not excluded from regulation as a hazardous waste under s. NR 661.04(2).

(b) It meets any of the following criteria:

1. It exhibits any of the characteristics of hazardous waste identified in subch. C. However, any mixture of a waste from the extraction, beneficiation and processing of ores and minerals excluded under s. NR 661.04(2)(g) and any other solid waste exhibiting a characteristic of hazardous waste under subch. C is a hazardous waste only if it exhibits a characteristic that would not have been exhibited by the excluded waste alone if the mixture had not occurred, or if it continues to exhibit any of the characteristics exhibited by the non-excluded wastes prior to mixture. Further, for the purposes of applying the toxicity characteristic to these mixtures, the mixture is also a hazardous waste if it exceeds the maximum concentration for any contaminant listed in table 2 that would not have been exceeded by the excluded waste alone if the mixture had not occurred or if it continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to mixture.

2. It is listed in subch. D and has not been excluded from the lists in subch. D under ss. NR 660.20 and 660.22.

4. It is a mixture of solid waste and one or more hazardous wastes listed in subch. D and has not been excluded from this paragraph under ss. NR 660.20 and 660.22, or sub. (7) or (8); however, the following mixtures of solid wastes and hazardous wastes listed in subch. D are not hazardous wastes (except by application of subd. 1. or 2.) if the generator can demonstrate that the mixture consists of wastewater the discharge of which is subject to regulation under s. 283.21(2), 283.31 or 283.33, Stats., (including wastewater at facilities which have eliminated the discharge of wastewater) and one of the following:

a. One or more of the following solvents listed in s. NR 661.31: carbon tetrachloride, tetrachloroethylene, trichloroethylene; if the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed one part per million.

b. One or more of the following spent solvents listed in s. NR 661.31: methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents; if the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 25 parts per million.

c. One of the following wastes listed in s. NR 661.32, if the wastes are discharged to the refinery oil recovery sewer before primary oil, water or solids separation: heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA hazardous waste number K050), crude oil storage tank sediment from petroleum refining operations (EPA hazardous waste number K169), clarified slurry oil tank sediment or in-line filter or separation solids from petroleum refining operations (EPA hazardous waste number K170), spent hydrotreating catalyst (EPA hazardous waste number K171) and spent hydrorefining catalyst (EPA hazardous waste number K172).

d. A discarded commercial chemical product, or chemical intermediate listed in s. NR 661.33, arising from de minimis losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this subdivision, de minimis losses include those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing.

e. Wastewater resulting from laboratory operations containing toxic (T) wastes listed in subch. D if the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pre-treatment system, or if the waste's

combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pre-treatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation.

f. One or more of the following wastes listed in s. NR 661.32: wastewaters from the production of carbamates and carbamoyl oximes (EPA hazardous waste number K157), if the maximum weekly usage of formaldehyde, methyl chloride, methylene chloride and triethylamine (including all amounts that can not be demonstrated to be reacted in the process, destroyed through treatment, or is recovered, i.e., what is discharged or volatilized) divided by the average weekly flow of process wastewater prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of 5 parts per million by weight.

g. Wastewaters derived from the treatment of one or more of the following wastes listed in s. NR 661.32: organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates and decantates) from the production of carbamates and carbamoyl oximes (EPA hazardous waste number K156), if the maximum concentration of formaldehyde, methyl chloride, methylene chloride and triethylamine prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of 5 milligrams per liter.

5. Used oil containing more than 1000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subch. D. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from EPA SW-846, incorporated by reference in s. NR 660.11, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII).

a. The rebuttable presumption does not apply to metalworking oils or fluids containing chlorinated paraffins, if they are processed, through a tolling agreement, to reclaim metalworking oils or fluids. The presumption does apply to metalworking oils or fluids if the oils or fluids are recycled in any other manner, or disposed.

b. The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(2) A solid waste which is not excluded from regulation under sub. (1)(a) becomes a hazardous waste when any of the following events occur:

(a) In the case of a waste listed in subch. D, when the waste first meets the listing description set forth in subch. D.

(b) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in subch. D is first added to the solid waste.

(c) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in subch. C.

(3) Unless and until it meets the criteria of sub. (4):

(a) A hazardous waste will remain a hazardous waste.

(b)1. Except as otherwise provided in subd. 2. or sub. (7) or (8), any solid waste generated from the treatment, storage or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust or leachate (but not including precipitation run-off) is a hazardous waste. (However, materials that are reclaimed from solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under this subdivision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.)

2. All of the following solid wastes are not hazardous even though they are generated from the treatment, storage or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste:

WA-10-05

a. Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (standard industrial classification (SIC) codes 331 and 332).

b. Waste from burning any of the materials exempted from regulation by s. NR 661.06(1)(c)3. and 4.

c.1) Nonwastewater residues, such as slag, resulting from high temperature metals recovery (HTMR) processing of K061, K062 or F006 waste, in units identified as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth furnace or electric furnace combinations or industrial furnaces (as defined in pars. (f), (g) and (m) of the definition for industrial furnace in s. NR 660.10), that are disposed in approved solid waste disposal facilities , if these residues meet the generic exclusion levels identified in the following tables for all constituents, and exhibit no characteristics of hazardous waste. Testing requirements shall be incorporated in a facility's waste analysis plan or a generator's self-implementing waste analysis plan; at a minimum, composite samples of residues shall be collected and analyzed quarterly or when the process or operation generating the waste changes. Persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements.

Constituent	Maximum for any single composite sample—TCLP (mg/L)

WA-10-05

Antimony	0.10

WA-10-05

Arsenic	0.50

WA-10-05

Barium	7.6

WA-10-05

Beryllium	0.010

WA-10-05

Cadmium.....	0.050

WA-10-05

Chromium (total)	0.33

WA-10-05

Lead	0.15

WA-10-05	
Mercury.....	0.009

WA-10-05

Nickel.....	1.0

WA-10-05

Selenium	0.16

WA-10-05

Silver.....	0.30

WA-10-05

Thallium.....	0.020

WA-10-05

Zinc	70

nonwastewater HTMR residues

WA-10-05

Antimony	0.10

WA-10-05

Arsenic	0.50

WA-10-05

Barium	7.6

WA-10-05

Beryllium	0.010

WA-10-05

Cadmium.....	0.050

WA-10-05

Chromium (total)	0.33

WA-10-05	
Cyanide (total) (mg/kg).....	1.8

WA-10-05	
Lead	0.15

WA-10-05	
Mercury.....	0.009

WA-10-05

Nickel.....	1.0

WA-10-05

Selenium	0.16

WA-10-05

Silver.....	0.30

WA-10-05

Thallium.....	0.020

WA-10-05

Zinc	70

2) A one-time notification and certification shall be placed in the facility's files and sent to the department for K061, K062 or F006 HTMR residues that meet the generic exclusion levels for all constituents and do not exhibit any characteristics that are sent to approved solid waste disposal facilities. The notification and certification that is placed in the generators or treaters files shall be updated if the process or operation generating the waste changes or if the approved solid waste disposal facility receiving the waste changes. However, the generator or treater need only notify the department on an annual basis if those changes occur. The notification and certification shall be sent to the department by the end of the calendar year, but no later than December 31. The notification shall include the following information: the name and address of the approved solid waste disposal facility receiving the waste shipments; the EPA hazardous waste numbers and treatability groups at the initial point of generation; and the treatment standards applicable to the waste at the initial point of generation. The certification shall be signed by an authorized representative and shall state as follows: "I certify under penalty of law that the generic exclusion levels for all constituents have been met without impermissible dilution and that no characteristic of hazardous waste is exhibited. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

d. Biological treatment sludge from the treatment of one of the following wastes listed in s. NR 661.32: organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates and decantates) from the production of carbamates and carbamoyl oximes (EPA hazardous waste number K156), and wastewaters from the production of carbamates and carbamoyl oximes (EPA hazardous waste number K157).

e. Catalyst inert support media separated from one of the following wastes listed in s. NR 661.32: spent hydrotreating catalyst (EPA hazardous waste number K171), and spent hydrorefining catalyst (EPA hazardous waste number K172).

(4) Any solid waste described in sub. (3) is not a hazardous waste if it meets the following criteria:

(a) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in subch. C. (However, wastes that exhibit a characteristic at the point of generation may still be subject to ch. NR 668, even if they no longer exhibit a characteristic at the point of land disposal.)

(b) In the case of a waste which is a listed waste under subch. D, contains a waste listed under subch. D or is derived from a waste listed in subch. D, it also has been excluded from sub. (3) under ss. NR 660.20 and 660.22.

(6) Notwithstanding subs. (1) to (4) and provided the debris as defined in ch. NR 668 does not exhibit a characteristic identified at subch. C, all of the following materials are not subject to regulation under chs. NR 660, 661 to 666, 668 or 670:

(a) Hazardous debris as defined in ch. NR 668 that has been treated using one of the required extraction or destruction technologies specified in Table 1 of s. NR 668.45; persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements.

(b) Debris as defined in ch. NR 668 that the department, considering the extent of contamination, has determined is no longer contaminated with hazardous waste.

(7)(a) A hazardous waste that is listed in subch. D solely because it exhibits one or more characteristics of ignitability as defined under s. NR 661.21, corrosivity as defined under s. NR 661.22, or reactivity as defined under s. NR 661.23 is not a hazardous waste, if the waste no longer exhibits any characteristic of hazardous waste identified in subch. C.

(b) The exclusion described in par. (a) also pertains to all of the following:

1. Any mixture of a solid waste and a hazardous waste listed in subch. D solely because it exhibits the characteristics of ignitability, corrosivity or reactivity as regulated under sub. (1)(b)4.

2. Any solid waste generated from treating, storing or disposing of a hazardous waste listed in subch. D solely because it exhibits the characteristics of ignitability, corrosivity or reactivity as regulated under sub. (3)(b)1.

(c) Wastes excluded under this section are subject to ch. NR 668 (as applicable), even if they no longer exhibit a characteristic at the point of land disposal.

(d) Any mixture of a solid waste excluded from regulation under s. NR 661.04(2)(g) and a hazardous waste listed in subch. D solely because it exhibits one or more of the characteristics of ignitability, corrosivity or reactivity as regulated under sub. (1)(b)4. is not a hazardous waste, if the mixture no longer exhibits any characteristic of hazardous waste identified in subch. C for which the hazardous waste listed in subch. D was listed.

(8)(a) Hazardous waste containing radioactive waste is no longer a hazardous waste when it meets the eligibility criteria and conditions of subch. N of ch. NR 666 (eligible radioactive mixed waste).

(b) The exemption described in par. (a) also pertains to all of the following:

1. Any mixture of a solid waste and an eligible radioactive mixed waste.

2. Any solid waste generated from treating, storing or disposing of an eligible radioactive mixed waste.

(c) Waste exempted under this section shall meet the eligibility criteria and specified conditions in ss. NR 666.225 and 666.230 (for storage and treatment) and in ss. NR 666.310 and 666.315 (for transportation and disposal). Waste that fails to satisfy these eligibility criteria and conditions is regulated as hazardous waste.

NR 661.04 Exclusions. (1) MATERIALS WHICH ARE NOT SOLID WASTES. All of the following materials are not solid wastes for the purpose of this chapter:

(a) All of the following:

1. Domestic sewage.

2. Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment. ”Domestic sewage” means untreated sanitary wastes that pass through a sewer system.

(b) Industrial wastewater discharges that are point source discharges subject to regulation under ss. 283.31 and 283.33, Stats.

Note: This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.

(c) Irrigation return flows.

(d) Source, special nuclear or by-product material as defined by 42 USC 2011 to 2114.

Note: Title 42 USC 2011 to 2114 is also known as the atomic energy act of 1954, as amended.

(e) Materials subjected to in-situ mining techniques which are not removed from the ground as part of the extraction process.

(f) Pulping liquors (i.e., black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless it is accumulated speculatively as defined in s. NR 661.01(3).

(g) Spent sulfuric acid used to produce virgin sulfuric acid, unless it is accumulated speculatively as defined in s. NR 661.01(3).

(h) Secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process provided all of the following are met:

1. Only tank storage is involved, and the entire process through completion of reclamation is closed by being entirely connected with pipes or other comparable enclosed means of conveyance.

2. Reclamation does not involve controlled flame combustion (such as occurs in boilers, industrial furnaces or incinerators).

3. The secondary materials are never accumulated in the tanks for over 12 months without being reclaimed.

4. The reclaimed material is not used to produce a fuel, or used to produce products that are used in a manner constituting disposal.

(i) All of the following:

1. Spent wood preserving solutions that have been reclaimed and are reused for their original intended purpose.

2. Wastewaters from the wood preserving process that have been reclaimed and are reused to treat wood.

3. Prior to reuse, the wood preserving wastewaters and spent wood preserving solutions described in subds. 1. and 2., so long as they meet all of the following conditions:

a. The wood preserving wastewaters and spent wood preserving solutions are reused on-site at water borne plants in the production process for their original intended purpose.

b. Prior to reuse, the wastewaters and spent wood preserving solutions are managed to prevent release to either land or groundwater or both.

c. Any unit used to manage wastewaters or spent wood preserving solutions prior to reuse can be visually or otherwise determined to prevent the releases.

d. Any drip pad used to manage the wastewaters or spent wood preserving solutions prior to reuse complies with the standards in subch. W of ch. NR 665, regardless of whether the plant generates a total of less than 100 kg/month of hazardous waste.

e. Prior to operating under this exclusion, the plant owner or operator submits to the department a one-time notification stating that the plant intends to claim the exclusion, giving the date on which the plant intends to begin operating under the exclusion and containing the following language: ”I have read the applicable rule establishing an exclusion for wood preserving wastewaters and spent wood preserving solutions and understand it requires me to comply at all times with the conditions set out in the rule.” The plant shall maintain a copy of that document in its on-site records for a period of no less than 3 years from the date specified in the notice. The exclusion applies only so long as the plant meets all of the conditions. If the plant goes out of compliance with any condition, it may apply to the department for reinstatement. The department may reinstate the exclusion upon finding that the plant has returned to compliance with all conditions and that violations are not likely to recur.

(j) EPA hazardous waste numbers K060, K087, K141, K142, K143, K144, K145, K147 and K148, and any wastes from the coke by-products processes that are hazardous only because they exhibit the toxicity characteristic (TC) specified in s. NR 661.24 when, subsequent to generation, these materials are recycled to coke ovens, to the tar recovery process as a feedstock to produce coal tar, or mixed with coal tar prior to the tar’s sale or refining. This exclusion is conditioned on there being no land disposal of the wastes from the point they are generated to the point they are recycled to coke ovens or tar recovery or refining processes, or mixed with coal tar.

(k) Nonwastewater splash condenser dross residue from the treatment of K061 in high temperature metals recovery units, provided it is shipped in drums (if shipped) and not land disposed before recovery.

(L) All of the following:

1. Oil-bearing hazardous secondary materials (i.e., sludges, byproducts or spent materials) that are generated at a petroleum refinery (SIC code 2911) and are inserted into the petroleum refining process (SIC code 2911—including, but not limited to, distillation, catalytic cracking, fractionation or thermal cracking units (i.e., cokers)) unless the material is placed on the land, or speculatively accumulated before being so recycled. Materials inserted into thermal cracking units are excluded under this subdivision, provided that the coke product also does not exhibit a characteristic of hazardous waste. Oil-bearing hazardous secondary materials may be inserted into the same petroleum refinery where they are generated, or sent directly to another petroleum refinery, and still be excluded under this subdivision. Except as provided in subd. 2., oil-bearing hazardous secondary materials generated elsewhere in the

petroleum industry (i.e., from sources other than petroleum refineries) are not excluded under this section. Residuals generated from processing or recycling materials excluded under this subdivision, where the materials as generated would have otherwise met a listing under subch. D, are designated as F037 listed wastes when disposed of or intended for disposal.

2. Recovered oil that is recycled in the same manner and with the same conditions as described in subd. 1. Recovered oil is oil that has been reclaimed from secondary materials (including wastewater) generated from normal petroleum industry practices, including refining, exploration and production, bulk storage and transportation incident to those practices (SIC codes 1311, 1321, 1381, 1382, 1389, 2911, 4612, 4613, 4922, 4923, 4789, 5171 and 5172). Recovered oil does not include oil-bearing hazardous wastes listed in subch. D; however, oil recovered from these wastes may be considered recovered oil. Recovered oil does not include used oil as defined in s. NR 679.01.

(m) Excluded scrap metal (processed scrap metal, unprocessed home scrap metal and unprocessed prompt scrap metal) being recycled.

(n) Shredded circuit boards being recycled if they are all of the following:

1. Stored in containers sufficient to prevent a release to the environment prior to recovery.

2. Free of mercury switches, mercury relays and nickel-cadmium batteries and lithium batteries.

(o) Condensates derived from the overhead gases from kraft mill steam strippers that are used to comply with s. NR 464.06(5). The exemption applies only to combustion at the mill generating the condensates.

(p) Comparable fuels or comparable syngas fuels that meet s. NR 661.38.

(q) Spent materials (as defined in s. NR 661.01) (other than hazardous wastes listed in subch. D) generated within the primary mineral processing industry from which minerals, acids, cyanide, water or other values are recovered by mineral processing or by beneficiation, if all of the following are met:

1. The spent material is legitimately recycled to recover minerals, acids, cyanide, water or other values.

2. The spent material is not accumulated speculatively.

3. Except as provided in subd. 4., the spent material is stored in tanks, containers or buildings meeting the following minimum integrity standards: a building shall be an engineered structure with a floor, walls and a roof all of which are made of non-earthen materials providing structural support (except smelter buildings may have partially earthen floors provided the spent material is stored on the non-earthen portion), and have a roof suitable for diverting rainwater away from the foundation; a tank shall be free standing, not be a surface impoundment (as defined in s. NR 660.10), and be manufactured of a material suitable for containment of its contents; a container shall be free standing and be manufactured of a material suitable for containment of its contents. If tanks or containers contain any particulate which may be subject to wind dispersal, the owner or operator shall operate these units in a manner which controls fugitive dust. Tanks, containers and buildings shall be designed, constructed and operated to prevent significant releases to the environment of these materials.

4. The department may make a site-specific determination, after public review and comment, that only solid mineral processing spent material may be placed on pads, rather than in tanks, containers or buildings. Solid mineral processing spent materials do not contain any free liquid. The department shall affirm that pads are designed, constructed and operated to prevent significant releases of the spent material into the environment. Pads shall provide the same degree of containment as tanks, containers and buildings that meet the design, construction and operating requirements in subd. 3.

a. The department shall also consider if storage on pads poses the potential for significant releases via groundwater, surface water and air exposure pathways. Factors to be considered for assessing the groundwater, surface water and air exposure pathways are: the volume and physical and chemical properties of the spent material, including its potential for migration off the pad; the potential for human or environmental exposure to hazardous constituents migrating from the pad via each exposure pathway, and the possibility and extent of harm to human and environmental receptors via each exposure pathway.

b. Pads shall meet the following minimum standards: be designed of non-earthen material that is compatible with the chemical nature of the mineral processing spent material, capable of withstanding physical stresses associated with placement and removal, have run on and runoff controls, be operated in a manner which controls fugitive dust and have integrity assurance through inspections and maintenance programs.

c. Before making a determination under this subdivision, the department shall provide notice and the opportunity for comment to all persons potentially interested in the determination. This can be accomplished by placing notice of this action in major local newspapers, or broadcasting notice over local radio stations.

5. The owner or operator provides notice to the department providing the following information: the types of materials to be recycled, the type and location of the storage units and recycling processes and the annual quantities expected to be placed in land-based units. This notification shall be updated when there is a change in the type of materials recycled or the location of the recycling process.

6. For purposes of sub. (2)(g), mineral processing spent materials shall be the result of mineral processing and may not include any listed hazardous wastes. Listed hazardous wastes and characteristic hazardous wastes generated by non-mineral processing industries are not eligible for this conditional exclusion from the definition of solid waste.

(r) Petrochemical recovered oil from an associated organic chemical manufacturing facility, where the oil is to be inserted into the petroleum refining process (SIC code 2911) along with normal petroleum refinery process streams, if all of the following are met:

1. The oil is hazardous only because it exhibits the characteristic of ignitability (as defined in s. NR 661.21) or toxicity for benzene (s. NR 661.24, waste code D018).

2. The oil generated by the organic chemical manufacturing facility is not placed on the land, or speculatively accumulated before being recycled into the petroleum refining process. An ”associated organic chemical manufacturing facility” is a facility where the primary SIC code is 2869, but where operations may also include SIC codes 2821, 2822 and 2865; and is physically co-located with a petroleum refinery; and where the petroleum refinery to which the oil being recycled is returned also provides hydrocarbon feedstocks to the organic chemical manufacturing facility. ”Petrochemical recovered oil” is oil that has been reclaimed from secondary materials (i.e., sludges, byproducts or spent materials, including wastewater) from normal organic chemical manufacturing operations, as well as oil recovered from organic chemical manufacturing processes.

(s) Spent caustic solutions from petroleum refining liquid treating processes used as a feedstock to produce cresylic or naphthenic acid unless the material is placed on the land, or accumulated speculatively as defined in s. NR 661.01(3).

(t) Hazardous secondary materials used to make zinc fertilizers, provided that all of the following conditions are met:

1. Hazardous secondary materials used to make zinc micronutrient fertilizers may not be accumulated speculatively, as defined in s. NR 661.01(3)(h).

2. Generators and intermediate handlers of zinc-bearing hazardous secondary materials that are to be incorporated into zinc fertilizers shall do all of the following:

a. Submit a one-time notice to the department, which contains the name, address and EPA identification number of the generator or intermediate handler facility, provides a brief description of the secondary material that will be subject to the exclusion and identifies when the manufacturer intends to begin managing excluded, zinc-bearing hazardous secondary materials under the conditions specified in this paragraph.

b. Store the excluded secondary material in tanks, containers or buildings that are constructed and maintained in a way that prevents releases of the secondary materials into the environment. At a minimum, any building used for this purpose shall be an engineered structure made of non-earthen materials that provide structural support, and shall have a floor, walls and a roof that prevent wind

dispersal and contact with rainwater. Tanks used for this purpose shall be structurally sound and, if outdoors, shall have roofs or covers that prevent contact with wind and rain. Containers used for this purpose shall be kept closed except when it is necessary to add or remove material, and shall be in sound condition. Containers that are stored outdoors shall be managed within storage areas that do all of the following:

1) Have containment structures or systems sufficiently impervious to contain leaks, spills and accumulated precipitation.

2) Provide for effective drainage and removal of leaks, spills and accumulated precipitation.

3) Prevent run-on into the containment system.

c. With each off-site shipment of excluded hazardous secondary materials, provide written notice to the receiving facility that the material is subject to the conditions of this paragraph.

d. Maintain at the generator's or intermediate handlers's facility for no less than 3 years records of all shipments of excluded hazardous secondary materials. For each shipment these records shall at a minimum contain all of the following information:

1) Name of the transporter and date of the shipment.

2) Name and address of the facility that received the excluded material, and documentation confirming receipt of the shipment.

3) Type and quantity of excluded secondary material in each shipment.

3. Manufacturers of zinc fertilizers or zinc fertilizer ingredients made from excluded hazardous secondary materials shall do all of the following:

a. Store excluded hazardous secondary materials according to the storage requirements for generators and intermediate handlers, as specified in subd. 2.b.

b. Submit a one-time notification to the department that, at a minimum, specifies the name, address and EPA identification number of the manufacturing facility, and identifies when the manufacturer intends to begin managing excluded, zinc-bearing hazardous secondary materials under the conditions specified in this paragraph.

c. Maintain for a minimum of 3 years records of all shipments of excluded hazardous secondary materials received by the manufacturer, which shall at a minimum identify for each shipment the name and address of the generating facility, name of transporter and date the materials were received, the quantity received and a brief description of the industrial process that generated the material.

d. Submit to the department an annual report that identifies the total quantities of all excluded hazardous secondary materials that were used to manufacture zinc fertilizers or zinc fertilizer ingredients in the previous year, the name and address of each generating facility, and the industrial processes from which they were generated.

4. Nothing in this section preempts, overrides or otherwise negates s. NR 662.011, which requires any person who generates a solid waste to determine if that waste is a hazardous waste.

5. Licensed storage units that have been used to store only zinc-bearing hazardous wastes prior to the submission of the one-time notice described in subd. 2. a., and that afterward will be used only to store hazardous secondary materials excluded under this paragraph, are not subject to the closure requirements of chs. NR 664 and 665.

(u) Zinc fertilizers made from hazardous wastes, or hazardous secondary materials that are excluded under par. (t), provided that all of the following are met:

1. The fertilizers meet all of the following contaminant limits:

a. For metal contaminants:

Constituent	Maximum Allowable Total Con-centra tion in Fertilizer, per Unit (1%) of Zinc (ppm)

WA-10-05

Arsenic	0.3

WA-10-05

Cadmium.....	1.4

WA-10-05

Chromium	0.6

WA-10-05

Lead	2.8

WA-10-05

Mercury.....	0.3

b. For dioxin contaminants the fertilizer shall contain no more than 8 parts per trillion of dioxin, measured as toxic equivalent (TEQ).

2. The manufacturer performs sampling and analysis of the fertilizer product to determine compliance with the contaminant limits for metals no less than every 6 months, and for dioxins no less than every 12 months. The manufacturer shall also perform testing whenever changes occur to manufacturing processes or ingredients that could significantly affect the amounts of contaminants in the fertilizer product. The manufacturer may use any reliable analytical method to demonstrate that no constituent of concern is present in the product at concentrations above the applicable limits. It is the responsibility of the manufacturer to ensure that the sampling and analysis are unbiased, precise and representative of the products introduced into commerce.

3. The manufacturer maintains for no less than 3 years records of all sampling and analyses performed for purposes of determining compliance with subd. 2. The records shall at a minimum include all of the following:

a. The dates and times product samples were taken, and the dates the samples were analyzed.

b. The names and qualifications of the persons taking the samples.

c. A description of the methods and equipment used to take the samples.

d. The name and address of the laboratory facility at which analyses of the samples were performed.

e. A description of the analytical methods used, including any cleanup and sample preparation methods.

f. All laboratory analytical results used to determine compliance with the contaminant limits specified in this paragraph.

(2) SOLID WASTES WHICH ARE NOT HAZARDOUS WASTES. All of the following solid wastes are not hazardous wastes:

(a) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (e.g., refuse-derived fuel) or reused, except if the hazardous waste in this waste stream is separated for management at a collection facility regulated under subch. HH of ch. NR 666. ”Household waste” means any material (including garbage, trash and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day-use recreation areas). A resource recovery facility managing municipal solid waste may not be deemed to be treating, storing, disposing of or otherwise managing hazardous wastes for the purposes of regulation under chs. NR 660 to 673, if the facility does all of the following:

1. Receives and burns only all of the following:

a. Household waste (from single and multiple dwellings, hotels, motels and other residential sources).

b. Solid waste from commercial or industrial sources that does not contain hazardous waste.

2. Does not accept hazardous wastes and the owner or operator of the facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received at or burned in the facility.

(b) Solid wastes generated by any of the following and which are returned to the soils as fertilizers:

1. The growing and harvesting of agricultural crops.

2. The raising of animals, including animal manures.

(c) Mining overburden returned to the mine site.

(d) Fly ash waste, bottom ash waste, slag waste and flue gas emission control waste, generated primarily from the combustion of coal or other fossil fuels, except as provided by s. NR 666.112 for facilities that burn or process hazardous waste.

(e) Drilling fluids, produced waters and other wastes associated with the exploration, development or production of crude oil, natural gas or geothermal energy.

(f) All of the following:

1. Wastes which fail the test for the toxicity characteristic because chromium is present or are listed in subch. D due to the presence of chromium, which do not fail the test for the toxicity characteristic for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that all of the following apply:

a. The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium.

b. The waste is generated from an industrial process which uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium.

c. The waste is typically and frequently managed in non-oxidizing environments.

Note: See the preamble to the October 30, 1980 federal register starting at 45 FR 72035 for more information.

2. Specific wastes which meet the standard in subd. 1.a. to c. (so long as they do not fail the test for the toxicity characteristic for any other constituent, and do not exhibit any other characteristic) are any of the following:

a. Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue and shearling.

b. Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue and shearling.

c. Buffing dust generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse and through-the-blue.

d. Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue and shearling.

e. Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue and shearling.

f. Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish and through-the-blue.

g. Waste scrap leather from the leather tanning industry, the shoe manufacturing industry and other leather product manufacturing industries.

h. Wastewater treatment sludges from the production of TiO_2 pigment using chromium-bearing ores by the chloride process.

(g) Solid waste from the extraction, beneficiation and processing of ores and minerals (including coal, phosphate rock and overburden from the mining of uranium ore), except as provided by s. NR 666.112 for facilities that burn or process hazardous waste.

1. For purposes of this paragraph beneficiation of ores and minerals is restricted to the following activities: crushing; grinding; washing; dissolution; crystallization; filtration; sorting; sizing; drying; sintering; pelletizing; briquetting; calcining to remove water or carbon dioxide; roasting, autoclaving, or chlorination in preparation for leaching (except where the roasting (or autoclaving or chlorination)or leaching sequence produces a final or intermediate product that does not undergo further beneficiation or processing); gravity concentration; magnetic separation; electrostatic separation; flotation; ion exchange; solvent extraction; electrowinning; precipitation; amalgamation; and heap, dump, vat, tank and in situ leaching.

2. For the purposes of this paragraph, solid waste from the processing of ores and minerals includes only the following wastes as generated:

a. Slag from primary copper processing.

b. Slag from primary lead processing.

c. Red and brown muds from bauxite refining.

d. Phosphogypsum from phosphoric acid production.

e. Slag from elemental phosphorus production.

f. Gasifier ash from coal gasification.

g. Process wastewater from coal gasification.

h. Calcium sulfate wastewater treatment plant sludge from primary copper processing.

i. Slag tailings from primary copper processing.

j. Fluorogypsum from hydrofluoric acid production.

k. Process wastewater from hydrofluoric acid production.

L. Air pollution control dust or sludge from iron blast furnaces.

m. Iron blast furnace slag.

n. Treated residue from roasting or leaching of chrome ore.

o. Process wastewater from primary magnesium processing by the anhydrous process.

p. Process wastewater from phosphoric acid production.

q. Basic oxygen furnace and open hearth furnace air pollution control dust or sludge from carbon steel production.

r. Basic oxygen furnace and open hearth furnace slag from carbon steel production.

s. Chloride process waste solids from titanium tetrachloride production.

t. Slag from primary zinc processing.

3. A residue derived from co-processing mineral processing secondary materials with normal beneficiation raw materials or with normal mineral processing raw materials remains excluded under sub. (2) if the owner or operator does all of the following:

a. Processes at least 50% by weight normal beneficiation raw materials or normal mineral processing raw materials.

b. Legitimately reclaims the secondary mineral processing materials.

(h) Cement kiln dust waste, except as provided by s. NR 666.112 for facilities that burn or process hazardous waste.

(i) Solid waste which consists of discarded arsenical-treated wood or wood products which fails the test for the toxicity characteristic for hazardous waste codes D004 to D017 and which is not a hazardous waste for any other reason if the waste is generated by persons who utilize the arsenical-treated wood and wood product for the intended end use of these materials.

(j) Petroleum-contaminated media and debris that fail the test for the toxicity characteristic of s. NR 661.24 for any of the hazardous waste codes D018 to D043 only, and are subject to the corrective action rules under chs. Comm 10 and NR 706.

(L) Used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment, including mobile air conditioning systems, mobile refrigeration, and commercial and industrial air conditioning and refrigeration systems that use chlorofluorocarbons as the heat transfer fluid in a refrigeration cycle, provided the refrigerant is reclaimed for further use.

(m) Non-terne plated used oil filters that are not mixed with wastes listed in subch. D if these oil filters have been gravity hot-drained using one of the following methods:

1. Puncturing the filter anti-drain back valve or the filter dome end and hot-draining.

2. Hot-draining and crushing.

3. Dismantling and hot-draining.

4. Any other equivalent hot-draining method that will remove used oil.

(n) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products.

(o) Leachate or gas condensate collected from landfills where certain solid wastes have been disposed, provided that all of the following are met:

1. The solid wastes disposed would meet one or more of the listing descriptions for hazardous waste codes K169, K170, K171, K172, K174, K175, K176, K177 and K178, if these wastes had been generated after the effective date of this chapter . . . . [revisor inserts date].

2. The solid wastes described in subd. 1. were disposed prior to the effective date of this chapter . . . . [revisor inserts date].

3. The leachate or gas condensate do not exhibit any characteristic of hazardous waste nor are derived from any other listed hazardous waste.

4. Discharge of the leachate or gas condensate, including leachate or gas condensate transferred from the landfill to a POTW by truck, rail or dedicated pipe, is subject to regulation under s. 283.21(2), 283.31 or 283.33, Stats.

5. After the effective date of this chapter . . . . [revisor inserts date], leachate or gas condensate derived from K169 to K172 is no longer exempt if it is stored or managed in a surface impoundment prior to discharge. After the effective date of this chapter . . . . [revisor inserts date], leachate or gas condensate derived from K176, K177 and K178 will no longer be exempt if it is stored or managed in a surface impoundment prior to discharge. There is one exception: if the surface impoundment is used to temporarily store leachate or gas condensate in response to an emergency situation (e.g., shutdown of wastewater treatment system), provided the impoundment has a double liner, and provided the leachate or gas condensate is removed from the impoundment and continues to be managed in compliance with the conditions of this subdivision after the emergency ends.

(3) HAZARDOUS WASTES WHICH ARE EXEMPTED FROM CERTAIN RULES. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit, is not subject to regulation under chs. NR 662 to 665, 668 and 670 or to the notification requirements of s. NR 660.07 until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials.

(4) SAMPLES. (a) Except as provided in par. (b), a sample of solid waste or a sample of water, soil or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to this chapter, chs. NR 662 to 670 or the notification requirements of s. NR 660.07, when one of the following occurs:

1. The sample is being transported to a laboratory for the purpose of testing.

2. The sample is being transported back to the sample collector after testing.

3. The sample is being stored by the sample collector before transport to a laboratory for testing.

4. The sample is being stored in a laboratory before testing.

5. The sample is being stored in a laboratory after testing but before it is returned to the sample collector.

6. The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(b) In order to qualify for the exemption in par. (a)1. and 2., a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector shall do one of the following:

1. Comply with U.S. department of transportation (DOT), U.S. postal service (USPS) or any other applicable shipping requirements.

2. Comply with all of the following requirements if the sample collector determines that DOT, USPS or other shipping requirements do not apply to the shipment of the sample:

a. Assure that all of the following information accompanies the sample:

1) The sample collector's name, mailing address and telephone number.

2) The laboratory's name, mailing address and telephone number.

3) The quantity of the sample.

4) The date of shipment.

5) A description of the sample.

b. Package the sample so that it does not leak, spill or vaporize from its packaging.

(c) This exemption does not apply if the laboratory determines that the waste is hazardous and the laboratory is no longer meeting any of the conditions in par. (a).

(5) TREATABILITY STUDY SAMPLES. (a) Except as provided in par. (b), persons who generate or collect samples for the purpose of conducting treatability studies as defined in s. NR 660.10, are not subject to chs. NR 661 to 663 or to the notification requirements of s. NR 660.07, nor are the samples included in the quantity determinations of ss. NR 662.192(1) and 662.220 when one of the following applies:

1. The sample is being collected and prepared for transportation by the generator or sample collector.

2. The sample is being accumulated or stored by the generator or sample collector prior to transportation to a laboratory or testing facility.

3. The sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study.

(b) The exemption in par. (a) is applicable to samples of hazardous waste being collected and shipped for the purpose of conducting treatability studies if all of the following apply:

1. The generator or sample collector uses (in "treatability studies") no more than 10,000 kg of media contaminated with non-acute hazardous waste, 1000 kg of non-acute hazardous waste other than contaminated media, 1 kg of acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste for each process being evaluated for each generated waste stream.

2. The mass of each sample shipment does not exceed 10,000 kg; the 10,000 kg quantity may be all media contaminated with non-acute hazardous waste, or may include 2500 kg of media contaminated with acute hazardous waste, 1000 kg of hazardous waste and 1 kg of acute hazardous waste.

3. The sample shall be packaged so that it will not leak, spill or vaporize from its packaging during shipment and one of the following requirements is met:

a. The transportation of each sample shipment complies with U.S. department of transportation (DOT), U.S. postal service (USPS) or any other applicable shipping requirements.

b. If the DOT, USPS or other shipping requirements do not apply to the shipment of the sample, all of the following information shall accompany the sample:

1) The name, mailing address and telephone number of the originator of the sample.

2) The name, address and telephone number of the facility that will perform the treatability study.

3) The quantity of the sample.

4) The date of shipment.

5) A description of the sample, including its EPA hazardous waste number.

4. The sample is shipped to a laboratory or testing facility which is exempt under s. NR 661.04(6) or has an appropriate RCRA permit or interim status, or hazardous waste license under s. 291.25, Stats.

5. The generator or sample collector maintains all of the following records for a period ending 3 years after completion of the treatability study:

a. Copies of the shipping documents.

b. A copy of the contract with the facility conducting the treatability study.

c. Documentation showing all of the following:

1) The amount of waste shipped under this exemption.

2) The name, address and EPA identification number of the laboratory or testing facility that received the waste.

3) The date the shipment was made.

4) Whether or not unused samples and residues were returned to the generator.

6. The generator reports the information required under subd. 5.c. in its annual report.

(c) The department may grant requests on a case-by-case basis for up to an additional 2 years for treatability studies involving bioremediation. The department may grant requests on a case-by-case basis for quantity limits in excess of those specified in par. (b)1. and 2. and sub. (6)(d), for up to an additional 5000 kg of media contaminated with non-acute hazardous waste, 500 kg of non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste and 1 kg of acute hazardous waste:

1. In response to requests for authorization to ship, store and conduct treatabilty studies on additional quantities in advance of commencing treatability studies. Factors to be considered in reviewing the requests include the nature of the technology, the type of process (e.g., batch versus continuous), size of the unit undergoing testing (particularly in relation to scale-up considerations), the time and quantity of material required to reach steady state operating conditions, or test design considerations such as mass balance calculations.

2. In response to requests for authorization to ship, store and conduct treatability studies on additional quantities after initiation or completion of initial treatability studies, when any of the following apply: there has been an equipment or mechanical failure during the conduct of a treatability study, there is a need to verify the results of a previously conducted treatability study, there is a need to study and analyze alternative techniques within a previously evaluated treatment process or there is a need to do further evaluation of an ongoing treatability study to determine final specifications for treatment.

3. The additional quantities and timeframes allowed in subds. 1. and 2. are subject to all the provisions in pars. (a) and (b)3. to 6. The generator or sample collector shall apply to the department and provide in writing all of the following information:

a. The reason why the generator or sample collector requires additional time or quantity of sample for treatability study evaluation and the additional time or quantity needed.

b. Documentation accounting for all samples of hazardous waste from the waste stream which have been sent for or undergone treatability studies including the date each previous sample from the waste stream was shipped, the quantity of each previous shipment, the laboratory or testing facility to which it was shipped, what treatability study processes were conducted on each sample shipped and the available results on each treatability study.

c. A description of the technical modifications or change in specifications which will be evaluated and the expected results.

d. If further study is being required due to equipment or mechanical failure, the applicant shall include information regarding the reason for the failure or breakdown and also include what procedures or equipment improvements have been made to protect against further breakdowns.

e. Other information that the department considers necessary.

(6) SAMPLES UNDERGOING TREATABILITY STUDIES AT LABORATORIES AND TESTING FACILITIES. Samples undergoing treatability studies and the laboratory or testing facility conducting the treatability studies (to the extent the facilities are not otherwise subject to chs. NR 660 to 670) are not subject to this chapter, chs. NR 662 and 666 to 670, or to s. NR 660.07 if the conditions of pars. (a) to (k) are met. A mobile treatment unit (MTU) may qualify as a testing facility subject to pars. (a) to (k). Where a group of MTUs are located at the same site, the limitations specified in pars. (a) to (k) apply to the entire group of MTUs collectively as if the group were one MTU.

(a) No less than 45 days before conducting treatability studies, the facility notifies the department in writing that it intends to conduct treatability studies under this subsection.

(b) The laboratory or testing facility conducting the treatability study has an EPA identification number.

(c) No more than a total of 10,000 kg of ”as received” media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste or 250 kg of other ”as received”

hazardous waste is subject to initiation of treatment in all treatability studies in any single day. ”As received” waste refers to the waste as received in the shipment from the generator or sample collector.

(d) The quantity of ”as received” hazardous waste stored at the facility for the purpose of evaluation in treatability studies does not exceed 10,000 kg, the total of which can include 10,000 kg of media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste, 1000 kg of non-acute hazardous wastes other than contaminated media and 1 kg of acute hazardous waste. This quantity limitation does not include treatment materials (including nonhazardous solid waste) added to ”as received” hazardous waste.

(e) No more than 90 days have elapsed since the treatability study for the sample was completed, or no more than one year (2 years for treatability studies involving bioremediation) have elapsed since the generator or sample collector shipped the sample to the laboratory or testing facility, whichever date occurs first. Up to 500 kg of treated material from a particular waste stream from treatability studies may be archived for future evaluation up to 5 years from the date of initial receipt. Quantities of materials archived are counted against the total storage limit for the facility.

(f) The treatability study does not involve the placement of hazardous waste on the land or open burning of hazardous waste.

(g) The facility maintains records for 3 years following completion of each study that show compliance with the treatment rate limits and the storage time and quantity limits. All of the following specific information shall be included for each treatability study conducted:

1. The name, address and EPA identification number of the generator or sample collector of each waste sample.
2. The date the shipment was received.
3. The quantity of waste accepted.
4. The quantity of ”as received” waste in storage each day.
5. The date the treatment study was initiated and the amount of ”as received” waste introduced to treatment each day.
6. The date the treatability study was concluded.
7. The date any unused sample or residues generated from the treatability study were returned to the generator or sample collector or, if sent to a designated facility, the name of the facility and the EPA identification number.

(h) The facility keeps, on-site, a copy of the treatability study contract and all shipping papers associated with the transport of treatability study samples to and from the facility for a period ending 3 years from the completion date of each treatability study.

(i) The facility prepares and submits a report to the department by March 15 of each year that estimates the number of studies and the amount of waste expected to be used in treatability studies during the current year, and includes all of the following information for the previous calendar year:

1. The name, address and EPA identification number of the facility conducting the treatability studies.
2. The types (by process) of treatability studies conducted.
3. The names and addresses of persons for whom studies have been conducted (including their EPA identification numbers).
4. The total quantity of waste in storage each day.
5. The quantity and types of waste subjected to treatability studies.
6. When each treatability study was conducted.
7. The final disposition of residues and unused sample from each treatability study.

(j) The facility determines whether any unused sample or residues generated by the treatability study are hazardous waste under s. NR 661.03 and, if so, are subject to this chapter and chs. NR 662 to 670, unless the residues and unused samples are returned to the sample originator under the sub. (5) exemption.

(k) The facility notifies the department by letter when the facility is no longer planning to conduct any treatability studies at the site.

Note: Special requirements for very small quantity generators are in s. NR 662.220.

NR 661.06 Requirements for recyclable materials. (1)(a) Hazardous wastes that are recycled are subject to the requirements for generators, transporters and storage facilities of subs. (2) and (3), except for the materials listed in pars. (b) and (c). Hazardous wastes that are recycled will be known as ”recyclable materials”.

(b) All of the following recyclable materials are not subject to this section but are regulated under subchs. C to O of ch. NR 666 and all applicable provisions in ch. NR 670:

1. Recyclable materials used in a manner constituting disposal (subch. C of ch. NR 666).

2. Hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under subch. O of ch. NR 664 or 665 (subch. H of ch. NR 666).

3. Recyclable materials from which precious metals are reclaimed (subch. F of ch. NR 666).

4. Spent lead-acid batteries that are being reclaimed (subch. G of ch. NR 666).

(c) All of the following recyclable materials are not regulated under chs. NR 662 to 670, and are not subject to s. NR 660.07:

1. Industrial ethyl alcohol that is reclaimed except that, unless provided otherwise in an international agreement specified in s. NR 662.058:

a. A person initiating a shipment for reclamation in a foreign country, and any intermediary arranging for the shipment, shall comply with the requirements applicable to a primary exporter in ss. NR 662.053, 662.056(1)(a) to (d), (f) and (2), and 662.057, export the materials only upon consent of the receiving country and in conformance with the EPA acknowledgment of consent as defined in subch. E of ch. NR 662, and provide a copy of the EPA acknowledgment of consent to the shipment to the transporter transporting the shipment for export.

b. Transporters transporting a shipment for export may not accept a shipment if the transporter knows the shipment does not conform to the EPA acknowledgment of consent, shall ensure that a copy of the EPA acknowledgment of consent accompanies the shipment and shall ensure that it is delivered to the facility designated by the person initiating the shipment.

2. Scrap metal that is not excluded under s. NR 661.04(1)(m).

3. Fuels produced from the refining of oil-bearing hazardous waste along with normal process streams at a petroleum refining facility if the wastes result from normal petroleum refining, production and transportation practices (this exemption does not apply to fuels produced from oil recovered from oil-bearing hazardous waste, where the recovered oil is already excluded under s. NR 661.04(1)(L)).

4. All of the following:

a. Hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production or transportation practices, or produced from oil reclaimed from the hazardous wastes, where the hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under s. NR 679.11 and so long as no other hazardous wastes are used to produce the hazardous waste fuel.

b. Hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production, and transportation practices, where the hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil fuel specification under s. NR 679.11.

c. Oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under s. NR 679.11.

(d) Used oil that is recycled and is also a hazardous waste solely because it exhibits a hazardous characteristic is not subject to chs. NR 660 to 668, but is regulated under ch. NR 679. Used oil that is

recycled includes any used oil which is reused, following its original use, for any purpose (including the purpose for which the oil was originally used). This term includes, but is not limited to, oil which is re-refined, reclaimed, burned for energy recovery or reprocessed.

(e) Hazardous waste that is exported to or imported from designated member countries of the Organization for Economic Cooperation and Development (OECD) (as defined in s. NR 662.058(1)(a)) for purpose of recovery is subject to subch. H of ch. NR 662 if it is subject to either the manifesting requirements of ch. NR 662 or to the universal waste management standards of ch. NR 673.

(2) Generators and transporters of recyclable materials are subject to the applicable requirements of chs. NR 662 and 663 and the notification requirements under s. NR 660.07, except as provided in sub. (1).

(3)(a) Owners and operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of subchs. A to L, AA, BB and CC of chs. NR 664 and 665, and under chs. NR 666 to 670 and s. NR 660.07, except as provided in sub. (1). (The recycling process itself is exempt from regulation except as provided in sub. (4).)

(b) Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are subject to all of the following requirements, except as provided in sub. (1):

1. Section NR 660.07.

2. Sections NR 665.0071 and 665.0072 (dealing with the use of the manifest and manifest discrepancies).

3. Subsection (4).

(4) Owners or operators of facilities subject to s. 291.25, Stats., licensing requirements with hazardous waste management units that recycle hazardous wastes are subject to subchs. AA and BB of ch. NR 664 or 665.

NR 661.07 Residues of hazardous waste in empty containers. (1)(a) Any hazardous waste remaining in either an empty container or an inner liner removed from an empty container, as defined in sub. (2), is not subject to this chapter, chs. NR 662 to 665, 668 or 670, or s. NR 660.07.

(b) Any hazardous waste in either a container that is not empty or an inner liner removed from a container that is not empty, as defined in sub. (2) , is subject to this chapter, chs. NR 662 to 665, 668 and 670 and s. NR 660.07.

(2)(a) A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is a compressed gas or that is identified as an acute hazardous waste listed in s. NR 661.31, 661.32 or 661.33(5) is empty if subds. 1. and 2. or 3. are met:

1. All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping and aspirating.

2. No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner.

3. One of the following:

a. No more than 3% by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size.

b. No more than 0.3% by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.

(b) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

(c) A container or an inner liner removed from a container that has held an acute hazardous waste listed in s. NR 661.31, 661.32 or 661.33(5) is empty if any of the following are met:

1. The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate.

2. The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal.

3. In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

NR 661.08 PCB wastes regulated under federal toxic substances control act. The disposal of PCB-containing dielectric fluid and electric equipment containing that fluid authorized for use and regulated under 40 CFR part 761 and that are hazardous only because they fail the test for the toxicity characteristic (hazardous waste codes D018 to D043 only) are exempt from this chapter, chs. NR 662 to 665, 668 and 670 and s. NR 660.07.

NR 661.09 Requirements for universal waste. The wastes listed in this section are exempt from chs. NR 662 to 670 except as specified in ch. NR 673 and, therefore are not fully regulated as hazardous waste. All of the following wastes are subject to ch. NR 673:

(1) Batteries as described in s. NR 673.02.

(2) Pesticides as described in s. NR 673.03.

(3) Thermostats as described in s. NR 673.04.

(4) Lamps as described in s. NR 673.05.

Subchapter B —Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste

NR 661.10 Criteria for identifying the characteristics of hazardous waste. The department shall identify and define a characteristic of hazardous waste in subch. C only upon determining that all of the following are met:

(1) A solid waste that exhibits the characteristic may do any of the following:

(a) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness.

(b) Pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed.

(2) The characteristic can be any of the following:

(a) Measured by an available standardized test method which is reasonably within the capability of generators of solid waste or private sector laboratories that are available to serve generators of solid waste.

(b) Reasonably detected by generators of solid waste through their knowledge of their waste.

NR 661.11 Criteria for listing hazardous waste. (1) The department may list a solid waste as a listed hazardous waste upon determining that the solid waste meets one of the following criteria:

(a) It exhibits any of the characteristics of hazardous waste identified in subch. C.

(b) It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral lethal dose 50 toxicity measured in rats of less than 50 milligrams per kilogram, an inhalation lethal concentration 50 toxicity measured in rats of less than 2 milligrams per liter, or a dermal lethal dose 50 toxicity measured in rabbits of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness. (Waste listed in accordance with these criteria will be designated acute hazardous waste.)

(c) It contains any of the toxic constituents listed in appendix VIII and, after considering the following factors, the department concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed:

1. The nature of the toxicity presented by the constituent.

2. The concentration of the constituent in the waste.

3. The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in subd. 7.

4. The persistence of the constituent or any toxic degradation product of the constituent.

5. The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation.

6. The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.

7. The plausible types of improper management to which the waste could be subjected.

8. The quantities of the waste generated at individual generation sites or on a regional or national basis.

9. The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.

10. Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.

11. Such other factors as may be appropriate.

Substances will be listed in appendix VIII only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on humans or other life forms. Wastes listed in accordance with these criteria will be designated toxic wastes.

(2) The department may list classes or types of solid waste as hazardous waste if there is reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in s. 291.01(7), Stats.

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Subchapter C —Characteristics of Hazardous Waste

NR 661.20 General. (1) A solid waste, as defined in s. NR 661.02, which is not excluded from regulation as a hazardous waste under s. NR 661.04(2), is a hazardous waste if it exhibits any of the characteristics identified in this subchapter.

Note: Section NR 662.011 sets forth the generator's responsibility to determine whether the generator's waste exhibits one or more of the characteristics identified in this subchapter.

(2) A hazardous waste which is identified by a characteristic in this subchapter is assigned every EPA hazardous waste number that is applicable as set forth in this subchapter. This number shall be used in complying with s. NR 660.07 and all applicable recordkeeping and reporting requirements under chs. NR 662 to 665, 668 and 670.

(3) For purposes of this subchapter, the department will consider a sample obtained using any of the applicable sampling methods specified in Appendix I to be a representative sample within the meaning of s. NR 660.10.

Note: Since the Appendix I sampling methods are not being formally adopted by the department, a person who desires to employ an alternative sampling method is not required to demonstrate the equivalency of the alternative method under the procedures set forth in ss. NR 660.20 and 660.21.

NR 661.21 Ignitability characteristic. (1) A solid waste exhibits the ignitability characteristic if a representative sample of the waste has any of the following properties:

(a) It is a liquid, other than an aqueous solution containing less than 24% alcohol by volume, and has a flash point less than 60°C (140°F) as determined by a Pensky-Martens closed cup tester, using the test method specified in ASTM D93-79 or D93-80 (incorporated by reference in s. NR 660.11), or a Setaflash closed cup tester, using the test method specified in ASTM D3278-78 (incorporated by reference in s. NR

660.11), or as determined by an equivalent test method approved by the department under procedures set forth in ss. NR 660.20 and 660.21.

(b) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

(c) It is a flammable gas as defined in 49 CFR 173.115(a) and as determined by the test methods described in that regulation or equivalent test methods approved by the department under ss. NR 660.20 and 660.21.

(d) It is an oxidizer as defined in 49 CFR 173.127(a).

(2) A solid waste that exhibits the ignitability characteristic has the EPA hazardous waste number D001.

NR 661.22 Corrosivity characteristic. (1) A solid waste exhibits the corrosivity characteristic if a representative sample of the waste has any of the following properties:

(a) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using Method 9040 in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11.

(b) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (national association of corrosion engineers) Standard TM-01-69 as standardized in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11.

(2) A solid waste that exhibits the corrosivity characteristic has the EPA hazardous waste number D002.

NR 661.23 Reactivity characteristic. (1) A solid waste exhibits the reactivity characteristic if a representative sample of the waste has any of the following properties:

(a) It is normally unstable and readily undergoes violent change without detonating.

(b) It reacts violently with water.

(c) It forms potentially explosive mixtures with water.

(d) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(e) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(f) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(g) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(h) It is a forbidden explosive as defined in 49 CFR 173.54, or would have been a Class A or Class B explosive as defined in 49 CFR 173.52 and 173.53.

(2) A solid waste that exhibits the reactivity characteristic has the EPA hazardous waste number D003.

NR 661.24 Toxicity characteristic . (1) A solid waste (except manufactured gas plant waste) exhibits the toxicity characteristic if, using the toxicity characteristic leaching procedure, Method 1311 in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11, the extract from a representative sample of the waste contains any of the contaminants listed in Table 2 at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5% filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section.

(2) A solid waste that exhibits the toxicity characteristic has the EPA hazardous waste number specified in Table 2 which corresponds to the toxic contaminant causing it to be hazardous.

Table 2
Maximum Concentration of Contaminants for the Toxicity Characteristic

EPA HW No. [1]	Contaminant	CAS number [2]	Regu-latory Level (mg/L)

D004	Arsenic	7440-38-2	5.0

WA-10-05 D005	Barium.....	7440-39-3	100.0

WA-10-05 D018	Benzene	71-43-2	0.5

WA-10-05 D006	Cadmium	7440-43-9	1.0

WA-10-05 D019	Carbon tetrachloride.....	56-23-5	0.5

WA-10-05 D020	Chlordane	57-74-9	0.03

WA-10-05 D021	Chlorobenzene.....	108-90-7	100.0

WA-10-05 D022	Chloroform.....	67-66-3	6.0

WA-10-05 D007	Chromium.....	7440-47-3	5.0

WA-10-05 D023	o-Cresol	95-48-7	[4]200.0

WA-10-05 D024	m-Cresol	108-39-4	[4]200.0

WA-10-05 D025	p-Cresol	106-44-5	[4]200.0

WA-10-05 D026	Cresol	.....	[4]200.0

WA-10-05 D016	2,4-D.....	94-75-7	10.0

WA-10-05 D027	1,4-Dichlorobenzene	106-46-7	7.5

WA-10-05 D028	1,2-Dichloroethane.....	107-06-2	0.5

WA-10-05 D029	1,1-Dichloroethylene....	75-35-4	0.7

WA-10-05 D030	2,4-Dinitrotoluene	121-14-2	[3]0.13

WA-10-05 D012	Endrin.....	72-20-8	0.02

WA-10-05 D031	Heptachlor (and its ep-oxide)	76-44-8	0.008

WA-10-05 D032	Hexachlorobenzene	118-74-1	[3]0.13

WA-10-05 D033	Hexachlorobutadiene....	87-68-3	0.5

WA-10-05 D034	Hexachloroethane.....	67-72-1	3.0

WA-10-05 D008	Lead.....	7439-92-1	5.0

WA-10-05 D013	Lindane.....	58-89-9	0.4

WA-10-05 D009	Mercury	7439-97-6	0.2

WA-10-05 D014	Methoxychlor	72-43-5	10.0

WA-10-05 D035	Methyl ethyl ketone.....	78-93-3	200.0

WA-10-05 D036	Nitrobenzene	98-95-3	2.0

WA-10-05 D037	Pentachlorophenol.....	87-86-5	100.0

WA-10-05 D038	Pyridine	110-86-1	[3]5.0

WA-10-05 D010	Selenium.....	7782-49-2	1.0

WA-10-05 D011	Silver	7440-22-4	5.0

WA-10-05 D039	Tetrachloroethylene.....	127-18-4	0.7

WA-10-05 D015	Toxaphene	8001-35-2	0.5

WA-10-05			
D040	Trichloroethylene	79-01-6	0.5

WA-10-05 D041	2,4,5-Trichlorophenol...	95-95-4	400.0

WA-10-05 D042	2,4,6-Trichlorophenol...	88-06-2	2.0

WA-10-05 D017	2,4,5-TP (Silvex)	93-72-1	1.0

WA-10-05 D043	Vinyl chloride.....	75-01-4	0.2

WA-10-05

[1] Hazardous waste number.

[2] Chemical abstracts service number.

[3] Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

[4] If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/L.

Subchapter D —Lists of Hazardous Wastes

NR 661.30 General. (1) A solid waste is a hazardous waste if it is listed in this subchapter, unless it has been excluded from this list under ss. NR 660.20 and 660.22.

(2) The department will indicate the basis for listing the classes or types of wastes listed in this subchapter by employing one or more of the following hazard codes:

WA-10-05

Ignitable Waste ..... (I
)

WA-10-05

Corrosive Waste..... (C)

WA-10-05

Reactive Waste ..... (R)

WA-10-05

Toxicity Characteristic Waste... (E
)

WA-10-05

Acute Hazardous Waste..... (H)

WA-10-05

Toxic Waste ..... (T
)

Appendix VII identifies the constituent which caused the department to list the waste as a toxicity characteristic waste (E) or toxic waste (T) in ss. NR 661.31 and 661.32.

(3) Each hazardous waste listed in this subchapter is assigned an EPA hazardous waste number which precedes the name of the waste. This number shall be used in complying with s. NR 660.07 and certain recordkeeping and reporting requirements under chs. NR 662 to 665, 668 and 670.

(4) The following hazardous wastes listed in s. NR 661.31 or 661.32 are subject to the exclusion limits for acutely hazardous wastes established in s. NR 662.220: EPA hazardous waste numbers F020, F021, F022, F023, F026 and F027.

NR 661.31 Hazardous wastes from non-specific sources. (1) LISTED HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under ss. NR 660.20 and 660.22 and listed in 40 CFR part 261, appendix IX:

Industry and EPA hazardous waste number	Hazardous waste	Hazard code

Generic:		

F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride and chlorinated fluorocarbons; all spent solvent mixtures or blends used in degreasing containing, before use, a total of 10% or more (by volume) of one or more of these halogenated solvents or those solvents listed in F002, F004 and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)

F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2- trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane and 1,1, 2-trichloroethane; all spent solvent mixtures or blends containing, before use, a total of 10% or more (by volume) of one or more of these halogenated solvents or those listed in F001, F004 or F005; and still bottoms from the recovery of these spent solvents and spent solvents mixtures.	(T)

WA-10-05

F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone and methanol; all spent solvent mixtures or blends containing, before use, only these spent non-halogenated solvents; all spent solvent mixtures or blends containing, before use, one or more of these non-halogenated solvents, and, a total of 10% or more (by volume) of one or more of those solvents listed in F001, F002, F004 and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I)

F004	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures or blends containing, before use, a total of 10% or more (by volume) of one or more of these non-halogenated solvents or those solvents listed in F001, F002 and F005; and still bottoms from the recovery of these spent solvents and spent solvents mixtures.	(T)

WA-10-05

F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures or blends containing, before use, a total of 10% or more (by volume) of one or more of these non-halogenated solvents or those solvents listed in F001, F002 or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I,T)

WA-10-05

F006.....	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning or stripping associated with tin, zinc and aluminum plating on carbon steel and (6) chemical etching and milling of aluminum.	(T)

WA-10-05		
F007	Spent cyanide plating bath solutions from electroplating operations.	(R,T)

WA-10-05		
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	(R,T)

WA-10-05		
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	(R,T)

WA-10-05		
F010.....	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	(R,T)

WA-10-05		
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	(R,T)

WA-10-05		
F012	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process.	(T)

WA-10-05

F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when the phosphating is an exclusive conversion coating process.	(T)

WA-10-05

F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of hexachlorophene from highly purified 2,4,5-trichlorophenol).	(H)

WA-10-05

F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	(H)

WA-10-05

F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of tetra-, penta- or hexachlorobenzenes under alkaline conditions.	(H)

WA-10-05

F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)

F024	Process wastes, including, but not limited to, distillation residues, heavy ends, tars and reactor cleanout wastes from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including 5, with varying amounts and positions of chlorine substitution. [This listing does not include wastewater, wastewater treatment sludges, spent catalysts and wastes listed in s. NR 661.31 or 661.32].	(T)

WA-10-05

F025	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including 5, with varying amounts and positions of chlorine substitution.	(T)

WA-10-05 F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of tetra-, penta- or hexachlorobenzene under alkaline conditions.	(H)

WA-10-05

F027.....	Discarded unused formulations containing tri-, tetra- or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene synthesized from pre-purified 2,4,5-trichlorophenol as the sole component.).	(H)

F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA hazardous waste numbers F020, F021, F022, F023, F026 and F027.	(T)

F032	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted according to s. NR 661.35 or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol.	(T)

WA-10-05

F034	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol.	(T)

WA-10-05

F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol.	(T)

WA-10-05

F037.....	Petroleum refinery primary oil or water or solids separation sludge-Any sludge generated from the gravitational separation of oil or water or solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. These sludges include, but are not limited to: those generated in oil or water or solids separators; tanks and impoundments; ditches and other conveyances; sumps and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in s. NR 661.31(2)(b) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. This listing does include residuals generated from processing or recycling oil-bearing hazardous secondary materials excluded under s. NR 661.04(1)(L)1., if those residuals are to be disposed of.	(T)

WA-10-05

F038	Petroleum refinery secondary (emulsified) oil or water or solids separation sludge-Any sludge or float generated from the physical or chemical separation of oil or water or solids in process wastewaters and oily cooling wastewaters from petroleum refineries. These wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in s. NR 661.31(2)(b) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048 and K051 wastes are not included in this listing.	(T)

F039	Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subch. D. (Leachate resulting from the disposal of one or more of the following hazardous wastes and no other hazardous wastes retains its EPA hazardous waste numbers: F020, F021, F022, F023, F026, F027or F028.)	(T)

(2) LISTING SPECIFIC DEFINITIONS. (b)1. For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following 4 treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters or high-rate aeration. High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity, and the units employ a minimum of 6 hp per million gallons of treatment volume; and meet one of the following:

a. The hydraulic retention time of the unit is no longer than 5 days.

b. The hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the toxicity characteristic.

2. Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities shall maintain, in their operating or other onsite records, documents and data sufficient to prove all of the following:

a. The unit is an aggressive biological treatment unit as defined in this subsection.

b. The sludges sought to be exempted from the definitions of F037 or F038 were actually generated in the aggressive biological treatment unit.

(c)1. For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

2. For the purposes of the F038 listing, all of the following apply:

a. Sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

b. Floats are considered to be generated at the moment they are formed in the top of the unit.

NR 661.32 Hazardous wastes from specific sources. The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under ss. NR 660.20 and 660.22 and listed in 40 CFR part 261, appendix IX:

Industry and EPA hazardous waste number	Hazardous waste	Hazard code

Wood preservation:		

WA-10-05 K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote or pentachlorophenol.	(T)

WA-10-05

Inorganic pigments:

WA-10-05

K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	(T)

WA-10-05

K003	Wastewater treatment sludge from the production of molybdate orange pigments.	(T)

WA-10-05

K004	Wastewater treatment sludge from the production of zinc yellow pigments.	(T)

WA-10-05 K005	Wastewater treatment sludge from the production of chrome green pigments.	(T)

WA-10-05 K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).	(T)

WA-10-05 K007	Wastewater treatment sludge from the production of iron blue pigments	(T)

WA-10-05

K008	Oven residue from the production of chrome oxide green pigments.	(T)

WA-10-05

Organic chemicals:

WA-10-05		
K009	Distillation bottoms from the production of acetaldehyde from ethylene	(T)

WA-10-05

K010	Distillation side cuts from the production of acetaldehyde from ethylene	(T)

WA-10-05		
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.	(R,T)

WA-10-05

K013	Bottom stream from the acetonitrile column in the production of acrylonitrile.	(R,T)

WA-10-05

K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile.	(T)

WA-10-05

K015	Still bottoms from the distillation of benzyl chloride.	(T)

WA-10-05

K016	Heavy ends or distillation residues from the production of carbon tetrachloride.	(T)

WA-10-05

K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	(T)

WA-10-05		
K018	Heavy ends from the fractionation column in ethyl chloride production	(T)

WA-10-05

K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	(T)

WA-10-05

K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	(T)

WA-10-05		
K021	Aqueous spent antimony catalyst waste from fluoromethanes production	(T)

WA-10-05

K022	Distillation bottom tars from the production of phenol or acetone from cumene.	(T)

WA-10-05

K023	Distillation light ends from the production of phthalic anhydride from naphthalene.	(T)

WA-10-05

K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.	(T)

WA-10-05

K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	(T)

WA-10-05		
K026	Stripping still tails from the production of methy ethyl pyridines.	(T)

WA-10-05

K027	Centrifuge and distillation residues from toluene diisocyanate production	(R,T)

WA-10-05

K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	(T)

WA-10-05 K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane.	(T)

WA-10-05

K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	(T)

WA-10-05

K083	Distillation bottoms from aniline production.....	(T)

WA-10-05

K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.	(T)

WA-10-05

K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene.	(T)

WA-10-05

K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene.	(T)

WA-10-05

K095	Distillation bottoms from the production of 1,1,1-trichloroethane.	(T)

WA-10-05

K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.	(T)

WA-10-05

K103	Process residues from aniline extraction from the production of aniline	(T)

WA-10-05

K104	Combined wastewater streams generated from nitrobenzene or aniline production.	(T)

WA-10-05		
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	(T)

WA-10-05 K107	Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazines.	(C,T)

WA-10-05		
K108	Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(I,T)

WA-10-05

K109	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(T)

WA-10-05

K110	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(T)

WA-10-05 K111	Product washwaters from the production of dinitrotoluene via nitration of toluene.	(C,T)

WA-10-05

K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)

WA-10-05

K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)

WA-10-05

K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)

WA-10-05

K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)

WA-10-05

K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	(T)

WA-10-05

K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.	(T)

WA-10-05

K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)

WA-10-05

K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)

K149	Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides and compounds with mixtures of these functional groups. (This waste does not include still bottoms from the distillation of benzyl chloride.)	(T)

WA-10-05

K150	Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides and compounds with mixtures of these functional groups.	(T)

WA-10-05

K151	Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides and compounds with mixtures of these functional groups.	(T)

WA-10-05 K156	Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	(T)

WA-10-05

K157	Wastewaters (including scrubber waters, condenser waters, washwaters and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	(T)

WA-10-05

K158	Bag house dusts and filter or separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	(T)

WA-10-05

K159	Organics from the treatment of thiocarbamate wastes.....	(T)

WA-10-05

K161	Purification solids (including filtration, evaporation and centrifugation solids), bag house dust and floor sweepings from the production of dithiocarbamate acids and their salts. (This listing does not include K125 or K126.)	(R,T)

WA-10-05

K174	Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer (including sludges that result from commingled ethylene dichloride or vinyl chloride monomer wastewater and other wastewater), unless the sludges are disposed of in a hazardous waste or non-hazardous waste landfill licensed or permitted by the state or federal government; they are not otherwise placed on the land prior to final disposal; and the generator maintains documentation demonstrating that the waste was either disposed of in an on-site landfill or consigned to a transporter or disposal facility that provided a written commitment to dispose of the waste in an off-site landfill. Respondents in any action brought to enforce chs. NR 660 to 670 shall, upon a showing by the government that the respondent managed wastewater treatment sludges from the production of vinyl chloride monomer or ethylene dichloride, demonstrate that they meet the terms of the exclusion in the previous sentence. In doing so, they shall provide appropriate documentation (e.g., contracts between the generator and the landfill owner or operator, invoices documenting delivery of waste to landfill, etc.) that the terms of the exclusion were met.	(T)

WA-10-05

K175	Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process.	(T)

WA-10-05

Inorganic chemicals:

WA-10-05

K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.	(T)

WA-10-05

K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	(T)

WA-10-05 K106	Wastewater treatment sludge from the mercury cell process in chlorine production.	(T)

WA-10-05

K176	Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide).	(E)

WA-10-05

K177	Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide).	(T)

WA-10-05

K178	Residues from manufacturing and manufacturing site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process.	(T)

WA-10-05
Pesticides:

WA-10-05

K031	By-product salts generated in the production of MSMA and cacodylic acid.	(T)

WA-10-05		
K032	Wastewater treatment sludge from the production of chlordane.	(T)

WA-10-05

K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	(T)

WA-10-05

K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	(T)

WA-10-05 K035	Wastewater treatment sludges generated in the production of creosote	(T)

WA-10-05

K036	Still bottoms from toluene reclamation distillation in the production of disulfoton.	(T)

WA-10-05

K037	Wastewater treatment sludges from the production of disulfoton.	(T)

WA-10-05

K038	Wastewater from the washing and stripping of phorate production.	(T)

WA-10-05

K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.	(T)

WA-10-05		
K040	Wastewater treatment sludge from the production of phorate.	(T)

WA-10-05

K041	Wastewater treatment sludge from the production of toxaphene.....	(T)

WA-10-05

K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	(T)

WA-10-05

K043	2,6-Dichlorophenol waste from the production of 2,4-D.....	(T)

WA-10-05

K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	(T)

WA-10-05

K098	Untreated process wastewater from the production of toxaphene.	(T)

WA-10-05

K099	Untreated wastewater from the production of 2,4-D.	(T)

WA-10-05

K123	Process wastewater (including supernates, filtrates and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt.	(T)

WA-10-05 K124	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.	(C,T)

WA-10-05 K125	Filtration, evaporation and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.	(T)

WA-10-05

K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts.	(T)

WA-10-05 K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.	(C,T)

WA-10-05

K132	Spent absorbent and wastewater separator solids from the production of methyl bromide.	(T)

WA-10-05
Explosives:

WA-10-05 K044	Wastewater treatment sludges from the manufacturing and processing of explosives.	(R)

WA-10-05		
K045	Spent carbon from the treatment of wastewater containing explosives	(R)

WA-10-05 K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.	(T)

WA-10-05		
K047	Pink or red water from TNT operations.....	(R)

WA-10-05

Petroleum refining:

WA-10-05		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry	(T)

WA-10-05		
K049	Slop oil emulsion solids from the petroleum refining industry.	(T)

WA-10-05		
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.	(T)

WA-10-05

K051	API separator sludge from the petroleum refining industry.	(T)

WA-10-05

K052	Tank bottoms (leaded) from the petroleum refining industry.....	(T)
K169	Crude oil storage tank sediment from petroleum refining operations ..	(T)
K170	Clarified slurry oil tank sediment or in-line filter or separation solids from petroleum refining operations	(T)
K171	Spent hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media)	(I,T)
K172	Spent hydrorefining catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media.)	(I,T)

WA-10-05

Iron and Steel:

K061	Emission control dust or sludge from the primary production of steel in electric furnaces.	(T)

WA-10-05

K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	(C,T)

WA-10-05

Primary aluminum:

330

WA-10-05

K088	Spent potliners from primary aluminum reduction.	(T)

WA-10-05

Secondary lead:

WA-10-05

K069	Emission control dust or sludge from secondary lead smelting. This listing does not include sludge generated from secondary acid scrubber systems.	(T)

WA-10-05

K100	Waste leaching solution from acid leaching of emission control dust or sludge from secondary lead smelting.	(T)

WA-10-05
Veterinary pharmaceuticals:

WA-10-05

K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)

WA-10-05

K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)

WA-10-05

K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)

WA-10-05

Ink formulation:

WA-10-05

K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps and stabilizers containing chromium and lead.	(T)

WA-10-05
Coking:

WA-10-05

K060	Ammonia still lime sludge from coking operations.....	(T)

WA-10-05

K087	Decanter tank tar sludge from coking operations.	(T)

K141	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations).	(T)

WA-10-05

K142	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.	(T)

WA-10-05

K143	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters and wash oil recovery units from the recovery of coke by-products produced from coal.	(T)

WA-10-05

K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.	(T)

WA-10-05

K145	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.	(T)

WA-10-05

K147	Tar storage tank residues from coal tar refining.	(T)

WA-10-05

K148	Residues from coal tar distillation, including but not limited to, still bottoms.	(T)

NR 661.33 Discarded commercial chemical products, off-specification species, container residues and spill residues thereof. All of the following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in s. NR 661.02(1)(b)1., when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel or burned as a fuel:

(1) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in sub. (5) or (6).

(2) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in sub. (5) or (6).

(3) Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in sub. (5) or (6), unless the container is empty as defined in s. NR 661.07(2).

Note: Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed; or being accumulated, stored, transported or treated prior to its use, re-use, recycling or reclamation, the department considers the residue to be intended for discard, and thus, a hazardous waste. An example of a legitimate re-use of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.

(4) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in sub. (5) or (6), or any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in sub. (5) or (6).

Note: The phrase ”commercial chemical product or manufacturing chemical intermediate having the generic name listed in … ” refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in sub. (5) or (6). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in sub. (5) or (6), the waste will be listed in either s. NR 661.31 or 661.32 or will be identified as a hazardous waste by the characteristics in subch. C.

(5) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in subs. (1) to (4), are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in s. NR 662.220(5).

Note: For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (toxicity), and R (reactivity). Absence of a letter indicates the compound is only listed for acute toxicity.

These wastes and their corresponding EPA hazardous waste numbers are:

Hazardous waste number	Chemical abstracts number	Substance

P023	107-20-0	Acetaldehyde, chloro-

WA-10-05		
P002	591-08-2	Acetamide, N-(aminothioxomethyl)-

WA-10-05		
P057	640-19-7	Acetamide, 2-fluoro-

WA-10-05 P058	62-74-8	Acetic acid, fluoro-, sodium salt

WA-10-05 P002	591-08-2	1-Acetyl-2-thiourea

WA-10-05		
P003	107-02-8	Acrolein

WA-10-05 P070	116-06-3	Aldicarb

WA-10-05 P203	1646-88-4	Aldicarb sulfone

WA-10-05 P004	309-00-2	Aldrin

WA-10-05		
P005	107-18-6	Allyl alcohol

WA-10-05 P006	20859-73-8	Aluminum phosphide (R,T)

WA-10-05 P007	2763-96-4	5-(Aminomethyl)-3-isoxazolol

WA-10-05 P008	504-24-5	4-Aminopyridine

WA-10-05		
P009	131-74-8	Ammonium picrate (R)

WA-10-05 P119	7803-55-6	Ammonium vanadate

WA-10-05 P099	506-61-6	Argentate(1-), bis(cyano-C)-, potassium

WA-10-05 P010	7778-39-4	Arsenic acid H_3AsO_4

WA-10-05 P012	1327-53-3	Arsenic oxide As_2O_3

WA-10-05		
P011	1303-28-2	Arsenic oxide As_2O_5

WA-10-05		
P011	1303-28-2	Arsenic pentoxide

WA-10-05		
P012	1327-53-3	Arsenic trioxide

WA-10-05		
P038	692-42-2	Arsine, diethyl-

WA-10-05		
P036	696-28-6	Arsonous dichloride, phenyl-

WA-10-05		
P054	151-56-4	Aziridine

WA-10-05		
P067	75-55-8	Aziridine, 2-methyl-

WA-10-05		
P013	542-62-1	Barium cyanide

WA-10-05		
P024	106-47-8	Benzenamine, 4-chloro-

WA-10-05		
P077	100-01-6	Benzenamine, 4-nitro-

WA-10-05		
P028	100-44-7	Benzene, (chloromethyl)-

WA-10-05		
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-

WA-10-05		
P046	122-09-8	Benzeneethanamine, alpha, alpha-dimethyl-

WA-10-05		
P014	108-98-5	Benzenethiol

WA-10-05 P127	1563-66-2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate

WA-10-05 P188	57-64-7	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1, 3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1)

WA-10-05

P001	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%

WA-10-05 P028	100-44-7	Benzyl chloride

WA-10-05 P015	7440-41-7	Beryllium powder

WA-10-05 P017	598-31-2	Bromoacetone

WA-10-05 P018	357-57-3	Brucine

WA-10-05		
P045	39196-18-4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime

WA-10-05 P021	592-01-8	Calcium cyanide

WA-10-05 P021	592-01-8	Calcium cyanide $Ca(CN)_2$

WA-10-05 P022	75-15-0	Carbon disulfide

WA-10-05 P189	55285-14-8	Carbamic acid, [(dibutylamino)- thio]methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester

WA-10-05

P191	644-64-4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]- 5-methyl-1H-pyrazol-3-yl ester

WA-10-05		
P192	119-38-0	Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H- pyrazol-5-yl ester

WA-10-05 P190	1129-41-5	Carbamic acid, methyl-, 3-methylphenyl ester

WA-10-05 P127	1563-66-2	Carbofuran

WA-10-05		
P095	75-44-5	Carbonic dichloride

WA-10-05 P189	55285-14-8	Carbosulfan

WA-10-05 P023	107-20-0	Chloroacetaldehyde

WA-10-05 P024	106-47-8	p-Chloroaniline

WA-10-05 P026	5344-82-1	1-(o-Chlorophenyl)thiourea

WA-10-05		
P027	542-76-7	3-Chloropropionitrile

WA-10-05 P029	544-92-3	Copper cyanide

WA-10-05 P029	544-92-3	Copper cyanide Cu(CN)

WA-10-05 P202	64-00-6	m-Cumenyl methylcarbamate

WA-10-05 P030	.....	Cyanides (soluble cyanide salts), not otherwise specified

WA-10-05 P031	460-19-5	Cyanogen

WA-10-05 P033	506-77-4	Cyanogen chloride

WA-10-05		
P033	506-77-4	Cyanogen chloride (CN)Cl

WA-10-05 P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol

WA-10-05		
P016	542-88-1	Dichloromethyl ether

WA-10-05 P036	696-28-6	Dichlorophenylarsine

WA-10-05 P037	60-57-1	Dieldrin

WA-10-05 P038	692-42-2	Diethylarsine

WA-10-05 P041	311-45-5	Diethyl-p-nitrophenyl phosphate

WA-10-05 P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate

WA-10-05 P043	55-91-4	Diisopropylfluorophosphate (DFP)

WA-10-05

P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-

WA-10-05

P060	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-

WA-10-05

P037	60-57-1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)-

WA-10-05

P051	[1]72-20-8	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)-, & metabolites

WA-10-05		
P044	60-51-5	Dimethoate

WA-10-05 P191	644-64-4	Dimetilan

WA-10-05		
P046	122-09-8	alpha,alpha-Dimethylphenethylamine

WA-10-05 P047	[1]534-52-1	4,6-Dinitro-o-cresol, & salts

WA-10-05 P048	51-28-5	2,4-Dinitrophenol

WA-10-05 P020	88-85-7	Dinoseb

WA-10-05 P085	152-16-9	Diphosphoramide, octamethyl-

WA-10-05 P111	107-49-3	Diphosphoric acid, tetraethyl ester

WA-10-05 P039	298-04-4	Disulfoton

WA-10-05		
P049	541-53-7	Dithiobiuret

WA-10-05 P185	26419-73-8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino)-carbonyl]oxime

WA-10-05 P050	115-29-7	Endosulfan

WA-10-05 P088	145-73-3	Endothall

WA-10-05		
P051	72-20-8	Endrin

WA-10-05		
P051	72-20-8	Endrin, & metabolites

WA-10-05 P042	51-43-4	Epinephrine

WA-10-05		
P031	460-19-5	Ethanedinitrile

WA-10-05 P194	23135-22-0	Ethanimidothioc acid, 2-(dimethylamino)-N-[[(methylamino)carbonyl]oxy]-2-oxo-, methyl ester

WA-10-05 P066	16752-77-5	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester

WA-10-05		
P101	107-12-0	Ethyl cyanide

WA-10-05		
P054	151-56-4	Ethyleneimine

WA-10-05 P097	52-85-7	Famphur

WA-10-05 P056	7782-41-4	Fluorine

WA-10-05		
P057	640-19-7	Fluoroacetamide

WA-10-05 P198	23422-53-9	Formetanate hydrochloride

WA-10-05 P197	17702-57-7	Formparanate

WA-10-05 P058	62-74-8	Fluoroacetic acid, sodium salt

WA-10-05 P065	628-86-4	Fulminic acid, mercury(2+) salt (R,T)

WA-10-05		
P059	76-44-8	Heptachlor

WA-10-05 P062	757-58-4	Hexaethyl tetraphosphate

WA-10-05 P116	79-19-6	Hydrazinecarbothioamide

WA-10-05		
P068	60-34-4	Hydrazine, methyl-

WA-10-05		
P063	74-90-8	Hydrocyanic acid

WA-10-05		
P063	74-90-8	Hydrogen cyanide

WA-10-05 P096	7803-51-2	Hydrogen phosphide

WA-10-05 P060	465-73-6	Isodrin

WA-10-05 P192	119-38-0	Isolan

WA-10-05 P202	64-00-6	3-Isopropylphenyl N-methylcarbamate

WA-10-05 P007	2763-96-4	3(2H)-Isoxazolone, 5-(aminomethyl)-

WA-10-05 P196	15339-36-3	Manganese, bis(dimethylcarbamodithioato-S,S’)-

WA-10-05 P196	15339-36-3	Manganese dimethyldithiocarbamate

WA-10-05 P092	62-38-4	Mercury, (acetato-O)phenyl-

WA-10-05 P065	628-86-4	Mercury fulminate (R,T)

WA-10-05		
P082	62-75-9	Methanamine, N-methyl-N-nitroso-

WA-10-05		
P064	624-83-9	Methane, isocyanato-

WA-10-05 P016	542-88-1	Methane, oxybis[chloro-

472

WA-10-05		
P112	509-14-8	Methane, tetranitro- (R)

WA-10-05 P198	23422-53-9	Methanimidamide, N,N-dimethyl-N’-[3-[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride

WA-10-05 P197	17702-57-7	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino)carbonyl]oxy]phenyl]-

WA-10-05 P199	2032-65-7	Methiocarb

WA-10-05		
P118	75-70-7	Methanethiol, trichloro-

WA-10-05 P050	115-29-7	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide

WA-10-05		
P059	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-

WA-10-05 P066	16752-77-5	Methomyl

WA-10-05 P068	60-34-4	Methyl hydrazine

WA-10-05		
P064	624-83-9	Methyl isocyanate

WA-10-05 P069	75-86-5	2-Methyllactonitrile

WA-10-05		
P071	298-00-0	Methyl parathion

WA-10-05 P190	1129-41-5	Metolcarb

WA-10-05 P128	315-18-4	Mexacarbate

WA-10-05 P072	86-88-4	alpha-Naphthylthiourea

WA-10-05 P073	13463-39-3	Nickel carbonyl

WA-10-05 P073	13463-39-3	Nickel carbonyl $Ni(CO)_4$, (T-4)-

WA-10-05		
P074	557-19-7	Nickel cyanide

WA-10-05 P074	557-19-7	Nickel cyanide $Ni(CN)_2$

WA-10-05 P075	[1]54-11-5	Nicotine, & salts

WA-10-05 P076	10102-43-9	Nitric oxide

WA-10-05 P077	100-01-6	p-Nitroaniline

WA-10-05 P078	10102-44-0	Nitrogen dioxide

WA-10-05 P076	10102-43-9	Nitrogen oxide NO

WA-10-05 P078	10102-44-0	Nitrogen oxide NO_2

WA-10-05		
P081	55-63-0	Nitroglycerine (R)

WA-10-05 P082	62-75-9	N-Nitrosodimethylamine

WA-10-05		
P084	4549-40-0	N-Nitrosomethylvinylamine

500

WA-10-05 P085	152-16-9	Octamethylpyrophosphoramide

501

WA-10-05 P087	20816-12-0	Osmium oxide OsO_4, (T-4)-

WA-10-05 P087	20816-12-0	Osmium tetroxide

WA-10-05 P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid

WA-10-05 P194	23135-22-0	Oxamyl

WA-10-05 P089	56-38-2	Parathion

WA-10-05		
P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-

WA-10-05		
P048	51-28-5	Phenol, 2,4-dinitro-

WA-10-05 P047	[1]534-52-1	Phenol, 2-methyl-4,6-dinitro-, & salts

WA-10-05		
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-

510

WA-10-05 P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)

WA-10-05 P128	315-18-4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)

WA-10-05 P199	2032-65-7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate

WA-10-05 P202	64-00-6	Phenol, 3-(1-methylethyl)-, methyl carbamate

WA-10-05		
P201	2631-37-0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate

WA-10-05 P092	62-38-4	Phenylmercury acetate

WA-10-05		
P093	103-85-5	Phenylthiourea

WA-10-05 P094	298-02-2	Phorate

WA-10-05 P095	75-44-5	Phosgene

WA-10-05 P096	7803-51-2	Phosphine

WA-10-05 P041	311-45-5	Phosphoric acid, diethyl 4-nitrophenyl ester

WA-10-05 P039	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester

WA-10-05

P094	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester

P044	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester

WA-10-05		
P043	55-91-4	Phosphorofluoridic acid, bis(1-methylethyl) ester

WA-10-05 P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester

WA-10-05 P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester

WA-10-05

P097	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester

WA-10-05		
P071	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester

WA-10-05 P204	57-47-6	Physostigmine

WA-10-05 P188	57-64-7	Physostigmine salicylate

WA-10-05		
P110	78-00-2	Plumbane, tetraethyl-

WA-10-05 P098	151-50-8	Potassium cyanide

WA-10-05 P098	151-50-8	Potassium cyanide K(CN)

WA-10-05		
P099	506-61-6	Potassium silver cyanide

WA-10-05 P201	2631-37-0	Promecarb

WA-10-05		
P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime

WA-10-05		
P203	1646-88-4	Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime

WA-10-05		
P101	107-12-0	Propanenitrile

WA-10-05		
P027	542-76-7	Propanenitrile, 3-chloro-

WA-10-05		
P069	75-86-5	Propanenitrile, 2-hydroxy-2-methyl-

WA-10-05		
P081	55-63-0	1,2,3-Propanetriol, trinitrate (R)

WA-10-05 P017	598-31-2	2-Propanone, 1-bromo-

WA-10-05 P102	107-19-7	Propargyl alcohol

WA-10-05 P003	107-02-8	2-Propenal

WA-10-05 P005	107-18-6	2-Propen-1-ol

WA-10-05		
P067	75-55-8	1,2-Propylenimine

WA-10-05 P102	107-19-7	2-Propyn-1-ol

WA-10-05 P008	504-24-5	4-Pyridinamine

WA-10-05

P075	[1]54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts

WA-10-05

P204	57-47-6	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-

WA-10-05 P114	12039-52-0	Selenious acid, dithallium(1+) salt

WA-10-05 P103	630-10-4	Selenourea

553

WA-10-05 P104	506-64-9	Silver cyanide

WA-10-05		
P104	506-64-9	Silver cyanide Ag(CN)

555

WA-10-05 P105	26628-22-8	Sodium azide

WA-10-05 P106	143-33-9	Sodium cyanide

WA-10-05 P106	143-33-9	Sodium cyanide Na(CN)

WA-10-05 P108	[1]57-24-9	Strychnidin-10-one, & salts

WA-10-05 P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-

WA-10-05 P108	[1]57-24-9	Strychnine, & salts

WA-10-05 P115	7446-18-6	Sulfuric acid, dithallium(1+) salt

WA-10-05 P109	3689-24-5	Tetraethyldithiopyrophosphate

WA-10-05 P110	78-00-2	Tetraethyl lead

WA-10-05 P111	107-49-3	Tetraethyl pyrophosphate

WA-10-05 P112	509-14-8	Tetranitromethane (R)

WA-10-05 P062	757-58-4	Tetraphosphoric acid, hexaethyl ester

WA-10-05 P113	1314-32-5	Thallic oxide

WA-10-05 P113	1314-32-5	Thallium oxide Tl_2O_3

WA-10-05 P114	12039-52-0	Thallium(I) selenite

WA-10-05 P115	7446-18-6	Thallium(I) sulfate

WA-10-05 P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester

WA-10-05 P045	39196-18-4	Thiofanox

WA-10-05		
P049	541-53-7	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$

WA-10-05 P014	108-98-5	Thiophenol

575

WA-10-05 P116	79-19-6	Thiosemicarbazide

WA-10-05		
P026	5344-82-1	Thiourea, (2-chlorophenyl)-

WA-10-05		
P072	86-88-4	Thiourea, 1-naphthalenyl-

578

WA-10-05		
P093	103-85-5	Thiourea, phenyl-

WA-10-05 P185	26419-73-8	Tirpate

580

WA-10-05 P123	8001-35-2	Toxaphene

WA-10-05 P118	75-70-7	Trichloromethanethiol

WA-10-05 P119	7803-55-6	Vanadic acid, ammonium salt

WA-10-05 P120	1314-62-1	Vanadium oxide V_2O_5

584

WA-10-05 P120	1314-62-1	Vanadium pentoxide

WA-10-05		
P084	4549-40-0	Vinylamine, N-methyl-N-nitroso-

WA-10-05 P001	[1]81-81-2	Warfarin, & salts, when present at concentrations greater than 0.3%

WA-10-05 P205	137-30-4	Zinc, bis(dimethylcarbamodithioato-S,S')-

WA-10-05 P121	557-21-1	Zinc cyanide

WA-10-05 P121	557-21-1	Zinc cyanide $Zn(CN)_2$

WA-10-05

P122	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R,T)

WA-10-05 P205	137-30-4	Ziram

592

[1] CAS number given for parent compound only.

(6) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products referred to in subs. (1) to (4), are identified as toxic wastes (T), unless otherwise designated and are subject to the small quantity generator exclusion defined in s. NR 662.220(1).

Note: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (toxicity), R (reactivity), I (ignitability) and C (corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.

These wastes and their corresponding EPA hazardous waste numbers are:

Hazardous waste number	Chemical abstracts number	Substance

WA-10-05

U394	30558-43-1	A2213

595

WA-10-05 U001	75-07-0	Acetaldehyde (I)

WA-10-05 U034	75-87-6	Acetaldehyde, trichloro-

WA-10-05 U187	62-44-2	Acetamide, N-(4-ethoxyphenyl)-

598

WA-10-05 U005	53-96-3	Acetamide, N-9H-fluoren-2-yl-

WA-10-05 U240	[1]94-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters

WA-10-05 U112	141-78-6	Acetic acid ethyl ester (I)

601

WA-10-05 U144	301-04-2	Acetic acid, lead(2+) salt

WA-10-05 U214	563-68-8	Acetic acid, thallium(1+) salt

WA-10-05 See F027	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-

WA-10-05 U002	67-64-1	Acetone (I)

WA-10-05 U003	75-05-8	Acetonitrile (I,T)

WA-10-05 U004	98-86-2	Acetophenone

WA-10-05 U005	53-96-3	2-Acetylaminofluorene

WA-10-05 U006	75-36-5	Acetyl chloride (C,R,T)

WA-10-05 U007	79-06-1	Acrylamide

WA-10-05 U008	79-10-7	Acrylic acid (I)

WA-10-05 U009	107-13-1	Acrylonitrile

WA-10-05 U011	61-82-5	Amitrole

WA-10-05 U012	62-53-3	Aniline (I,T)

WA-10-05 U136	75-60-5	Arsinic acid, dimethyl-

WA-10-05 U014	492-80-8	Auramine

WA-10-05 U015	115-02-6	Azaserine

WA-10-05 U010		Azirino[2’,3’:3,4]pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]-

WA-10-05 U280	101-27-9	Barban

WA-10-05 U278	22781-23-3	Bendiocarb

WA-10-05 U364	22961-82-6	Bendiocarb phenol

WA-10-05 U271	17804-35-2	Benomyl

WA-10-05 U157	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-

WA-10-05 U016	225-51-4	Benz[c]acridine

WA-10-05 U017	98-87-3	Benzal chloride

WA-10-05 U192	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-

WA-10-05 U018	56-55-3	Benz[a]anthracene

WA-10-05 U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-

WA-10-05 U012	62-53-3	Benzenamine (I,T)

WA-10-05 U014	492-80-8	Benzenamine, 4,4’-carbonimidoylbis[N,N-dimethyl-

WA-10-05 U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-, hydrochloride

WA-10-05 U093	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-

WA-10-05 U328	95-53-4	Benzenamine, 2-methyl-

WA-10-05 U353	106-49-0	Benzenamine, 4-methyl-

WA-10-05 U158	101-14-4	Benzenamine, 4,4’-methylenebis[2-chloro-

WA-10-05 U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride

WA-10-05 U181	99-55-8	Benzenamine, 2-methyl-5-nitro-

WA-10-05 U019	71-43-2	Benzene (I,T)

WA-10-05 U038	510-15-6	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester

WA-10-05 U030	101-55-3	Benzene, 1-bromo-4-phenoxy-

WA-10-05 U035	305-03-3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-

WA-10-05 U037	108-90-7	Benzene, chloro-

WA-10-05 U221	25376-45-8	Benzenediamine, ar-methyl-

WA-10-05 U028	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester

WA-10-05 U069	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester

WA-10-05 U088	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester

WA-10-05 U102	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester

WA-10-05 U107	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester

WA-10-05 U070	95-50-1	Benzene, 1,2-dichloro-

WA-10-05 U071	541-73-1	Benzene, 1,3-dichloro-

WA-10-05 U072	106-46-7	Benzene, 1,4-dichloro-

WA-10-05 U060	72-54-8	Benzene, 1,1’-(2,2-dichloroethylidene)bis[4-chloro-

WA-10-05 U017	98-87-3	Benzene, (dichloromethyl)-

WA-10-05 U223	26471-62-5	Benzene, 1,3-diisocyanatomethyl- (R,T)

WA-10-05 U239	1330-20-7	Benzene, dimethyl- (I,T)

WA-10-05 U201	108-46-3	1,3-Benzenediol

WA-10-05 U127	118-74-1	Benzene, hexachloro-

WA-10-05 U056	110-82-7	Benzene, hexahydro- (I)

WA-10-05 U220	108-88-3	Benzene, methyl-

WA-10-05 U105	121-14-2	Benzene, 1-methyl-2,4-dinitro-

WA-10-05 U106	606-20-2	Benzene, 2-methyl-1,3-dinitro-

WA-10-05 U055	98-82-8	Benzene, (1-methylethyl)- (I)

WA-10-05 U169	98-95-3	Benzene, nitro-

WA-10-05 U183	608-93-5	Benzene, pentachloro-

WA-10-05 U185	82-68-8	Benzene, pentachloronitro-

WA-10-05 U020	98-09-9	Benzenesulfonic acid chloride (C,R)

WA-10-05 U020	98-09-9	Benzenesulfonyl chloride (C,R)

WA-10-05 U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-

WA-10-05 U061	50-29-3	Benzene, 1,1’-(2,2,2-trichloroethylidene)bis[4-chloro-

WA-10-05 U247	72-43-5	Benzene, 1,1’-(2,2,2-trichloroethylidene)bis[4-methoxy-

WA-10-05 U023	98-07-7	Benzene, (trichloromethyl)-

WA-10-05 U234	99-35-4	Benzene, 1,3,5-trinitro-

WA-10-05 U021	92-87-5	Benzidine

WA-10-05 U202	[1]81-07-2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts

WA-10-05 U278	22781-23-3	1,3-Benzodioxol-4ol, 2,2-dimethyl-, methyl carbamate

WA-10-05 U364	22961-82-6	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,

WA-10-05 U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-

WA-10-05 U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-

WA-10-05 U367	1563-38-8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-

WA-10-05 U090	94-58-6	1,3-Benzodioxole, 5-propyl-

WA-10-05 U064	189-55-9	Benzo[rst]pentaphene

WA-10-05 U248	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less

WA-10-05 U022	50-32-8	Benzo[a]pyrene

WA-10-05 U197	106-51-4	p-Benzoquinone

WA-10-05 U023	98-07-7	Benzotrichloride (C,R,T)

WA-10-05 U085	1464-53-5	2,2’-Bioxirane

WA-10-05 U021	92-87-5	[1,1’-Biphenyl]-4,4’-diamine

WA-10-05 U073	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-

WA-10-05 U091	119-90-4	[1,1’-Biphenyl]-4,4’-diamine, 3,3’-dimethoxy-

WA-10-05 U095	119-93-7	[1,1’-Biphenyl]-4,4’-diamine, 3,3’-dimethyl-

WA-10-05 U225	75-25-2	Bromoform

WA-10-05 U030	101-55-3	4-Bromophenyl phenyl ether

WA-10-05 U128	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-

WA-10-05 U172	924-16-3	1-Butanamine, N-butyl-N-nitroso-

WA-10-05 U031	71-36-3	1-Butanol (I)

WA-10-05 U159	78-93-3	2-Butanone (I,T)

WA-10-05 U160	1338-23-4	2-Butanone, peroxide (R,T)

WA-10-05 U053	4170-30-3	2-Butenal

WA-10-05 U074	764-41-0	2-Butene, 1,4-dichloro- (I,T)

WA-10-05 U143	303-34-4	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2 ,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-

WA-10-05 U031	71-36-3	n-Butyl alcohol (I)

WA-10-05 U136	75-60-5	Cacodylic acid

WA-10-05 U032	13765-19-0	Calcium chromate

WA-10-05 U372	10605-21-7	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester

WA-10-05 U271	17804-35-2	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester

WA-10-05 U280	101-27-9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester

WA-10-05 U373	122-42-9	Carbamic acid, phenyl-, 1-methylethyl ester

WA-10-05 U409	23564-05-8	Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester

WA-10-05 U238	51-79-6	Carbamic acid, ethyl ester

WA-10-05 U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester

WA-10-05 U097	79-44-7	Carbamic chloride, dimethyl-

WA-10-05 U114	[1]111-54-6	Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters

WA-10-05 U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester

WA-10-05 U389	2303-17-5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester

WA-10-05 U387	52888-80-9	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester

WA-10-05 U279	63-25-2	Carbaryl

WA-10-05 U372	10605-21-7	Carbendazim

WA-10-05 U367	1563-38-8	Carbofuran phenol

WA-10-05 U215	6533-73-9	Carbonic acid, dithallium(1+) salt

WA-10-05 U033	353-50-4	Carbonic difluoride

WA-10-05 U156	79-22-1	Carbonochloridic acid, methyl ester (I,T)

WA-10-05 U033	353-50-4	Carbon oxyfluoride (R,T)

WA-10-05 U211	56-23-5	Carbon tetrachloride

WA-10-05 U034	75-87-6	Chloral

WA-10-05 U035	305-03-3	Chlorambucil

WA-10-05 U036	57-74-9	Chlordane, alpha & gamma isomers

WA-10-05 U026	494-03-1	Chlornaphazin

WA-10-05 U037	108-90-7	Chlorobenzene

WA-10-05 U038	510-15-6	Chlorobenzilate

WA-10-05 U039	59-50-7	p-Chloro-m-cresol

WA-10-05 U042	110-75-8	2-Chloroethyl vinyl ether

WA-10-05 U044	67-66-3	Chloroform

WA-10-05 U046	107-30-2	Chloromethyl methyl ether

WA-10-05 U047	91-58-7	beta-Chloronaphthalene

WA-10-05 U048	95-57-8	o-Chlorophenol

WA-10-05 U049	3165-93-3	4-Chloro-o-toluidine, hydrochloride

WA-10-05 U032	13765-19-0	Chromic acid H_2CrO_4, calcium salt

WA-10-05 U050	218-01-9	Chrysene

WA-10-05 U051	.....	Creosote

WA-10-05 U052	1319-77-3	Cresol (Cresylic acid)

WA-10-05 U053	4170-30-3	Crotonaldehyde

WA-10-05 U055	98-82-8	Cumene (I)

WA-10-05 U246	506-68-3	Cyanogen bromide (CN)Br

WA-10-05 U197	106-51-4	2,5-Cyclohexadiene-1,4-dione

WA-10-05 U056	110-82-7	Cyclohexane (I)

WA-10-05 U129	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-

WA-10-05 U057	108-94-1	Cyclohexanone (I)

WA-10-05 U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-

WA-10-05 U058	50-18-0	Cyclophosphamide

WA-10-05 U240	[1]94-75-7	2,4-D, salts & esters

750

WA-10-05 U059	20830-81-3	Daunomycin

WA-10-05 U060	72-54-8	DDD

WA-10-05 U061	50-29-3	DDT

WA-10-05 U062	2303-16-4	Diallate

754

WA-10-05 U063	53-70-3	Dibenz[a,h]anthracene

WA-10-05 U064	189-55-9	Dibenzo[a,i]pyrene

WA-10-05 U066	96-12-8	1,2-Dibromo-3-chloropropane

757

WA-10-05 U069	84-74-2	Dibutyl phthalate

WA-10-05 U070	95-50-1	o-Dichlorobenzene

759

WA-10-05 U071	541-73-1	m-Dichlorobenzene

WA-10-05 U072	106-46-7	p-Dichlorobenzene

WA-10-05 U073	91-94-1	3,3’-Dichlorobenzidine

WA-10-05 U074	764-41-0	1,4-Dichloro-2-butene (I,T)

WA-10-05 U075	75-71-8	Dichlorodifluoromethane

764

WA-10-05 U078	75-35-4	1,1-Dichloroethylene

WA-10-05 U079	156-60-5	1,2-Dichloroethylene

WA-10-05 U025	111-44-4	Dichloroethyl ether

WA-10-05 U027	108-60-1	Dichloroisopropyl ether

WA-10-05 U024	111-91-1	Dichloromethoxy ethane

WA-10-05 U081	120-83-2	2,4-Dichlorophenol

WA-10-05 U082	87-65-0	2,6-Dichlorophenol

WA-10-05 U084	542-75-6	1,3-Dichloropropene

WA-10-05 U085	1464-53-5	1,2:3,4-Diepoxybutane (I,T)

WA-10-05 U108	123-91-1	1,4-Diethyleneoxide

WA-10-05 U028	117-81-7	Diethylhexyl phthalate

WA-10-05 U395	5952-26-1	Diethylene glycol, dicarbamate

WA-10-05 U086	1615-80-1	N,N’-Diethylhydrazine

WA-10-05 U087	3288-58-2	O,O-Diethyl S-methyl dithiophosphate

WA-10-05 U088	84-66-2	Diethyl phthalate

WA-10-05 U089	56-53-1	Diethylstilbesterol

WA-10-05 U090	94-58-6	Dihydrosafrole

WA-10-05 U091	119-90-4	3,3’-Dimethoxybenzidine

WA-10-05 U092	124-40-3	Dimethylamine (I)

WA-10-05 U093	60-11-7	p-Dimethylaminoazobenzene

WA-10-05 U094	57-97-6	7,12-Dimethylbenz[a]anthracene

WA-10-05 U095	119-93-7	3,3’-Dimethylbenzidine

WA-10-05 U096	80-15-9	alpha,alpha-Dimethylbenzylhydroperoxide (R)

WA-10-05 U097	79-44-7	Dimethylcarbamoyl chloride

WA-10-05 U098	57-14-7	1,1-Dimethylhydrazine

WA-10-05 U099	540-73-8	1,2-Dimethylhydrazine

WA-10-05 U101	105-67-9	2,4-Dimethylphenol

WA-10-05 U102	131-11-3	Dimethyl phthalate

WA-10-05 U103	77-78-1	Dimethyl sulfate

WA-10-05 U105	121-14-2	2,4-Dinitrotoluene

WA-10-05 U106	606-20-2	2,6-Dinitrotoluene

WA-10-05 U107	117-84-0	Di-n-octyl phthalate

WA-10-05 U108	123-91-1	1,4-Dioxane

797

WA-10-05 U109	122-66-7	1,2-Diphenylhydrazine

WA-10-05 U110	142-84-7	Dipropylamine (I)

WA-10-05 U111	621-64-7	Di-n-propylnitrosamine

WA-10-05 U041	106-89-8	Epichlorohydrin

801

WA-10-05 U001	75-07-0	Ethanal (I)

802

WA-10-05 U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-

WA-10-05 U404	121-44-8	Ethanamine, N,N-diethyl-

WA-10-05 U155	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N’-2-pyridinyl-N’-(2-thienylmethyl)-

WA-10-05 U067	106-93-4	Ethane, 1,2-dibromo-

806

WA-10-05 U076	75-34-3	Ethane, 1,1-dichloro-

807

WA-10-05 U077	107-06-2	Ethane, 1,2-dichloro-

808

WA-10-05 U131	67-72-1	Ethane, hexachloro-

WA-10-05 U024	111-91-1	Ethane, 1,1’-[methylenebis(oxy)]bis[2-chloro-

WA-10-05 U117	60-29-7	Ethane, 1,1’-oxybis- (I)

WA-10-05 U025	111-44-4	Ethane, 1,1’-oxybis[2-chloro-

WA-10-05 U184	76-01-7	Ethane, pentachloro-

WA-10-05 U208	630-20-6	Ethane, 1,1,1,2-tetrachloro-

WA-10-05 U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-

WA-10-05 U218	62-55-5	Ethanethioamide

WA-10-05 U226	71-55-6	Ethane, 1,1,1-trichloro-

WA-10-05 U227	79-00-5	Ethane, 1,1,2-trichloro-

WA-10-05 U410	59669-26-0	Ethanimidothioic acid, N,N'-[thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester

WA-10-05 U394	30558-43-1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester

WA-10-05 U359	110-80-5	Ethanol, 2-ethoxy-

WA-10-05 U173	1116-54-7	Ethanol, 2,2'-(nitrosoimino)bis-

WA-10-05 U395	5952-26-1	Ethanol, 2,2’-oxybis-, dicarbamate

WA-10-05 U004	98-86-2	Ethanone, 1-phenyl-

WA-10-05 U043	75-01-4	Ethene, chloro-

WA-10-05 U042	110-75-8	Ethene, (2-chloroethoxy)-

WA-10-05 U078	75-35-4	Ethene, 1,1-dichloro-

WA-10-05 U079	156-60-5	Ethene, 1,2-dichloro-, (E)-

WA-10-05 U210	127-18-4	Ethene, tetrachloro-

WA-10-05 U228	79-01-6	Ethene, trichloro-

WA-10-05 U112	141-78-6	Ethyl acetate (I)

WA-10-05 U113	140-88-5	Ethyl acrylate (I)

WA-10-05 U238	51-79-6	Ethyl carbamate (urethane)

WA-10-05 U117	60-29-7	Ethyl ether (I)

WA-10-05 U114	[1]111-54-6	Ethylenebisdithiocarbamic acid, salts & esters

WA-10-05 U067	106-93-4	Ethylene dibromide

WA-10-05 U077	107-06-2	Ethylene dichloride

WA-10-05 U359	110-80-5	Ethylene glycol monoethyl ether

WA-10-05 U115	75-21-8	Ethylene oxide (I,T)

WA-10-05 U116	96-45-7	Ethylenethiourea

WA-10-05 U076	75-34-3	Ethylidene dichloride

WA-10-05 U118	97-63-2	Ethyl methacrylate

WA-10-05 U119	62-50-0	Ethyl methanesulfonate

WA-10-05 U120	206-44-0	Fluoranthene

WA-10-05 U122	50-00-0	Formaldehyde

WA-10-05 U123	64-18-6	Formic acid (C,T)

WA-10-05 U124	110-00-9	Furan (I)

WA-10-05 U125	98-01-1	2-Furancarboxaldehyde (I)

WA-10-05 U147	108-31-6	2,5-Furandione

WA-10-05 U213	109-99-9	Furan, tetrahydro- (I)

WA-10-05 U125	98-01-1	Furfural (I)

WA-10-05 U124	110-00-9	Furfuran (I)

WA-10-05 U206	18883-66-4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-

WA-10-05 U206	18883-66-4	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-carbonyl]amino]-

WA-10-05 U126	765-34-4	Glycidylaldehyde

WA-10-05 U163	70-25-7	Guanidine, N-methyl-N’-nitro-N-nitroso-

WA-10-05 U127	118-74-1	Hexachlorobenzene

WA-10-05 U128	87-68-3	Hexachlorobutadiene

WA-10-05 U130	77-47-4	Hexachlorocyclopentadiene

WA-10-05 U131	67-72-1	Hexachloroethane

WA-10-05 U132	70-30-4	Hexachlorophene

861

WA-10-05 U243	1888-71-7	Hexachloropropene

WA-10-05 U133	302-01-2	Hydrazine (R,T)

WA-10-05 U086	1615-80-1	Hydrazine, 1,2-diethyl-

WA-10-05 U098	57-14-7	Hydrazine, 1,1-dimethyl-

WA-10-05 U099	540-73-8	Hydrazine, 1,2-dimethyl-

WA-10-05 U109	122-66-7	Hydrazine, 1,2-diphenyl-

WA-10-05 U134	7664-39-3	Hydrofluoric acid (C,T)

WA-10-05 U134	7664-39-3	Hydrogen fluoride (C,T)

WA-10-05 U135	7783-06-4	Hydrogen sulfide

WA-10-05 U135	7783-06-4	Hydrogen sulfide H_2S

WA-10-05 U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl- (R)

WA-10-05 U116	96-45-7	2-Imidazolidinethione

WA-10-05 U137	193-39-5	Indeno[1,2,3-cd]pyrene

WA-10-05 U190	85-44-9	1,3-Isobenzofurandione

WA-10-05 U140	78-83-1	Isobutyl alcohol (I,T)

WA-10-05 U141	120-58-1	Isosafrole

WA-10-05 U142	143-50-0	Kepone

WA-10-05 U143	303-34-4	Lasiocarpine

WA-10-05 U144	301-04-2	Lead acetate

WA-10-05 U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxytri-

WA-10-05 U145	7446-27-7	Lead phosphate

WA-10-05 U146	1335-32-6	Lead subacetate

WA-10-05 U129	58-89-9	Lindane

WA-10-05 U163	70-25-7	MNNG

885

WA-10-05 U147	108-31-6	Maleic anhydride

WA-10-05 U148	123-33-1	Maleic hydrazide

887

WA-10-05 U149	109-77-3	Malononitrile

WA-10-05 U150	148-82-3	Melphalan

WA-10-05 U151	7439-97-6	Mercury

WA-10-05 U152	126-98-7	Methacrylonitrile (I,T)

WA-10-05 U092	124-40-3	Methanamine, N-methyl- (I)

WA-10-05 U029	74-83-9	Methane, bromo-

WA-10-05 U045	74-87-3	Methane, chloro- (I,T)

WA-10-05 U046	107-30-2	Methane, chloromethoxy-

WA-10-05 U068	74-95-3	Methane, dibromo-

WA-10-05 U080	75-09-2	Methane, dichloro-

WA-10-05 U075	75-71-8	Methane, dichlorodifluoro-

WA-10-05 U138	74-88-4	Methane, iodo-

WA-10-05 U119	62-50-0	Methanesulfonic acid, ethyl ester

900

WA-10-05 U211	56-23-5	Methane, tetrachloro-

WA-10-05 U153	74-93-1	Methanethiol (I,T)

WA-10-05 U225	75-25-2	Methane, tribromo-

WA-10-05 U044	67-66-3	Methane, trichloro-

WA-10-05 U121	75-69-4	Methane, trichlorofluoro-

WA-10-05 U036	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-

WA-10-05 U154	67-56-1	Methanol (I)

WA-10-05 U155	91-80-5	Methapyrilene

WA-10-05 U142	143-50-0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-

WA-10-05 U247	72-43-5	Methoxychlor

WA-10-05 U154	67-56-1	Methyl alcohol (I)

WA-10-05 U029	74-83-9	Methyl bromide

WA-10-05 U186	504-60-9	1-Methylbutadiene (I)

WA-10-05 U045	74-87-3	Methyl chloride (I,T)

WA-10-05 U156	79-22-1	Methyl chlorocarbonate (I,T)

WA-10-05 U226	71-55-6	Methyl chloroform

WA-10-05 U157	56-49-5	3-Methylcholanthrene

WA-10-05 U158	101-14-4	4,4’-Methylenebis(2-chloroaniline)

WA-10-05 U068	74-95-3	Methylene bromide

WA-10-05 U080	75-09-2	Methylene chloride

WA-10-05 U159	78-93-3	Methyl ethyl ketone (MEK) (I,T)

WA-10-05 U160	1338-23-4	Methyl ethyl ketone peroxide (R,T)

WA-10-05 U138	74-88-4	Methyl iodide

WA-10-05 U161	108-10-1	Methyl isobutyl ketone (I)

WA-10-05 U162	80-62-6	Methyl methacrylate (I,T)

WA-10-05 U161	108-10-1	4-Methyl-2-pentanone (I)

WA-10-05 U164	56-04-2	Methylthiouracil

WA-10-05 U010	50-07-7	Mitomycin C

WA-10-05 U059	20830-81-3	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-

WA-10-05 U167	134-32-7	1-Naphthalenamine

WA-10-05 U168	91-59-8	2-Naphthalenamine

WA-10-05 U026	494-03-1	Naphthalenamine, N,N’-bis(2-chloroethyl)-

WA-10-05 U165	91-20-3	Naphthalene

933

WA-10-05 U047	91-58-7	Naphthalene, 2-chloro-

WA-10-05 U166	130-15-4	1,4-Naphthalenedione

WA-10-05 U236	72-57-1	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt

WA-10-05 U279	63-25-2	1-Naphthalenol, methylcarbamate

WA-10-05 U166	130-15-4	1,4-Naphthoquinone

WA-10-05 U167	134-32-7	Alpha-Naphthylamine

WA-10-05 U168	91-59-8	Beta-Naphthylamine

WA-10-05 U217	10102-45-1	Nitric acid, thallium(1+) salt

WA-10-05 U169	98-95-3	Nitrobenzene (I,T)

WA-10-05 U170	100-02-7	p-Nitrophenol

WA-10-05 U171	79-46-9	2-Nitropropane (I,T)

WA-10-05 U172	924-16-3	N-Nitrosodi-n-butylamine

WA-10-05 U173	1116-54-7	N-Nitrosodiethanolamine

WA-10-05 U174	55-18-5	N-Nitrosodiethylamine

WA-10-05 U176	759-73-9	N-Nitroso-N-ethylurea

WA-10-05 U177	684-93-5	N-Nitroso-N-methylurea

WA-10-05 U178	615-53-2	N-Nitroso-N-methylurethane

WA-10-05 U179	100-75-4	N-Nitrosopiperidine

WA-10-05 U180	930-55-2	N-Nitrosopyrrolidine

WA-10-05 U181	99-55-8	5-Nitro-o-toluidine

WA-10-05 U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide

WA-10-05 U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide

WA-10-05 U115	75-21-8	Oxirane (I,T)

WA-10-05 U126	765-34-4	Oxiranecarboxyaldehyde

957

WA-10-05 U041	106-89-8	Oxirane, (chloromethyl)-

958

WA-10-05 U182	123-63-7	Paraldehyde

959

WA-10-05 U183	608-93-5	Pentachlorobenzene

WA-10-05 U184	76-01-7	Pentachloroethane

WA-10-05 U185	82-68-8	Pentachloronitrobenzene (PCNB)

WA-10-05 See F027	87-86-5	Pentachlorophenol

WA-10-05 U161	108-10-1	Pentanol, 4-methyl-

WA-10-05 U186	504-60-9	1,3-Pentadiene (I)

WA-10-05 U187	62-44-2	Phenacetin

WA-10-05 U188	108-95-2	Phenol

WA-10-05 U048	95-57-8	Phenol, 2-chloro-

WA-10-05 U039	59-50-7	Phenol, 4-chloro-3-methyl-

WA-10-05 U081	120-83-2	Phenol, 2,4-dichloro-

WA-10-05 U082	87-65-0	Phenol, 2,6-dichloro-

WA-10-05 U089	56-53-1	Phenol, 4,4’-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-

WA-10-05 U101	105-67-9	Phenol, 2,4-dimethyl-

WA-10-05 U052	1319-77-3	Phenol, methyl-

WA-10-05 U132	70-30-4	Phenol, 2,2’-methylenebis[3,4,6-trichloro-

975

WA-10-05 U411	114-26-1	Phenol, 2-(1-methylethoxy)-, methylcarbamate

WA-10-05 U170	100-02-7	Phenol, 4-nitro-

977

WA-10-05 See F027	87-86-5	Phenol, pentachloro-

WA-10-05 See F027	58-90-2	Phenol, 2,3,4,6-tetrachloro-

WA-10-05 See F027	95-95-4	Phenol, 2,4,5-trichloro-

WA-10-05 See F027	88-06-2	Phenol, 2,4,6-trichloro-

WA-10-05 U150	148-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-

WA-10-05 U145	7446-27-7	Phosphoric acid, lead(2+) salt (2:3)

WA-10-05 U087	3288-58-2	Phosphorodithioic acid, O,O-diethyl S-methyl ester

WA-10-05 U189	1314-80-3	Phosphorus sulfide (R)

WA-10-05 U190	85-44-9	Phthalic anhydride

WA-10-05 U191	109-06-8	2-Picoline

WA-10-05 U179	100-75-4	Piperidine, 1-nitroso-

988

WA-10-05 U192	23950-58-5	Pronamide

WA-10-05 U194	107-10-8	1-Propanamine (I,T)

990

WA-10-05 U111	621-64-7	1-Propanamine, N-nitroso-N-propyl-

WA-10-05 U110	142-84-7	1-Propanamine, N-propyl- (I)

WA-10-05 U066	96-12-8	Propane, 1,2-dibromo-3-chloro-

WA-10-05 U083	78-87-5	Propane, 1,2-dichloro-

WA-10-05 U149	109-77-3	Propanedinitrile

WA-10-05 U171	79-46-9	Propane, 2-nitro- (I,T)

WA-10-05 U027	108-60-1	Propane, 2,2’-oxybis[2-chloro-

997

WA-10-05 U193	1120-71-4	1,3-Propane sultone

998

WA-10-05 See F027	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

WA-10-05 U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)

1000

WA-10-05 U140	78-83-1	1-Propanol, 2-methyl- (I,T)

WA-10-05 U002	67-64-1	2-Propanone (I)

1002

WA-10-05 U007	79-06-1	2-Propenamide

WA-10-05 U084	542-75-6	1-Propene, 1,3-dichloro-

WA-10-05 U243	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-

WA-10-05 U009	107-13-1	2-Propenenitrile

WA-10-05 U152	126-98-7	2-Propenenitrile, 2-methyl- (I,T)

WA-10-05 U008	79-10-7	2-Propenoic acid (I)

1008

WA-10-05 U113	140-88-5	2-Propenoic acid, ethyl ester (I)

WA-10-05 U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester

WA-10-05 U162	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester (I,T)

WA-10-05 U373	112-42-9	Propham

1012

WA-10-05 U411	114-26-1	Propoxur

1013

WA-10-05 U194	107-10-8	n-Propylamine (I,T)

WA-10-05 U083	78-87-5	Propylene dichloride

WA-10-05 U387	52888-80-9	Prosulfocarb

WA-10-05 U148	123-33-1	3,6-Pyridazinedione, 1,2-dihydro-

WA-10-05 U196	110-86-1	Pyridine

WA-10-05 U191	109-06-8	Pyridine, 2-methyl-

WA-10-05 U237	66-75-1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2- chloroethyl)amino]-

WA-10-05 U164	56-04-2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-

WA-10-05 U180	930-55-2	Pyrrolidine, 1-nitroso-

WA-10-05 U200	50-55-5	Reserpine

WA-10-05 U201	108-46-3	Resorcinol

WA-10-05 U202	[1]81-07-2	Saccharin, & salts

WA-10-05 U203	94-59-7	Safrole

WA-10-05 U204	7783-00-8	Selenious acid

WA-10-05 U204	7783-00-8	Selenium dioxide

WA-10-05 U205	7488-56-4	Selenium sulfide

WA-10-05 U205	7488-56-4	Selenium sulfide SeS_2 (R,T)

WA-10-05 U015	115-02-6	L-Serine, diazoacetate (ester)

WA-10-05 See F027	93-72-1	Silvex (2,4,5-TP)

WA-10-05 U206	18883-66-4	Streptozotocin

WA-10-05 U103	77-78-1	Sulfuric acid, dimethyl ester

WA-10-05 U189	1314-80-3	Sulfur phosphide (R)

WA-10-05 See F027	93-76-5	2,4,5-T

WA-10-05 U207	95-94-3	1,2,4,5-Tetrachlorobenzene

WA-10-05 U208	630-20-6	1,1,1,2-Tetrachloroethane

WA-10-05 U209	79-34-5	1,1,2,2-Tetrachloroethane

WA-10-05 U210	127-18-4	Tetrachloroethylene

WA-10-05 See F027	58-90-2	2,3,4,6-Tetrachlorophenol

WA-10-05 U213	109-99-9	Tetrahydrofuran (I)

WA-10-05 U214	563-68-8	Thallium(I) acetate

WA-10-05 U215	6533-73-9	Thallium(I) carbonate

WA-10-05 U216	7791-12-0	Thallium(I) chloride

WA-10-05 U216	7791-12-0	Thallium chloride TlCl

WA-10-05 U217	10102-45-1	Thallium(I) nitrate

WA-10-05 U218	62-55-5	Thioacetamide

WA-10-05 U410	59669-26- 0	Thiodicarb

WA-10-05 U153	74-93-1	Thiomethanol (I,T)

WA-10-05 U244	137-26-8	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-

WA-10-05 U409	23564-05-8	Thiophanate-methyl

WA-10-05 U219	62-56-6	Thiourea

WA-10-05 U244	137-26-8	Thiram

WA-10-05 U220	108-88-3	Toluene

WA-10-05 U221	25376-45-8	Toluenediamine

WA-10-05 U223	26471-62-5	Toluene diisocyanate (R,T)

WA-10-05 U328	95-53-4	o-Toluidine

WA-10-05 U353	106-49-0	p-Toluidine

WA-10-05 U222	636-21-5	o-Toluidine hydrochloride

WA-10-05 U389	2303-17-5	Triallate

WA-10-05 U011	61-82-5	1H-1,2,4-Triazol-3-amine

WA-10-05 U227	79-00-5	1,1,2-Trichloroethane

WA-10-05 U228	79-01-6	Trichloroethylene

WA-10-05 U121	75-69-4	Trichloromonofluoromethane

WA-10-05 See F027	95-95-4	2,4,5-Trichlorophenol

WA-10-05 See F027	88-06-2	2,4,6-Trichlorophenol

WA-10-05 U404	121-44-8	Triethylamine

WA-10-05 U234	99-35-4	1,3,5-Trinitrobenzene (R,T)

WA-10-05 U182	123-63-7	1,3,5-Trioxane, 2,4,6-trimethyl-

WA-10-05 U235	126-72-7	Tris(2,3-dibromopropyl) phosphate

WA-10-05 U236	72-57-1	Trypan blue

WA-10-05 U237	66-75-1	Uracil mustard

WA-10-05 U176	759-73-9	Urea, N-ethyl-N-nitroso-

WA-10-05 U177	684-93-5	Urea, N-methyl-N-nitroso-

WA-10-05 U043	75-01-4	Vinyl chloride

WA-10-05 U248	[1]81-81-2	Warfarin, & salts, when present at concentrations of 0.3% or less

WA-10-05 U239	1330-20-7	Xylene (I)

WA-10-05 U200	50-55-5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-

WA-10-05 U249	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less

[1] CAS number given for parent compound only.

NR 661.35 Deletion of certain hazardous waste codes following equipment cleaning and replacement. (1) Wastes from wood preserving processes at plants that do not resume or initiate use of chlorophenolic preservatives will not meet the listing definition of F032 once the generator has met all of the requirements of subs. (2) and (3). These wastes may, however, continue to meet another hazardous waste listing description or may exhibit one or more of the hazardous waste characteristics.

(2) Generators shall either clean or replace all process equipment that may have come into contact with chlorophenolic formulations or constituents thereof, including, but not limited to, treatment cylinders, sumps, tanks, piping systems, drip pads, fork lifts and trams, in a manner that minimizes or eliminates the escape of hazardous waste or constituents, leachate, contaminated drippage or hazardous waste decomposition products to the groundwater, surface water or atmosphere.

(a) *General requirements.* Generators shall do one of the following:

1. Prepare and follow an equipment cleaning plan and clean equipment according to this section.

2. Prepare and follow an equipment replacement plan and replace equipment according to this section.

3. Document cleaning and replacement according to this section, carried out after termination of use of chlorophenolic preservations.

(b) *Cleaning requirements.* Generators shall do all of the following:

1. Prepare and sign a written equipment cleaning plan that describes all of the following:

a. The equipment to be cleaned.

b. How the equipment will be cleaned.

c. The solvent to be used in cleaning.

d. How solvent rinses will be tested.

e. How cleaning residues will be disposed.

2. Clean equipment according to all of the following:

a. Remove all visible residues from process equipment.

b. Rinse process equipment with an appropriate solvent until dioxins and dibenzofurans are not detected in the final solvent rinse.

3. All of the following analytical requirements:

a. Test rinses according to Method 8290 in EPA SW-846, incorporated by reference in s. NR 660.11.

b. ”Not detected” means at or below the lower method calibration limit (MCL) in Method 8290, Table 1.

4. Manage all residues from the cleaning process as F032 waste.

(c) *Replacement requirements.* Generators shall do all of the following:

1. Prepare and sign a written equipment replacement plan that describes all of the following:

a. The equipment to be replaced.

b. How the equipment will be replaced.

c. How the equipment will be disposed.

2. Manage the discarded equipment as F032 waste.

(d) *Documentation requirements.* Generators shall document that previous equipment cleaning or replacement was performed according to this section and occurred after cessation of use of chlorophenolic preservatives.

(3) The generator shall maintain all of the following records documenting the cleaning and replacement as part of the facility’s operating record:

(a) The name and address of the facility.

(b) Formulations previously used and the date on which their use ceased in each process at the plant.

(c) Formulations currently used in each process at the plant.

(d) The equipment cleaning or replacement plan.

(e) The name and address of any persons who conducted the cleaning and replacement.

(f) The dates on which cleaning and replacement were accomplished.

(g) The dates of sampling and testing.

(h) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization, preservation and chain-of-custody of the samples.

(i) A description of the tests performed, the date the tests were performed and the results of the tests.

(j) The name and model numbers of the instruments used in performing the tests.

(k) QA/QC documentation.

(L) The following statement signed by the generator or the generator's authorized representative:

I certify under penalty of law that all process equipment required to be cleaned or replaced under s. NR 661.35, Wis. Adm. Code was cleaned or replaced as represented in the equipment cleaning and replacement plan and accompanying documentation. I am aware that there are significant penalties for providing false information, including the possibility of fine or imprisonment.

NR 661.38 Comparable or syngas fuel exclusion. Wastes that meet the following comparable or syngas fuel requirements are not solid wastes:

(1) COMPARABLE FUEL SPECIFICATIONS. (a) *Physical specifications.* 1. 'Heating value.' The heating value shall exceed 5,000 BTU/lbs. (11,500 J/g).

2.. 'Viscosity.' The viscosity may not exceed 50 cs, as-fired.

(b) *Constituent specifications.* For compounds listed in Table 3 the specification levels and, where non-detect is the specification, minimum required detection limits are in Table 3.

(2) SYNTHESIS GAS FUEL SPECIFICATIONS. Synthesis gas fuel (i.e., syngas fuel) that is generated from hazardous waste shall meet all of the following:

(a) Have a minimum Btu value of 100 Btu/Scf.

(b) Contain less than one ppmv of total halogen.

(c) Contain less than 300 ppmv of total nitrogen other than diatomic nitrogen (N_2).

(d) Contain less than 200 ppmv of hydrogen sulfide.

(e) Contain less than one ppmv of each hazardous constituent in the target list of Appendix VIII constituents.

Table 3
Detection and Detection Limit Values for Comparable Fuel Specification

Chemical name	CAS number	Com-posite value (mg/kg)	Heating value (BTU/lb)	Con-centration limit (mg/kg at 10,000 BTU/lb)	Minimum required detection limit (mg/kg)
Total Nitrogen as N	NA	9000	18400	4900	.....
Total Halogens as Cl	NA	1000	18400	540	.....
Total Organic Halogens as Cl	NA	.....	.....	([1])	.....
Polychlorinated biphenyls, total [Arocolors, total]	1336-36-3	ND	.....	ND	1.4
Cyanide, total	57-12-5	ND	.....	ND	1.0
Metals:					
Antimony, total	7440-36-0	ND	.....	12	.....
Arsenic, total	7440-38-2	ND	.....	0.23	.....
Barium, total	7440-39-3	ND	.....	23	.....
Beryllium, total	7440-41-7	ND	.....	1.2	.....
Cadmium, total	7440-43-9	ND	.....	1.2	.....

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Chromium, total	7440-47-3	ND	.....	2.3	.....
Cobalt	7440-48-4	ND	.....	4.6	.....
Lead, total	7439-92-1	57	18100	31	.....
Manganese	7439-96-5	ND	.....	1.2	.....
Mercury total	7439-97-6	ND	.....	0.25	.....
Nickel, total	7440-02-0	106	18400	58	.....
Selenium, total	7782-49-2	ND	.....	0.23	.....
Silver, total	7440-22-4	ND	.....	2.3	.....
Thallium, total	7440-28-0	ND	.....	23	.....
Hydrocarbons:					
Benzo[a]anthracene	56-55-3	ND	.....	2400	.....
Benzene	71-43-2	8000	19600	4100	.....
Benzo[b]fluoranthene	205-99-2	ND	.....	2400	.....
Benzo[k]fluoranthene	207-08-9	ND	.....	2400	.....
Benzo[a]pyrene	50-32-8	ND	.....	2400	.....
Chrysene	218-01-9	ND	.....	2400	.....
Dibenzo[a,h]anthracene	53-70-3	ND	.....	2400	.....
7,12-Dimethylbenz[a]anthracene	57-97-6	ND	.....	2400	.....
Fluoranthene	206-44-0	ND	.....	2400	.....
Indeno(1,2,3-cd)pyrene	193-39-5	ND	.....	2400	.....
3-Methylcholanthrene	56-49-5	ND	.....	2400	.....
Naphthalene	91-20-3	6200	19400	3200	.....
Toluene	108-88-3	69000	19400	36000	.....
Oxygenates:					
Acetophenone	98-86-2	ND	.....	2400	.....
Acrolein	107-02-8	ND	.....	39	.....
Allyl alcohol	107-18-6	ND	.....	30	.....
Bis(2-ethylhexyl)phthalate [Di-2-ethylhexyl phthalate]	117-81-7	ND	.....	2400	.....
Butyl benzyl phthalate	85-68-7	ND	.....	2400	.....
o-Cresol [2-Methyl phenol]	95-48-7	ND	.....	2400	.....
m-Cresol [3-Methyl phenol]	108-39-4	ND	.....	2400	.....
p-Cresol [4-Methyl phenol]	106-44-5	ND	.....	2400	.....
Di-n-butyl phthalate	84-74-2	ND	.....	2400	.....
Diethyl phthalate	84-66-2	ND	.....	2400	.....
2,4-Dimethylphenol	105-67-9	ND	.....	2400	.....
Dimethyl phthalate	131-11-3	ND	.....	2400	.....
Di-n-octyl phthalate	117-84-0	ND	.....	2400	.....
Endothall	145-73-3	ND	.....	100	.....
Ethyl methacrylate	97-63-2	ND	.....	39	.....
2-Ethoxyethanol [Ethylene glycol monoethyl ether]	110-80-5	ND	.....	100	.....
Isobutyl alcohol	78-83-1	ND	.....	39	.....
Isosafrole	120-58-1	ND	.....	2400	.....
Methyl ethyl ketone [2-Butanone]	78-93-3	ND	.....	39	.....
Methyl methacrylate	80-62-6	ND	.....	39	.....
1,4-Naphthoquinone	130-15-4	ND	.....	2400	.....
Phenol	108-95-2	ND	.....	2400	.....
Propargyl alcohol	107-19-7	ND	.....	30	.....

[2-Propyn-1-ol].....					
Safrole.....	94-59-7	ND	.....	2400	.....
Sulfonated Organics:					
Carbon disulfide	75-15-0	ND	.....	ND	39
Disulfoton	298-04-4	ND	.....	ND	2400
Ethyl methanesulfonate	62-50-0	ND	.....	ND	2400
Methyl methanesulfonate	66-27-3	ND	.....	ND	2400
Phorate.....	298-02-2	ND	.....	ND	2400
1,3-Propane sultone	1120-71-4	ND	.....	ND	100
Tetraethyldithiopyrophosphate [Sulfotepp].....	3689-24-5	ND	.....	ND	2400
Thiophenol [Benzenethiol]	108-98-5	ND	.....	ND	30
O,O,O-Triethyl phosphorothioate...	126-68-1	ND	.....	ND	2400
Nitrogenated Organics:					
Acetonitrile [Methyl cyanide].....	75-05-8	ND	.....	ND	39
2-Acetylaminofluorene [2-AAF]....	53-96-3	ND	.....	ND	2400
Acrylonitrile.....	107-13-1	ND	.....	ND	39
4-Aminobiphenyl.....	92-67-1	ND	.....	ND	2400
4-Aminopyridine	504-24-5	ND	.....	ND	100
Aniline	62-53-3	ND	.....	ND	2400
Benzidine.....	92-87-5	ND	.....	ND	2400
Dibenz[a,j]acridine	224-42-0	ND	.....	ND	2400
O,O-Diethyl O-pyrazinyl phosphorothioate [Thionazin]	297-97-2	ND	.....	ND	2400
Dimethoate.....	60-51-5	ND	.....	ND	2400
p-(Dimethylamino) azobenzene [4-Dimethylaminoazobenzene] ...	60-11-7	ND	.....	ND	2400
3,3'-Dimethylbenzidine.....	119-93-7	ND	.....	ND	2400
á,á-Dimethylphenethylamine.....	122-09-8	ND	.....	ND	2400
3,3'-Dimethoxybenzidine	119-90-4	ND	.....	ND	100
1,3-Dinitrobenzene [m-Dinitrobenzene]	99-65-0	ND	.....	ND	2400
4,6-Dinitro-o-cresol	534-52-1	ND	.....	ND	2400
2,4-Dinitrophenol.....	51-28-5	ND	.....	ND	2400
2,4-Dinitrotoluene.....	121-14-2	ND	.....	ND	2400
2,6-Dinitrotoluene.....	606-20-2	ND	.....	ND	2400
Dinoseb [2-sec-Butyl-4,6-dinitrophenol]...	88-85-7	ND	.....	ND	2400
Diphenylamine.....	122-39-4	ND	.....	ND	2400
Ethyl carbamate [Urethane].....	51-79-6	ND	.....	ND	100
Ethylenethiourea (2-Imidazolidinethione).....	96-45-7	ND	.....	ND	110
Famphur.....	52-85-7	ND	.....	ND	2400
Methacrylonitrile	126-98-7	ND	.....	ND	39
Methapyrilene.....	91-80-5	ND	.....	ND	2400
Methomyl.....	16752-77-5	ND	.....	ND	57
2-Methyllactonitrile, [Acetone cyanohydrin].....	75-86-5	ND	.....	ND	100

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Methyl parathion	298-00-0	ND	.....	ND	2400
MNNG (N-Methyl-N-nitroso-N'-nitroguanidine)	70-25-7	ND	.....	ND	110
1-Naphthylamine, [á-Naphthylamine]	134-32-7	ND	.....	ND	2400
2-Naphthylamine, [â-Naphthylamine]	91-59-8	ND	.....	ND	2400
Nicotine	54-11-5	ND	.....	ND	100
4-Nitroaniline, [p-Nitroaniline]	100-01-6	ND	.....	ND	2400
Nitrobenzene	98-95-3	ND	.....	ND	2400
4-Nitrophenol, [p-Nitrophenol]	100-02-7	ND	.....	ND	2400
5-Nitro-o-toluidine	99-55-8	ND	.....	ND	2400
N-Nitrosodi-n-butylamine	924-16-3	ND	.....	ND	2400
N-Nitrosodiethylamine	55-18-5	ND	.....	ND	2400
N-Nitrosodiphenylamine, [Diphenylnitrosamine]	86-30-6	ND	.....	ND	2400
N-Nitroso-N-methylethylamine	10595-95-6	ND	.....	ND	2400
N-Nitrosomorpholine	59-89-2	ND	.....	ND	2400
N-Nitrosopiperidine	100-75-4	ND	.....	ND	2400
N-Nitrosopyrrolidine	930-55-2	ND	.....	ND	2400
2-Nitropropane	79-46-9	ND	.....	ND	30
Parathion	56-38-2	ND	.....	ND	2400
Phenacetin	62-44-2	ND	.....	ND	2400
1,4-Phenylene diamine, [p-Phenylenediamine]	106-50-3	ND	.....	ND	2400
N-Phenylthiourea	103-85-5	ND	.....	ND	57
2-Picoline [alpha-Picoline]	109-06-8	ND	.....	ND	2400
Propylthioracil, [6-Propyl-2-thiouracil]	51-52-5	ND	.....	ND	100
Pyridine	110-86-1	ND	.....	ND	2400
Strychnine	57-24-9	ND	.....	ND	100
Thioacetamide	62-55-5	ND	.....	ND	57
Thiofanox	39196-18-4	ND	.....	ND	100
Thiourea	62-56-6	ND	.....	ND	57
Toluene-2,4-diamine [2,4-Diaminotoluene]	95-80-7	ND	.....	ND	57
Toluene-2,6-diamine [2,6-Diaminotoluene]	823-40-5	ND	.....	ND	57
o-Toluidine	95-53-4	ND	.....	ND	2400
p-Toluidine	106-49-0	ND	.....	ND	100
1,3,5-Trinitrobenzene, [sym-Trinitobenzene]	99-35-4	ND	.....	ND	2400
Halogenated Organics:					
Allyl chloride	107-05-1	ND	.....	ND	39
Aramite	140-57-8	ND	.....	ND	2400

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Benzal chloride [Dichloromethyl benzene]	98-87-3	ND	.....	ND	100
Benzyl chloride	100-44-77	ND	.....	ND	100
bis(2-Chloroethyl)ether [Dichoroethyl ether]	111-44-4	ND	.....	ND	2400
Bromoform [Tribromomethane]	75-25-2	ND	.....	ND	39
Bromomethane [Methyl bromide]	74-83-9	ND	.....	ND	39
4-Bromophenyl phenyl ether [p-Bromo diphenyl ether]	101-55-3	ND	.....	ND	2400
Carbon tetrachloride	56-23-5	ND	.....	ND	39
Chlordane	57-74-9	ND	.....	ND	14
p-Chloroaniline	106-47-8	ND	.....	ND	2400
Chlorobenzene	108-90-7	ND	.....	ND	39
Chlorobenzilate	510-15-6	ND	.....	ND	2400
p-Chloro-m-cresol	59-50-7	ND	.....	ND	2400
2-Chloroethyl vinyl ether	110-75-8	ND	.....	ND	39
Chloroform	67-66-3	ND	.....	ND	39
Chloromethane [Methyl chloride]	74-87-3	ND	.....	ND	39
2-Chloronaphthalene [beta-Chloronaphthalene]	91-58-7	ND	.....	ND	2400
2-Chlorophenol [o-Chlorophenol]	95-57-8	ND	.....	ND	2400
Chloroprene [2-Chloro-1,3-butadiene]	1126-99-8	ND	.....	ND	39
2,4-D [2,4-Dichlorophenoxyacetic acid]	94-75-7	ND	.....	ND	7.0
Diallate	2303-16-4	ND	.....	ND	2400
1,2-Dibromo-3-chloropropane	96-12-8	ND	.....	ND	39
1,2-Dichlorobenzene [o-Dichlorobenzene]	95-50-1	ND	.....	ND	2400
1,3-Dichlorobenzene [m-Dichlorobenzene]	541-73-1	ND	.....	ND	2400
1,4-Dichlorobenzene [p-Dichlorobenzene]	106-46-7	ND	.....	ND	2400
3,3'-Dichlorobenzidine	91-94-1	ND	.....	ND	2400
Dichlorodifluoromethane	75-71-8	ND	.....		39

[CFC-12]				ND	
1,2-Dichloroethane [Ethylene dichloride]	107-06-2	ND	.....	ND	39
1,1-Dichloroethylene [Vinylidene chloride].....	75-35-4	ND	.....	ND	39
Dichloromethoxy ethane [Bis(2-chloroethoxy)methane.....	111-91-1	ND	.....	ND	2400
2,4-Dichlorophenol.....	120-83-2	ND	.....	ND	2400
2,6-Dichlorophenol.....	87-65-0	ND	.....	ND	2400
1,2-Dichloropropane [Propylene dichloride]	78-87-5	ND	.....	ND	39
cis-1,3-Dichloropropylene.....	10061-01-5	ND	.....	ND	39
trans-1,3–Dichloropropylene.....	10061-02-6	ND	.....	ND	39
1,3-Dichloro-2-propanol.....	96-23-1	ND	.....	ND	30
Endosulfan I.....	959-98-8	ND	.....	ND	1.4
Endosulfan II	33213-65-9	ND	.....	ND	1.4
Endrin	72-20-8	ND	.....	ND	1.4
Endrin aldehyde.....	7421-93-4	ND	.....	ND	1.4
Endrin ketone.....	53494-70-5	ND	.....	ND	1.4
Epichlorohydrin [1-Chloro-2,3-epoxy propane].....	106-89-8	ND	.....	ND	30
Ethylidene dichloride [1,1-Dichloroethane]	75-34-3	ND	.....	ND	39
2-Fluoroacetamide.....	640-19-7	ND	.....	ND	100
Heptachlor	76-44-8	ND	.....	ND	1.4
Heptachlor epoxide.....	1024-57-3	ND	.....	ND	2.8
Hexachlorobenzene.....	118-74-1	ND	.....	ND	2400
Hexachloro-1,3-butadiene [Hexachlorobutadiene]	87-68-3	ND	.....	ND	2400
Hexachlorocyclopentadiene.....	77-47-4	ND	.....	ND	2400
Hexachloroethane	67-72-1	ND	.....	ND	2400
Hexachlorophene	70-30-4	ND	.....	ND	59000

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Hexachloropropene [Hexachloropropylene].....	1888-71-7	ND	.....	ND	2400
Isodrin.....	465-73-6	ND	.....	ND	2400
Kepone [Chlordecone].....	143-50-0	ND	.....	ND	4700
Lindane [gamma-BHC] [gamma-Hexachlorocyclohexane].....	58-89-9	ND	.....	ND	1.4
Methylene chloride [Dichloromethane].....	75-09-2	ND	.....	ND	39
4,4'-Methylene-bis(2-chloroaniline).....	101-14-4	ND	.....	ND	100
Methyl iodide [Iodomethane]	74-88-4	ND	.....	ND	39
Pentachlorobenzene	608-93-5	ND	.....	ND	2400
Pentachloroethane.....	76-01-7	ND	.....	ND	39
Pentachloronitrobenzene [PCNB] [Quintobenzene] [Quintozene]	82-68-8	ND	.....	ND	2400
Pentachlorophenol	87-86-5	ND	.....	ND	2400
Pronamide.....	23950-58-5	ND	.....	ND	2400
Silvex [2,4,5-Trichlorophenoxypropionic acid]	93-72-1	ND	.....	ND	7.0
2,3,7,8-Tetrachlorodibenzo-p-dioxin [2,3,7,8-TCDD]	1746-01-6	ND	.....	ND	30
1,2,4,5-Tetrachlorobenzene	95-94-3	ND	.....	ND	2400
1,1,2,2-Tetrachloroethane.....	79-34-5	ND	.....	ND	39
Tetrachloroethylene [Perchloroethylene]	127-18-4	ND	.....	ND	39
2,3,4,6-Tetrachlorophenol	58-90-2	ND	.....	ND	2400
1,2,4-Trichlorobenzene.....	120-82-1	ND	.....	ND	2400
1,1,1-Trichloroethane [Methyl chloroform].....	71-55-6	ND	.....	ND	39
1,1,2-Trichloroethane [Vinyl trichloride]	79-00-5	ND	.....	ND	39
Trichloroethylene.....	79-01-6	ND	.....	ND	39
Trichlorofluoromethane [Trichloromonofluoromethane]...	75-69-4	ND	.....	ND	39
2,4,5-Trichlorophenol.....	95-95-4	ND	.....		2400

2,4,6-Trichlorophenol.....	88-06-2	ND	.....	ND	2400
1,2,3-Trichloropropane.....	96-18-4	ND	.....	ND	39
Vinyl chloride.....	75-01-4	ND	.....	ND	39
				ND	

NA means not applicable.

ND means nondetect.

[1] Twenty-five or individual halogenated organics listed at the end of Table 3.

(3) IMPLEMENTATION. Waste that meets the comparable or syngas fuel specifications provided by sub. (1) or (2) (these constituent levels shall be achieved by the comparable fuel when generated, or as a result of treatment or blending, as provided in par. (c) or (d)) is excluded from the definition of solid waste provided that all of the following requirements are met:

(a) *Notices.* For purposes of this section, the person claiming and qualifying for the exclusion is called the comparable or syngas fuel generator and the person burning the comparable or syngas fuel is called the comparable or syngas burner. The person who generates the comparable fuel or syngas fuel shall claim and certify to the exclusion.

1. 'Department directors of the bureaus of air management and waste management.'

a. The generator shall submit a one-time notice to the department directors of the bureaus of air management and waste management, in whose jurisdiction the exclusion is being claimed and where the comparable or syngas fuel will be burned, certifying compliance with the conditions of the exclusion and providing documentation as required by subd. 1.c.

b. If the generator is a company that generates comparable or syngas fuel at more than one facility, the generator shall specify at which sites the comparable or syngas fuel will be generated.

c. A comparable or syngas fuel generator's notification to the department directors of the bureaus of air management and waste management shall contain all of the following items:

1) The name, address and RCRA identification number of the person or facility claiming the exclusion.

2) The applicable EPA hazardous waste codes for the hazardous waste.

3) Name and address of the units, meeting the requirements of par. (b), that will burn the comparable or syngas fuel.

4) The following statement is signed and submitted by the person claiming the exclusion or the person's authorized representative:

Under penalty of criminal and civil prosecution for making or submitting false statements, representations or omissions, I certify that the requirements of s. NR 661.38, Wis. Adm. Code, have been met for all waste identified in this notification. Copies of the records and information required at s. NR 661.38(3)(j),Wis. Adm. Code, are available at the comparable or syngas fuel generator's facility. Based on my inquiry of the individuals immediately responsible for obtaining the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Note: Mail 2 copies of the notice (one addressed to the department director of the bureau of air management and one addressed to the department director of the bureau of waste management) to the following address:

Wisconsin Department of Natural Resources
101 S Webster St
PO Box 7921
Madison WI 53707-7921

2. ‘Public notice.’ Prior to burning an excluded comparable or syngas fuel, the burner shall publish in a major newspaper of general circulation local to the site where the fuel will be burned, a notice entitled ”Notification of Burning a Comparable or Syngas Fuel Excluded Under the Resource Conservation and Recovery Act” containing all of the following information:

a. Name, address and RCRA identification number of the generating facility.

b. Name and address of the units that will burn the comparable or syngas fuel.

c. A brief, general description of the manufacturing, treatment or other process generating the comparable or syngas fuel.

d. An estimate of the average and maximum monthly and annual quantity of the waste claimed to be excluded.

e. Name and mailing address of the department directors of the bureaus of air management and waste management.

(b) *Burning.* The comparable or syngas fuel exclusion for fuels meeting the requirements of sub. (1) or (2) and par. (a) applies only if the fuel is burned in the following units that also shall be subject to federal, state and local air emission requirements, including all applicable CAA MACT requirements:

1. Industrial furnaces as defined in s. NR 660.10.

2. Boilers, as defined in s. NR 660.10, that are further defined as any of the following:

a. Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes.

b. Utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale.

3. Hazardous waste incinerators subject to regulation under subch. O of ch. NR 664 or 665 or applicable CAA MACT standards.

4. Gas turbines used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale.

(c) *Blending to meet the viscosity specification.* A hazardous waste blended to meet the viscosity specification shall do all of the following:

1. As generated and prior to any blending, manipulation or processing meet the constituent and heating value specifications of sub. (1)(a)1. and (b).

2. Be blended at a facility that is subject to the applicable requirements of chs. NR 664 and 665, or s. NR 662.034 or 662.192.

3. Not violate the dilution prohibition of par. (f).

(d) *Treatment to meet the comparable fuel exclusion specifications.* 1. A hazardous waste may be treated to meet the exclusion specifications of sub. (1)(a) and (b) provided the treatment does all of the following:

a. Destroys or removes the constituent listed in the specification or raises the heating value by removing or destroying hazardous constituents or materials.

b. Is performed at a facility that is subject to the applicable requirements of chs. NR 664 and 665, or s. NR 662.034 or 662.192.

c. Does not violate the dilution prohibition of par. (f).

2. Residuals resulting from the treatment of a hazardous waste listed in subch. D to generate a comparable fuel remain a hazardous waste.

(e) *Generation of a syngas fuel.* 1. A syngas fuel can be generated from the processing of hazardous wastes to meet the exclusion specifications of sub. (2) provided the processing does all of the following:

a. Destroys or removes the constituent listed in the specification or raises the heating value by removing or destroying constituents or materials.

b. Is performed at a facility that is subject to the applicable requirements of chs. NR 664 and 665, or s. NR 662.034 or 662.192 or is an exempt recycling unit under s. NR 661.06(3).

c. Does not violate the dilution prohibition of par. (f).

2. Residuals resulting from the treatment of a hazardous waste listed in subch. D to generate a syngas fuel remain a hazardous waste.

(f) *Dilution prohibition for comparable and syngas fuels.* No generator, transporter, handler or owner or operator of a treatment, storage or disposal facility shall in any way dilute a hazardous waste to meet the exclusion specifications of sub. (1)(a)1. or (b) or (2).

(g) *Waste analysis plans.* The generator of a comparable or syngas fuel shall develop and follow a written waste analysis plan which describes the procedures for sampling and analysis of the hazardous waste to be excluded. The waste analysis plan shall be developed according to the applicable sections of ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11. The plan shall be followed and retained at the facility excluding the waste.

1. At a minimum, the plan shall specify all of the following:

a. The parameters for which each hazardous waste will be analyzed and the rationale for the selection of those parameters.

b. The test methods which will be used to test for these parameters.

c. The sampling method which will be used to obtain a representative sample of the waste to be analyzed.

d. The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date.

e. If process knowledge is used in the waste determination, any information prepared by the generator in making the determination.

2. The waste analysis plan shall also contain records of all of the following:

a. The dates and times waste samples were obtained, and the dates the samples were analyzed.

b. The names and qualifications of the persons who obtained the samples.

c. A description of the temporal and spatial locations of the samples.

d. The name and address of the laboratory facility at which analyses of the samples were performed.

e. A description of the analytical methods used, including any clean-up and sample preparation methods.

f. All quantitation limits achieved and all other quality control results for the analysis (including method blanks, duplicate analyses, matrix spikes, etc.), laboratory quality assurance data, and description of any deviations from analytical methods written in the plan or from any other activity written in the plan which occurred.

g. All laboratory results demonstrating that the exclusion specifications have been met for the waste.

h. All laboratory documentation that support the analytical results, unless a contract between the claimant and the laboratory provides for the documentation to be maintained by the laboratory for the period specified in par. (k) and also provides for the availability of the documentation to the claimant upon request.

3. Syngas fuel generators shall submit for approval, prior to performing sampling, analysis or any management of a syngas fuel as an excluded waste, a waste analysis plan containing the elements of subd. 1. to the department. The approval of waste analysis plans shall be stated in writing and received by the facility prior to sampling and analysis to demonstrate the exclusion of a syngas. The approval of the waste analysis plan may contain provisions and conditions that the department deems appropriate.

(h) *Comparable fuel sampling and analysis.* 1. For each waste for which an exclusion is claimed, the generator of the hazardous waste shall test for all the constituents in Appendix VIII, except those that the generator determines, based on testing or knowledge, should not be present in the waste. The generator is required to document the basis of each determination that a constituent should not be present. The generator may not determine that any of the following categories of constituents should not be present:

a. A constituent that triggered the toxicity characteristic for the waste constituents that were the basis of the listing of the waste stream, or constituents for which there is a treatment standard for the waste code in s. NR 668.40.

b. A constituent detected in previous analysis of the waste.

c. Constituents introduced into the process that generates the waste.

d. Constituents that are byproducts or side reactions to the process that generates the waste.

Note: Any claim under this paragraph shall be valid and accurate for all hazardous constituents; a determination not to test for a hazardous constituent will not shield a generator from liability should that constituent later be found in the waste above the exclusion specifications.

2. For each waste for which the exclusion is claimed where the generator of the comparable or syngas fuel is not the original generator of the hazardous waste, the generator of the comparable or syngas fuel may not use process knowledge pursuant to subd. 1. and shall test to determine that all of the constituent specifications of subs. (1)(a) and (2) have been met.

3. The comparable or syngas fuel generator may use any reliable analytical method to demonstrate that no constituent of concern is present at concentrations above the specification levels. It is the responsibility of the generator to ensure that the sampling and analysis are unbiased, precise and representative of the waste. For the waste to be eligible for exclusion, a generator shall demonstrate all of the following:

a. Each constituent of concern is not present in the waste above the specification level at the 95% upper confidence limit around the mean.

b. The analysis could have detected the presence of the constituent at or below the specification level at the 95% upper confidence limit around the mean.

4. Nothing in this paragraph preempts, overrides or otherwise negates s. NR 662.011, which requires any person who generates a solid waste to determine if that waste is a hazardous waste.

5. In an enforcement action, the burden of proof to establish conformance with the exclusion specification shall be on the generator claiming the exclusion.

6. The generator shall conduct sampling and analysis according to their waste analysis plan developed under par. (g).

7. Syngas fuel and comparable fuel that has not been blended in order to meet the kinematic viscosity specifications shall be analyzed as generated.

8. If a comparable fuel is blended in order to meet the kinematic viscosity specifications, the generator shall do all of the following:

a. Analyze the fuel as generated to ensure that it meets the constituent and heating value specifications.

b. After blending, analyze the fuel again to ensure that the blended fuel continues to meet all comparable or syngas fuel specifications.

9. Excluded comparable or syngas fuel shall be re-tested, at a minimum, annually and shall be re-tested after a process change that could change the chemical or physical properties of the waste.

(i) *Speculative accumulation.* Any persons handling a comparable or syngas fuel are subject to the speculative accumulation test under s. NR 661.02(3)(d).

(j) *Records.* The generator shall maintain records of all of the following information on-site:

1. All information required to be submitted to the department as part of the notification of the claim.

a. The owner or operator name, address and RCRA facility identification number of the person claiming the exclusion.

b. The applicable EPA hazardous waste codes for each hazardous waste excluded as a fuel.

c. The certification signed by the person claiming the exclusion or the person's authorized representative.

2. A brief description of the process that generated the hazardous waste and process that generated the excluded fuel, if not the same.

3. An estimate of the average and maximum monthly and annual quantities of each waste claimed to be excluded.

4. Documentation for any claim that a constituent is not present in the hazardous waste as required under par. (h)1.

5. The results of all analyses and all detection limits achieved as required under par. (h).

6. If the excluded waste was generated through treatment or blending, documentation as required under par. (c) or (d).

7. If the waste is to be shipped off-site, a certification from the burner as required under par. (L).

8. A waste analysis plan and the results of the sampling and analysis that includes all of the following:

a. The dates and times waste samples were obtained, and the dates the samples were analyzed.

b. The names and qualifications of the persons who obtained the samples.

c. A description of the temporal and spatial locations of the samples.

d. The name and address of the laboratory facility at which analyses of the samples were performed.

e. A description of the analytical methods used, including any clean-up and sample preparation methods.

f. All quantitation limits achieved and all other quality control results for the analysis (including method blanks, duplicate analyses, matrix spikes, etc.), laboratory quality assurance data, and description of any deviations from analytical methods written in the plan or from any other activity written in the plan which occurred.

g. All laboratory analytical results demonstrating that the exclusion specifications have been met for the waste.

h. All laboratory documentation that support the analytical results, unless a contract between the claimant and the laboratory provides for the documentation to be maintained by the laboratory for the period specified in par. (k) and also provides for the availability of the documentation to the claimant upon request.

9. If the generator ships comparable or syngas fuel off-site for burning, the generator shall retain for each shipment all of the following information on-site:

a. The name and address of the facility receiving the comparable or syngas fuel for burning.

b. The quantity of comparable or syngas fuel shipped and delivered.

c. The date of shipment or delivery.

d. A cross-reference to the record of comparable or syngas fuel analysis or other information used to make the determination that the comparable or syngas fuel meets the specifications required under par. (h).

e. A one-time certification by the burner as required by par. (L).

(k) *Records retention.* Records shall be maintained for the period of 3 years. A generator shall maintain a current waste analysis plan during that 3 year period.

(L) *Burner certification.* Prior to submitting a notification to the department directors of the bureaus of air management and waste management, a comparable or syngas fuel generator who intends to ship its fuel off-site for burning shall obtain a one-time written, signed statement from the burner which does all of the following:

1. Certifies that the comparable or syngas fuel will only be burned in an industrial furnace or boiler, utility boiler or hazardous waste incinerator, as required under par. (b).

2. Identifies the name and address of the units that will burn the comparable or syngas fuel.

3. Certifies that the state in which the burner is located is authorized to exclude wastes as comparable or syngas fuel under this section, or 40 CFR 261.38-equivalent requirements of another state.

(m) *Ineligible waste codes.* Wastes that are listed because of presence of dioxins or furans, as set out in Appendix VII, are not eligible for this exclusion, and any fuel produced from or otherwise containing these wastes remains a hazardous waste subject to chs. NR 660 to 670.

APPENDIX I
REPRESENTATIVE SAMPLING METHODS

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the following sampling protocols, for sampling waste with properties similar to the following indicated materials, will be representative of the waste:

(1) Extremely viscous liquid - ASTM D140-70, incorporated by reference in s. NR 660.11

(2) Crushed or powdered material - ASTM D346-75, incorporated by reference in s. NR 660.11

(3) Soil or rock-like material - ASTM D420-69, incorporated by reference in s. NR 660.11

(4) Soil-like material - ASTM D1452-65, incorporated by reference in s. NR 660.11

(5) Fly ash-like material - ASTM D2234-76, incorporated by reference in s. NR 660.11

(6) Containerized liquid wastes - ”COLIWASA” [1a] described in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, second edition, incorporated by reference in s. NR 660.11

(7) Liquid waste in pits, ponds, lagoons and similar reservoirs - ”Pond Sampler” [1a] described in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, second edition, incorporated by reference in s. NR 660.11

[1a] These methods are also described in ”Samplers and Sampling Procedures for Hazardous Waste Streams”, EPA 600/2-80-018, January 1980, incorporated by reference in s. NR 660.11. This manual also contains additional information on application of these protocols.

APPENDIX II
METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

Note: The TCLP (method 1311) is published in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, (see s. NR 660.11).

APPENDIX III
CHEMICAL ANALYSIS TEST METHODS

Note: Appropriate analytical procedures to determine whether a sample contains a given toxic constituent are specified in chapter two, ”Choosing the Correct Procedure” found in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, (see s. NR 660.11). Prior to final sampling and analysis method selection, the individual should consult the specific section or method described in SW-846 for additional guidance on which of the approved methods should be employed for a specific sample analysis situation.

APPENDIX VII
BASIS FOR LISTING HAZARDOUS WASTE

EPA haz-ar dous waste numbe r	Hazardous constituents for which listed

F001	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons

WA-10-05

F002 ..... Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane

WA-10-05

F003 ..... N.A.

1098

WA-10-05

F004 ..... Cresols and cresylic acid, nitrobenzene

WA-10-05

F005 ..... Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, 2-ethoxyethanol, benzene, 2-nitropropane

WA-10-05

F006	Cadmium, hexavalent chromium, nickel, cyanide (complexed)

WA-10-05

F007	Cyanide (salts)

WA-10-05

F008	Cyanide (salts)

WA-10-05

F009	Cyanide (salts)

WA-10-05

F010	Cyanide (salts)

WA-10-05

F011	Cyanide (salts)

WA-10-05

F012	Cyanide (complexed)

WA-10-05

F019	Hexavalent chromium, cyanide (complexed)

F020 ..... Tetra- and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts

WA-10-05

F021 ..... Penta- and hexachlorodibenzo-p-dioxins; penta- and hexachlorodibenzofurans; pentachlorophenol and its derivatives

WA-10-05

F022	Tetra-, penta- and hexachlorodibenzo-p-dioxins; tetra-, penta- and hexachlorodibenzofurans

1111

F023 ..... Tetra- and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts

WA-10-05

F024 ..... Chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1-2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorobenzene, dichlorobenzenes, 1,2,4-trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphthalene

WA-10-05

F025 ..... Chloromethane; Dichloromethane; Trichloromethane; Carbon tetrachloride; Chloroethylene; 1,1-Dichloroethane; 1,2-Dichloroethane; trans-1,2-Dichloroethylene; 1,1-Dichloroethylene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethylene; 1,1,1,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethane; Tetrachloroethylene; Pentachloroethane; Hexachloroethane; Allyl chloride (3-Chloropropene); Dichloropropane; Dichloropropene; 2-Chloro-1,3-butadiene; Hexachloro-1,3-butadiene; Hexachlorocyclopentadiene; Benzene; Chlorobenzene; Dichlorobenzene; 1,2,4-Trichlorobenzene; Tetrachlorobenzene; Pentachlorobenzene; Hexachlorobenzene; Toluene; Naphthalene

WA-10-05

F026	Tetra-, penta- and hexachlorodibenzo-p-dioxins; tetra-, penta- and hexachlorodibenzofurans

F027 ..... Tetra-, penta- and hexachlorodibenzo-p-dioxins; tetra-, penta- and hexachlorodibenzofurans; tri-, tetra- and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts

F028 ..... Tetra-, penta- and hexachlorodibenzo-p-dioxins; tetra-, penta- and hexachlorodibenzofurans; tri-, tetra- and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts

WA-10-05

F032 ..... Benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, pentachlorophenol, arsenic, chromium; tetra-, penta-, hexa- and heptachlorodibenzo-p-dioxins; tetra-, penta-, hexa- and heptachlorodibenzofurans

WA-10-05

F034 ..... Benz(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, arsenic, chromium

WA-10-05	
F035	Arsenic, chromium, lead

WA-10-05

F037 ..... Benzene, benzo(a)pyrene, chrysene, lead, chromium

WA-10-05

F038	Benzene, benzo(a)pyrene chrysene, lead, chromium

WA-10-05

F039 ..... All constituents for which treatment standards are specified for multi-source leachate (wastewaters and nonwastewaters) under s. NR 668.43(1), Table CCW

WA-10-05

K001.....	Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenols, tetrachlorophenols, 2,4-dinitrophenol, creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene

WA-10-05	
K002.....	Hexavalent chromium, lead

WA-10-05	
K003.....	Hexavalent chromium, lead

WA-10-05

K004.....	Hexavalent chromium

WA-10-05	
K005.....	Hexavalent chromium, lead

WA-10-05

K006.....	Hexavalent chromium

WA-10-05

K007.....	Cyanide (complexed), hexavalent chromium

WA-10-05

K008.....	Hexavalent chromium

WA-10-05

K009.....	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid

WA-10-05

K010..... Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde

WA-10-05

K011.....	Acrylonitrile, acetonitrile, hydrocyanic acid

WA-10-05

K013.....	Hydrocyanic acid, acrylonitrile, acetonitrile

WA-10-05

K014.....	Acetonitrile, acrylamide

WA-10-05

K015.....	Benzyl chloride, chlorobenzene, toluene, benzotrichloride

WA-10-05

K016..... Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene

WA-10-05

K017..... Epichlorohydrin, chloroethers [bis(chloromethyl) ether and bis(2-chloroethyl) ethers], trichloropropane, dichloropropanols

WA-10-05

K018.....	1,2-Dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene

WA-10-05

K019..... Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride

WA-10-05

K020..... Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride

WA-10-05

K021.....	Antimony, carbon tetrachloride, chloroform

WA-10-05

K022.....	Phenol, tars (polycyclic aromatic hydrocarbons)

WA-10-05

K023.....	Phthalic anhydride, maleic anhydride

WA-10-05

K024.....	Phthalic anhydride, 1,4-naphthoquinone

WA-10-05

K025..... meta-Dinitrobenzene, 2,4-dinitrotoluene

WA-10-05

K026.....	Paraldehyde, pyridines, 2-picoline

WA-10-05

K027.....	Toluene diisocyanate, toluene-2,4-diamine

WA-10-05

K028.....	1,1,1-Trichloroethane, vinyl chloride

WA-10-05

K029.....	1,2-Dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform

WA-10-05

K030..... Hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride

WA-10-05 K031.....	Arsenic

1153

WA-10-05

K032.....	Hexachlorocyclopentadiene

WA-10-05

K033.....	Hexachlorocyclopentadiene

1155

WA-10-05

K034.....	Hexachlorocyclopentadiene

WA-10-05

K035..... Creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(a)anthracene, dibenzo(a)anthracene, acenaphthalene

WA-10-05

K036.....	Toluene, phosphorodithioic and phosphorothioic acid esters

WA-10-05

K037.....	Toluene, phosphorodithioic and phosphorothioic acid esters

WA-10-05

K038..... Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters

WA-10-05

K039.....	Phosphorodithioic and phosphorothioic acid esters

WA-10-05

K040..... Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters

WA-10-05

K041.....	Toxaphene

WA-10-05

K042..... Hexachlorobenzene, ortho-dichlorobenzene

WA-10-05

K043.....	2,4-Dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol

WA-10-05 K044.....	N.A.

1166

WA-10-05 K045.....	N.A.

WA-10-05 K046.....	Lead

1168

WA-10-05 K047.....	N.A.

WA-10-05	
K048.....	Hexavalent chromium, lead

WA-10-05	
K049.....	Hexavalent chromium, lead

WA-10-05

K050.....	Hexavalent chromium

WA-10-05

K051.....	Hexavalent chromium, lead

WA-10-05 K052.....	Lead

WA-10-05

K060.....	Cyanide, napthalene, phenolic compounds, arsenic

WA-10-05

K061.....	Hexavalent chromium, lead, cadmium

WA-10-05	
K062.....	Hexavalent chromium, lead

WA-10-05

K069.....	Hexavalent chromium, lead, cadmium

WA-10-05 K071.....	Mercury

WA-10-05

K073..... Chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane

WA-10-05

K083.....	Aniline, diphenylamine, nitrobenzene, phenylenediamine

WA-10-05 K084.....	Arsenic

1185

WA-10-05

K085..... Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride

WA-10-05

K086.....	Lead, hexavalent chromium

WA-10-05

K087.....	Phenol, naphthalene

1188

WA-10-05

K088.....	Cyanide (complexes)

WA-10-05

K093.....	Phthalic anhydride, maleic anhydride

WA-10-05

K094.....	Phthalic anhydride

WA-10-05

K095.....	1,1,2-Trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane

WA-10-05

K096.....	1,2-Dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane

WA-10-05

K097.....	Chlordane, heptachlor

WA-10-05

K098.....	Toxaphene

WA-10-05

K099.....	2,4-Dichlorophenol, 2,4,6-trichlorophenol

WA-10-05

K100.....	Hexavalent chromium, lead, cadmium

WA-10-05 K101.....	Arsenic

1200

WA-10-05 K102.....	Arsenic

WA-10-05

K103.....	Aniline, nitrobenzene, phenylenediamine

WA-10-05

K104.....	Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine

WA-10-05

K105.....	Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol

WA-10-05

K106.....	Mercury

1205

WA-10-05

K107..... 1,1-Dimethylhydrazine (UDMH)

WA-10-05

K108..... 1,1-Dimethylhydrazine (UDMH)

WA-10-05

K109..... 1,1-Dimethylhydrazine (UDMH)

WA-10-05

K110..... 1,1-Dimethylhydrazine (UDMH)

WA-10-05

K111.....	2,4-Dinitrotoluene

1210

WA-10-05

K112.....	2,4-Toluenediamine, o-toluidine, p-toluidine, aniline

1211

WA-10-05

K113.....	2,4-Toluenediamine, o-toluidine, p-toluidine, aniline

WA-10-05

K114.....	2,4-Toluenediamine, o-toluidine, p-toluidine

WA-10-05

K115.....	2,4-Toluenediamine

WA-10-05

K116.....	Carbon tetrachloride, tetrachloroethylene, chloroform, phosgene

WA-10-05

K117.....	Ethylene dibromide

WA-10-05

K118.....	Ethylene dibromide

1217

WA-10-05

K123.....	Ethylene thiourea

WA-10-05

K124.....	Ethylene thiourea

1219

WA-10-05

K125.....	Ethylene thiourea

WA-10-05

K126.....	Ethylene thiourea

WA-10-05

K131.....	Dimethyl sulfate, methyl bromide

WA-10-05

K132.....	Methyl bromide

WA-10-05

K136.....	Ethylene dibromide

WA-10-05

K141..... Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene

WA-10-05

K142..... Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene

WA-10-05

K143.....	Benzene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene

WA-10-05

K144..... Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene

WA-10-05

K145.....	Benzene, benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, naphthalene

WA-10-05

K147..... Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene

WA-10-05

K148..... Benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene

WA-10-05

K149..... Benzotrichloride, benzyl chloride, chloroform, chloromethane, chlorobenzene, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, toluene

WA-10-05

K150..... Carbon tetrachloride, chloroform, chloromethane, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, 1,1,2,2-tetrachloroethane, tetrachloroethylene, 1,2,4-trichlorobenzene

WA-10-05

K151..... Benzene, carbon tetrachloride, chloroform, hexachlorobenzene, pentachlorobenzene, toluene, 1,2,4,5-tetrachlorobenzene, tetrachloroethylene

WA-10-05

K156.....	Benomyl, carbaryl, carbendazim, carbofuran, carbosulfan, formaldehyde, methylene chloride, triethylamine

WA-10-05

K157..... Carbon tetrachloride, formaldehyde, methyl chloride, methylene chloride, pyridine, triethylamine

WA-10-05

K158..... Benomyl, carbendazim, carbofuran, carbosulfan, chloroform, methylene chloride

WA-10-05

K159.....	Benzene, butylate, eptc, molinate, pebulate, vernolate

WA-10-05

K161.....	Antimony, arsenic, metam-sodium, ziram

WA-10-05

K169 ..... Benzene

1240

WA-10-05

K170..... Benzo(a)pyrene, dibenz(a,h)anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, 3-methylcholanthrene, 7,12-dimethylbenz(a)anthracene

WA-10-05	
K171.....	Benzene, arsenic

WA-10-05	
K172.....	Benzene, arsenic

WA-10-05

K174..... 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD), 1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF), 1,2,3,4,7,8,9- Heptachlorodibenzofuran (1,2,3,6,7,8,9-HpCDF), HxCDDs (All Hexachlorodibenzo-p-dioxins), HxCDFs (All Hexachlorodibenzofurans), PeCDDs (All Pentachlorodibenzo-p-dioxins), OCDD (1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin), OCDF (1,2,3,4,6,7,8,9-Octachlorodibenzofuran), PeCDFs (All Pentachlorodibenzofurans), TCDDs (All Tetrachlorodibenzo-p-dioxins), TCDFs (All Tetrachlorodibenzofurans)

WA-10-05

K175..... Mercury

1245

WA-10-05 K176.....	Arsenic, lead

WA-10-05

K177.....	Antimony

WA-10-05

K178.....	Thallium

WA-10-05

N.A. - Waste is hazardous because it fails the test for the characteristic of ignitability, corrosivity or reactivity.

APPENDIX VIII
HAZARDOUS CONSTITUENTS

Common name	Chemical abstracts name	Chemical abstracts number	Hazardous waste number

A2213	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester	30558-43-1	U394

WA-10-05 Acetonitrile	Same	75-05-8	U003

WA-10-05

Acetophenone	Ethanone, 1-phenyl-.....	98-86-2	U004

WA-10-05

2-Acetylaminefluarone	Acetamide, N-9H-fluoren-2-yl-	53-96-3	U005

WA-10-05 Acetyl chloride.....	Same	75-36-5	U006

WA-10-05

1-Acetyl-2-thiourea.....	Acetamide, N-(aminothioxomethyl)-	591-08-2	P002

WA-10-05 Acrolein	2-Propenal.....	107-02-8	P003

WA-10-05

Acrylamide	2-Propenamide.....	79-06-1	U007

WA-10-05

Acrylonitrile.....	2-Propenenitrile	107-13-1	U009

WA-10-05 Aflatoxins	Same	1402-68-2	.....

Aldicarb	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime	116-06-3	P070

WA-10-05 Aldicarb sulfone.....	Propanal, 2-methyl-2-(methylsulfonyl)-, O-[(methylamino)carbonyl] oxime	1646-88-4	P203

Aldrin.....	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-	309-00-2	P004

WA-10-05

Allyl alcohol	2-Propen-1-ol.....	107-18-6	P005

WA-10-05			
Allyl chloride	1-Propane, 3-chloro-	107-05-1	

WA-10-05

Aluminum phosphide.....	Same	20859-73-8	P006

WA-10-05

4-Aminobiphenyl.....	[1,1’-Biphenyl]-4-amine.....	92-67-1	.....

WA-10-05 5-(Aminomethyl)-3-isoxazolol	3(2H)-Isoxazolone, 5-(aminomethyl)-.....	2763-96-4	P007

WA-10-05

4-Aminopyridine.....	4-Pyridinamine	504-24-5	P008

WA-10-05			
Amitrole.....	1H-1,2,4-Triazol-3-amine.....	61-82-5	U011

WA-10-05

Ammonium vanadate.....	Vanadic acid, ammonium salt.....	7803-55-6	P119

WA-10-05

Aniline	Benzenamine	62-53-3	U012

WA-10-05 Antimony	Same	7440-36-0	.....

WA-10-05 Antimony compounds, N.O.S.[1]	.....	.....	.....

WA-10-05 Aramite	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8	.....

WA-10-05 Arsenic.....	Same	7440-38-2	.....

WA-10-05 Arsenic compounds, N.O.S.[1]	.....	.....	.....

WA-10-05

Arsenic acid	Arsenic acid H_3AsO_4	7778-39-4	P010

WA-10-05

Arsenic pentoxide	Arsenic oxide As_2O_5	1303-28-2	P011

WA-10-05

Arsenic trioxide	Arsenic oxide As_2O_3	1327-53-3	P012

WA-10-05

Auramine	Benzenamine, 4,4’-carbonimidoylbis[N,N-dimethyl	492-80-8	U014

WA-10-05 Azaserine	L-Serine, diazoacetate (ester)	115-02-6	U015

WA-10-05			
Barban.....	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester	101-27-9	U280

WA-10-05

Barium	Same	7440-39-3	.....

WA-10-05 Barium compounds, N.O.S.[1]	.....	.....	.....

1285

WA-10-05

Barium cyanide.....	Same	542-62-1	P013

WA-10-05

Bendiocarb.....	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate	22781-23-3	U278

WA-10-05

Bendiocarb phenol.....	1,3-Benzodioxol-4-ol, 2,2-dimethyl-	22961-82-6	U364

WA-10-05

Benomyl.....	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester	17804-35-2	U271

WA-10-05			
Benz[c]acridine.....	Same	225-51-4	U016

WA-10-05 Benz[a]anthracene	Same	56-55-3	U018

WA-10-05

Benzal chloride	Benzene, (dichloromethyl)-	98-87-3	U017

WA-10-05			
Benzene	Same	71-43-2	U019

WA-10-05

Benzenearsonic acid	Arsonic acid, phenyl-.....	98-05-5	.....

WA-10-05

Benzidine	[1,1'-Biphenyl]-4,4'-diamine	92-87-5	U021

WA-10-05

Benzo[b]fluoranthene	Benz[e]acephenanthrylene.....	205-99-2	.....

WA-10-05

Benzo[j]fluoranthene	Same	205-82-3	.....

WA-10-05

Benzo(k)fluoranthene	Same	207-08-9	.....

WA-10-05			
Benzo[a]pyrene.....	Same	50-32-8	U022

WA-10-05 p-Benzoquinone.....	2,5-Cyclohexadiene-1,4-dione.....	106-51-4	U197

WA-10-05

Benzotrichloride	Benzene, (trichloromethyl)-.....	98-07-7	U023

WA-10-05

Benzyl chloride.....	Benzene, (chloromethyl)-	100-44-7	P028

WA-10-05

Beryllium powder	Same	7440-41-7	P015

WA-10-05 Beryllium compounds, N.O.S.[1]	.....	.....	.....

1304

WA-10-05 Bis(pentamethylene)-thiuram tetrasulfide	Piperidine, 1,1’-(tetrathiodicarbonothioyl)-bis-	120-54-7	.....

WA-10-05

Bromoacetone	2-Propanone, 1-bromo-	598-31-2	P017

WA-10-05

Bromoform	Methane, tribromo-.....	75-25-2	U225

WA-10-05 4-Bromophenyl phenyl ether	Benzene, 1-bromo-4-phenoxy-	101-55-3	U030

WA-10-05

Brucine.....	Strychnidin-10-one, 2,3-dimethoxy-	357-57-3	P018

Butyl benzyl phthalate	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester	85-68-7	.....

WA-10-05

Butylate.....	Carbamothioic acid, bis(2-methylpropyl)-, S-ethyl ester	2008-41-5	.....

WA-10-05

Cacodylic acid	Arsinic acid, dimethyl-	75-60-5	U136

WA-10-05 Cadmium	Same	7440-43-9	.....

WA-10-05 Cadmium compounds, N.O.S.[1]	.....	.....	.....

WA-10-05

Calcium chromate.....	Chromic acid H_2CrO_4, calcium salt.....	13765-19-0	U032

WA-10-05

Calcium cyanide	Calcium cyanide $Ca(CN)_2$	592-01-8	P021

WA-10-05

Carbaryl	1-Naphthalenol, methylcarbamate.....	63-25-2	U279

WA-10-05 Carbendazim.....	Carbamic acid, 1H-benzimidazol-2-yl-, methyl ester	10605-21-7	U372

WA-10-05

Carbofuran	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate	1563-66-2	P127

WA-10-05

Carbofuran phenol	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-	1563-38-8	U367

WA-10-05

Carbon disulfide.....	Same	75-15-0	P022

WA-10-05

Carbon oxyfluoride.....	Carbonic difluoride.....	353-50-4	U033

WA-10-05

Carbon tetrachloride	Methane, tetrachloro-.....	56-23-5	U211

Carbosulfan.....	Carbamic acid, [(dibutylamino) thio]methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester	55285-14-8	P189

WA-10-05

Chloral	Acetaldehyde, trichloro-	75-87-6	U034

WA-10-05

Chlorambucil	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-	305-03-3	U035

WA-10-05

Chlordane.....	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-	57-74-9	U036

WA-10-05 Chlordane (alpha and gamma isomers)	.....	.....	U036

WA-10-05 Chlorinated benzenes, N.O.S.[1]	.....	.....	.....

WA-10-05 Chlorinated ethane, N.O.S.[1]	.....	.....	.....
1330			

WA-10-05 Chlorinated fluorocarbons, N.O.S.[1]	.....	.....	.....
1331			

WA-10-05 Chlorinated naphthalene, N.O.S.[1]	.....	.....	.....

WA-10-05 Chlorinated phenol, N.O.S.[1]	.....	.....	.....

WA-10-05

Chlornaphazin.....	Naphthalenamine, N,N'-bis(2-chloroethyl)-	494-03-1	U026

WA-10-05

Chloroacetaldehyde	Acetaldehyde, chloro-.....	107-20-0	P023

WA-10-05 Chloroalkyl ethers, N.O.S.[1]	.....	.....	.....

WA-10-05

p-Chloroaniline.....	Benzenamine, 4-chloro-.....	106-47-8	P024

WA-10-05

Chlorobenzene	Benzene, chloro-	108-90-7	U037

WA-10-05 Chlorobenzilate.....	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester	510-15-6	U038

WA-10-05 p-Chloro-m-cresol.....	Phenol, 4-chloro-3-methyl-.....	59-50-7	U039

WA-10-05

2-Chloroethyl vinyl ether...	Ethene, (2-chloroethoxy)-.....	110-75-8	U042

WA-10-05			
Chloroform	Methane, trichloro-	67-66-3	U044

WA-10-05 Chloromethyl methyl ether	Methane, chloromethoxy-.....	107-30-2	U046

WA-10-05			
beta-Chloronaphthalene.....	Naphthalene, 2-chloro-	91-58-7	U047

WA-10-05 o-Chlorophenol	Phenol, 2-chloro-	95-57-8	U048

WA-10-05 1-(o-Chlorophenyl)thiourea	Thiourea, (2-chlorophenyl)-	5344-82-1	P026

WA-10-05

Chloroprene	1,3-Butadiene, 2-chloro-.....	126-99-8	.....

WA-10-05

3-Chloropropionitrile.....	Propanenitrile, 3-chloro-.....	542-76-7	P027

WA-10-05 Chromium	Same	7440-47-3	

WA-10-05 Chromium compounds, N.O.S.[1]	.....	.....	.....

WA-10-05 Chrysene	Same	218-01-9	U050

WA-10-05

Citrus red No. 2.....	2-Naphthalenol, 1-[(2,5-dimethoxyphenyl)azo]-	6358-53-8	.....

WA-10-05

Coal tar creosote	Same	8007-45-2	.....

WA-10-05

Copper cyanide	Copper cyanide CuCN.....	544-92-3	P029

WA-10-05

Copper dimethyldithiocarbamate	Copper, bis(dimethylcarbamodithioato-S,S')-,	137-29-1	.....

WA-10-05 Creosote	Same	.....	U051

WA-10-05

Cresol (Cresylic acid)	Phenol, methyl-.....	1319-77-3	U052

WA-10-05 Crotonaldehyde.....	2-Butenal	4170-30-3	U053

WA-10-05 m-Cumenyl methylcarbamate	Phenol, 3-(methylethyl)-, methyl carbamate	64-00-6	P202

WA-10-05 Cyanides (soluble salts and complexes) N.O.S.[1]	.....	.....	P030

WA-10-05

Cyanogen	Ethanedinitrile	460-19-5	P031

WA-10-05

Cyanogen bromide.....	Cyanogen bromide (CN)Br.....	506-68-3	U246

WA-10-05

Cyanogen chloride.....	Cyanogen chloride (CN)Cl.....	506-77-4	P033

WA-10-05 Cycasin	beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl-	14901-08-7	.....

WA-10-05 Cycloate	Carbamothioic acid, cyclohexylethyl-, S-ethyl ester	1134-23-2	.....

WA-10-05 2-Cyclohexyl-4,6-dinitro phenol	Phenol, 2-cyclohexyl-4,6-dinitro-.....	131-89-5	P034

WA-10-05 Cyclophosphamide	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide	50-18-0	U058

WA-10-05 2,4-D	Acetic acid, (2,4-dichlorophenoxy)-.....	94-75-7	U240

WA-10-05 2,4-D, salts, esters.....	.....	.....	U240

WA-10-05

Daunomycin.....	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-	20830-81-3	U059

WA-10-05 Dazomet.....	2H-1,3,5-thiadiazine-2-thione, tetrahydro-3,5-dimethyl-	533-74-4	.....

WA-10-05

DDD.....	Benzene, 1,1’-(2,2-dichloroethylidene)bis[4-chloro-	72-54-8	U060

WA-10-05

DDE	Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro-	72-55-9	.....

WA-10-05

DDT	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro -	50-29-3	U061

WA-10-05

Diallate.....	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester	2303-16-4	U062

WA-10-05

Dibenz[a,h]acridine	Same	226-36-8	.....

WA-10-05

Dibenz[a,j]acridine	Same	224-42-0	.....

WA-10-05

Dibenz[a,h]anthracene	Same	53-70-3	U063

WA-10-05 7H-Dibenzo[c,g]carbazole	Same	194-59-2	.....

WA-10-05

Dibenzo[a,e]pyrene.....	Naphtho[1,2,3,4-def]chrysene	192-65-4	.....

WA-10-05

Dibenzo[a,h]pyrene	Dibenzo[b,def]chrysene.....	189-64-0	.....

WA-10-05

Dibenzo[a,i]pyrene	Benzo[rst]pentaphene	189-55-9	U064

WA-10-05 1,2-Dibromo-3-chloropro pane	Propane, 1,2-dibromo-3-chloro-	96-12-8	U066

Dibutyl phthalate	1,2-Benzenedicarboxylic acid, dibutyl ester	84-74-2	U069

WA-10-05 o-Dichlorobenzene.....	Benzene, 1,2-dichloro-	95-50-1	U070

WA-10-05 m-Dichlorobenzene.....	Benzene, 1,3-dichloro-	541-73-1	U071

WA-10-05 p-Dichlorobenzene.....	Benzene, 1,4-dichloro-	106-46-7	U072

WA-10-05			
Dichlorobenzene, N.O.S.[1]	Benzene, dichloro-	25321-22-6	

3,3’-Dichlorobenzidine.....	[1,1’-Biphenyl]-4,4’-diamine, 3,3’-dichloro-	91-94-1	U073

WA-10-05

1,4-Dichloro-2-butene	2-Butene, 1,4-dichloro-.....	764-41-0	U074

WA-10-05

Dichlorodifluoromethane...	Methane, dichlorodifluoro-.....	75-71-8	U075

WA-10-05 Dichloroethylene, N.O.S.[1]	Dichloroethylene	25323-30-2	

WA-10-05

1,1-Dichloroethylene	Ethene, 1,1-dichloro-	75-35-4	U078

WA-10-05

1,2-Dichloroethylene	Ethene, 1,2-dichloro-, (E)-.....	156-60-5	U079

WA-10-05

Dichloroethyl ether	Ethane, 1,1'-oxybis[2-chloro-.....	111-44-4	U025

WA-10-05

Dichloroisopropyl ether	Propane, 2,2'-oxybis[2-chloro-.....	108-60-1	U027

WA-10-05

Dichloromethoxy ethane....	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-	111-91-1	U024

Dichloromethyl ether.....	Methane, oxybis[chloro-.....	542-88-1	P016

WA-10-05 2,4-Dichlorophenol.....	Phenol, 2,4-dichloro-	120-83-2	U081

WA-10-05

2,6-Dichlorophenol.....	Phenol, 2,6-dichloro-	87-65-0	U082

WA-10-05

Dichlorophenylarsine.....	Arsonous dichloride, phenyl-.....	696-28-6	P036

WA-10-05			
Dichloropropane, N.O.S.[1] ...	Propane, dichloro-	26638-19-7	.....

WA-10-05 Dichloropropanol, N.O.S.[1]	Propanol, dichloro-	26545-73-3	

WA-10-05			
Dichloropropene, N.O.S.[1] ...	1-Propene, dichloro-	26952-23-8	.....

WA-10-05

1,3-Dichloropropene.....	1-Propene, 1,3-dichloro-.....	542-75-6	U084

Dieldrin.....	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)-	60-57-1	P037

WA-10-05

1,2:3,4-Diepoxybutane	2,2'-Bioxirane.....	1464-53-5	U085

WA-10-05

Diethylarsine.....	Arsine, diethyl-	692-42-2	P038

WA-10-05 Diethylene glycol, dicarbamate	Ethanol, 2,2'-oxybis-, dicarbamate.....	5952-26-1	U395

WA-10-05

1,4-Diethyleneoxide.....	1,4-Dioxane	123-91-1	U108

1410

Diethylhexyl phthalate.....	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	117-81-7	U028

WA-10-05

N,N'-Diethylhydrazine	Hydrazine, 1,2-diethyl-.....	1615-80-1	U086

WA-10-05 O,O-Diethyl S-methyl dithiophosphate	Phosphorodithioic acid, O,O-diethyl S-methyl ester	3288-58-2	U087

WA-10-05 Diethyl-p-nitrophenyl phosphate	Phosphoric acid, diethyl 4-nitrophenyl ester	311-45-5	P041

WA-10-05

Diethyl phthalate.....	1,2-Benzenedicarboxylic acid, diethyl ester	84-66-2	U088

WA-10-05 O,O-Diethyl O-pyrazinyl phosphorothioate	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	297-97-2	P040

Diethylstilbesterol.....	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-	56-53-1	U089

WA-10-05

Dihydrosafrole	1,3-Benzodioxole, 5-propyl-.....	94-58-6	U090

WA-10-05

Diisopropylfluorophosphate (DFP)	Phosphorofluoridic acid, bis(1-methylethyl) ester	55-91-4	P043

WA-10-05 Dimethoate.....	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester	60-51-5	P044

WA-10-05 3,3’-Dimethoxybenzidine ..	[1,1’-Biphenyl]-4,4’-diamine, 3,3’-dimethoxy-	119-90-4	U091

WA-10-05 p-Dimethyl-aminoazobenzene	Benzenamine, N,N-dimethyl-4-(phenylazo)-	60-11-7	U093

WA-10-05 7,12-Dimethyl-benz[a]anthracene	Benz[a]anthracene, 7,12-dimethyl-	57-97-6	U094

WA-10-05

3,3’-Dimethylbenzidine	[1,1’-Biphenyl]-4,4’-diamine, 3,3’-dimethyl-	119-93-7	U095

WA-10-05 Dimethylcarbamoyl chloride	Carbamic chloride, dimethyl-	79-44-7	U097

WA-10-05 1,1-Dimethylhydrazine	Hydrazine, 1,1-dimethyl-.....	57-14-7	U098

WA-10-05 1,2-Dimethylhydrazine	Hydrazine, 1,2-dimethyl-.....	540-73-8	U099

WA-10-05 alpha,alpha-Dimethylphenethylamine	Benzeneethanamine, alpha,alpha-dimethyl-	122-09-8	P046

WA-10-05

2,4-Dimethylphenol	Phenol, 2,4-dimethyl-	105-67-9	U101

WA-10-05

Dimethyl phthalate.....	1,2-Benzenedicarboxylic acid, dimethyl ester	131-11-3	U102

WA-10-05

Dimethyl sulfate.....	Sulfuric acid, dimethyl ester.....	77-78-1	U103

Dimetilan	Carbamic acid, dimethyl-, 1-[(dimethylamino)carbonyl]-5-methyl-1H -pyrazol-3-yl ester	644-64-4	P191

WA-10-05

Dinitrobenzene, N.O.S.[1]	Benzene, dinitro-	25154-54-5	.....

4,6-Dinitro-o-cresol	Phenol, 2-methyl-4,6-dinitro-	534-52-1	P047

WA-10-05

4,6-Dinitro-o-cresol salts ...	.....	.....	P047

WA-10-05

2,4-Dinitrophenol.....	Phenol, 2,4-dinitro-.....	51-28-5	P048

WA-10-05

2,4-Dinitrotoluene.....	Benzene, 1-methyl-2,4-dinitro-	121-14-2	U105

WA-10-05

2,6-Dinitrotoluene.....	Benzene, 2-methyl-1,3-dinitro-	606-20-2	U106

Dinoseb.....	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	88-85-7	P020

WA-10-05

Di-n-octyl phthalate.....	1,2-Benzenedicarboxylic acid, dioctyl ester	117-84-0	U017

WA-10-05

Diphenylamine.....	Benzenamine, N-phenyl-	122-39-4	.....

WA-10-05 1,2-Diphenylhydrazine	Hydrazine, 1,2-diphenyl-.....	122-66-7	U109

WA-10-05

Di-n-propylnitrosamine	1-Propanamine, N-nitroso-N-propyl-	621-64-7	U111

WA-10-05

Disulfiram.....	Thioperoxydicarbonic diamide, tetraethyl-	97-77-8	.....

Disulfoton	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester	298-04-4	P039

Dithiobiuret.....	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$	541-53-7	P049

WA-10-05

Endosulfan	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide	115-29-7	P050

WA-10-05 Endothall.....	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid	145-73-3	P088

Endrin	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha, 6abeta,7beta,7aalpha)-	72-20-8	P051

WA-10-05

Endrin metabolites.....	.....	.....	P051

1450

WA-10-05

Epichlorohydrin	Oxirane, (chloromethyl)-	106-89-8	U041

WA-10-05

Epinephrine.....	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-	51-43-4	P042

WA-10-05

EPTC	Carbamothioic acid, dipropyl-, S-ethyl ester	759-94-4	.....

WA-10-05 Ethyl carbamate (urethane).....	Carbamic acid, ethyl ester.....	51-79-6	U238

WA-10-05

Ethyl cyanide	Propanenitrile.....	107-12-0	P101

WA-10-05

Ethyl methacrylate.....	2-Propenoic acid, 2-methyl-, ethyl ester	97-63-2	U118

WA-10-05

Ethyl methanesulfonate	Methanesulfonic acid, ethyl ester	62-50-0	U119

WA-10-05

Ethyl ziram.....	Zinc, bis(diethylcarbamodithioato-S,S')-	14324-55-1	.....

WA-10-05

Ethylenebisdithiocarbamic acid	Carbamodithioic acid, 1,2-ethanediylbis-	111-54-6	U114

WA-10-05 Ethylenebisdithiocarbamic acid, salts and esters	.....	.....	U114

WA-10-05

Ethylene dibromide.....	Ethane, 1,2-dibromo-.....	106-93-4	U067

WA-10-05

Ethylene dichloride.....	Ethane, 1,2-dichloro-	107-06-2	U077

WA-10-05 Ethylene glycol monoethyl ether	Ethanol, 2-ethoxy-	110-80-5	U359

WA-10-05

Ethyleneimine	Aziridine	151-56-4	P054

WA-10-05

Ethylene oxide	Oxirane	75-21-8	U115

WA-10-05

Ethylenethiourea.....	2-Imidazolidinethione.....	96-45-7	U116

WA-10-05

Ethylidene dichloride.....	Ethane, 1,1-dichloro-	75-34-3	U076

Famphur.....	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester	52-85-7	P097

Ferbam	Iron, tris(dimethylcarbamodithioato-S,S')-	14484-64-1	.....

WA-10-05

Fluoranthene	Same	206-44-0	U120

WA-10-05

Fluorine.....	Same	7782-41-4	P056

WA-10-05

Fluoroacetamide	Acetamide, 2-fluoro-	640-19-7	P057

WA-10-05

Fluoroacetic acid, sodium salt	Acetic acid, fluoro-, sodium salt.....	62-74-8	P058

WA-10-05 Formaldehyde	Same	50-00-0	U122

WA-10-05 Formetanate hydrochloride.....	Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino)carbonyl]oxy]phenyl]-, monohydrochloride	23422-53-9	P198

WA-10-05			
Formic acid	Same	64-18-6	U123

Formparanate	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino)carbonyl]oxy]phenyl]-	17702-57-7	P197

WA-10-05

Glycidylaldehyde.....	Oxiranecarboxyaldehyde.....	765-34-4	U126

WA-10-05 Halomethanes, N.O.S.[1]	.....	.....	.....

1481

WA-10-05 Heptachlor.....	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	76-44-8	P059

WA-10-05

Heptachlor epoxide.....	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aalpha,1bbeta,2alpha,5alpha,5abeta,6beta,6aalpha)-	1024-57-3	.....

WA-10-05 Heptachlor epoxide (alpha, beta and gamma isomers)	.....	.....	.....

WA-10-05 Heptachlorodibenzofurans.....	.....	.....	.....

WA-10-05 Heptachlorodibenzo-p-dioxins	.....	.....	.....

WA-10-05

Hexachlorobenzene.....	Benzene, hexachloro-	118-74-1	U127

WA-10-05

Hexachlorobutadiene	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	87-68-3	U128

WA-10-05 Hexachlorocyclopentadiene	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	77-47-4	U130

WA-10-05 Hexachlorodibenzo-p-dioxins	.....	.....	.....

WA-10-05

Hexachlorodibenzofurans..	.....	.....	.....

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WA-10-05

Hexachloroethane	Ethane, hexachloro-	67-72-1	U131

WA-10-05

Hexachlorophene	Phenol, 2,2'-methylenebis[3,4,6-trichloro-	70-30-4	U132

WA-10-05

Hexachloropropene.....	1-Propene, 1,1,2,3,3,3-hexachloro-	1888-71-7	U243

WA-10-05

Hexaethyl tetraphosphate...	Tetraphosphoric acid, hexaethyl ester	757-58-4	P062

WA-10-05 Hydrazine.....	Same	302-01-2	U133

WA-10-05

Hydrogen cyanide.....	Hydrocyanic acid.....	74-90-8	P063

Hydrogen fluoride.....	Hydrofluoric acid.....	7664-39-3	U134

WA-10-05

Hydrogen sulfide	Hydrogen sulfide H_2S	7783-06-4	U135

WA-10-05 Indeno[1,2,3-cd]pyrene.....	Same	193-39-5	U137

WA-10-05 3-Iodo-2-propynyl n-butylcarbamate	Carbamic acid, butyl-, 3-iodo-2-propynyl ester	55406-53-6	.....

WA-10-05

Isobutyl alcohol	1-Propanol, 2-methyl-.....	78-83-1	U140

Isodrin.....	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-	465-73-6	P060

WA-10-05 Isolan	Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester	119-38-0	P192

WA-10-05

Isosafrole.....	1,3-Benzodioxole, 5-(1-propenyl)-.....	120-58-1	U141

WA-10-05

Kepone.....	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-	143-50-0	U142

Lasiocarpine.....	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-	303-34-4	U143

WA-10-05

Lead	Same	7439-92-1	.....

1508

WA-10-05 Lead compounds, N.O.S.[1]...	.....	.....	.....

1509

WA-10-05

Lead acetate	Acetic acid, lead(2+) salt	301-04-2	U144

WA-10-05

Lead phosphate	Phosphoric acid, lead(2+) salt (2:3).....	7446-27-7	U145

WA-10-05

Lead subacetate.....	Lead, bis(acetato-O)tetrahydroxytri-	1335-32-6	U146

WA-10-05

Lindane	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-	58-89-9	U129

WA-10-05

Maleic anhydride	2,5-Furandione.....	108-31-6	U147

WA-10-05

Maleic hydrazide	3,6-Pyridazinedione, 1,2-dihydro-.....	123-33-1	U148

WA-10-05

Malononitrile	Propanedinitrile	109-77-3	U149

WA-10-05

Manganese dimethyldithiocarbamate	Manganese, bis(dimethylcarbamodithioato-S,S')-	15339-36-3	P196

1517

Melphalan	L-Phenylalanine, 4-[bis(2-chloroethyl)aminol]-	148-82-3	U150

WA-10-05 Mercury	Same	7439-97-6	U151

WA-10-05 Mercury compounds, N.O.S.[1]	.....	.....	.....

WA-10-05

Mercury fulminate	Fulminic acid, mercury(2+) salt	628-86-4	P065

WA-10-05

Metam sodium	Carbamodithioic acid, methyl-, monosodium salt	137-42-8	.....

WA-10-05

Methacrylonitrile	2-Propenenitrile, 2-methyl-.....	126-98-7	U152

WA-10-05

Methapyrilene	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienyl methyl)-	91-80-5	U155

WA-10-05

Methiocarb.....	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate	2032-65-7	P199

WA-10-05

Methomyl.....	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester	16752-77-5	P066

WA-10-05

Methoxychlor.....	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-	72-43-5	U247

WA-10-05

Methyl bromide	Methane, bromo-	74-83-9	U029

WA-10-05

Methyl chloride.....	Methane, chloro-.....	74-87-3	U045

WA-10-05

Methyl chlorocarbonate	Carbonochloridic acid, methyl ester	79-22-1	U156

WA-10-05

Methyl chloroform.....	Ethane, 1,1,1-trichloro-.....	71-55-6	U226

WA-10-05

3-Methylcholanthrene.....	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	56-49-5	U157

WA-10-05 4,4’-Methylenebis(2-chloroaniline)	Benzenamine, 4,4’-methylenebis[2-chloro-	101-14-4	U158

WA-10-05

Methylene bromide.....	Methane, dibromo-	74-95-3	U068

WA-10-05

Methylene chloride	Methane, dichloro-.....	75-09-2	U080

WA-10-05 Methyl ethyl ketone (MEK)	2-Butanone.....	78-93-3	U159

WA-10-05			
Methyl ethyl ketone peroxide	2-Butanone, peroxide.....	1338-23-4	U160

WA-10-05

Methyl hydrazine	Hydrazine, methyl-	60-34-4	P068

Methyl iodide.....	Methane, iodo-.....	74-88-4	U138

Methyl isocyanate.....	Methane, isocyanato-.....	624-83-9	P064

WA-10-05

2-Methyllactonitrile	Propanenitrile, 2-hydroxy-2-methyl-	75-86-5	P069

WA-10-05

Methyl methacrylate	2-Propenoic acid, 2-methyl-, methyl ester	80-62-6	U162

WA-10-05

Methyl methanesulfonate...	Methanesulfonic acid, methyl ester	66-27-3	.....

WA-10-05

Methyl parathion.....	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester	298-00-0	P071

WA-10-05

Methylthiouracil	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-	56-04-2	U164

WA-10-05			
Metolcarb.....	Carbamic acid, methyl-, 3-methylphenyl ester	1129-41-5	P190

WA-10-05 Mexacarbate.....	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)	315-18-4	P128

Mitomycin C.....	Azirino[2’,3’:3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha,8beta,8aalpha,8balpha)]-	50-07-7	U010

WA-10-05

MNNG	Guanidine, N-methyl-N'-nitro-N-nitroso-	70-25-7	U163

WA-10-05

Molinate.....	1H-Azepine-1-carbothioic acid, hexahydro-, S-ethyl ester	2212-67-1	.....

WA-10-05			
Mustard gas.....	Ethane, 1,1’-thiobis[2-chloro-	505-60-2	.....

WA-10-05			
Naphthalene	Same	91-20-3	U165

WA-10-05

1,4-Naphthoquinone	1,4-Naphthalenedione.....	130-15-4	U166

WA-10-05

alpha-Naphthylamine.....	1-Naphthalenamine.....	134-32-7	U167

WA-10-05

beta-Naphthylamine.....	2-Naphthalenamine.....	91-59-8	U168

WA-10-05

alpha-Naphthylthiourea	Thiourea, 1-naphthalenyl-.....	86-88-4	P072

WA-10-05 Nickel.....	Same	7440-02-0	.....

WA-10-05 Nickel compounds, N.O.S.[1]	.....	.....	.....

Nickel carbonyl.....	Nickel carbonyl $Ni(CO)_4$, (T-4)-	13463-39-3	P073

WA-10-05

Nickel cyanide	Nickel cyanide $Ni(CN)_2$.....	557-19-7	P074

1560

Nicotine	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-	54-11-5	P075

WA-10-05

Nicotine salts	.....	.....	P075

1562

WA-10-05

Nitric oxide	Nitrogen oxide NO	10102-43-9	P076

1563

WA-10-05

p-Nitroaniline.....	Benzenamine, 4-nitro-	100-01-6	P077

WA-10-05			
Nitrobenzene.....	Benzene, nitro-.....	98-95-3	U169

WA-10-05

Nitrogen dioxide	Nitrogen oxide NO_2	10102-44-0	P078

WA-10-05

Nitrogen mustard	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-	51-75-2	.....

WA-10-05 Nitrogen mustard, hydrochloride salt	.....	.....	.....

WA-10-05 Nitrogen mustard N-oxide	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-, N-oxide	126-85-2	.....

WA-10-05 Nitrogen mustard, N-oxide, hydrochloride salt	.....	.....	.....

1570

WA-10-05

Nitroglycerin.....	1,2,3-Propanetriol, trinitrate	55-63-0	P081

WA-10-05 p-Nitrophenol.....	Phenol, 4-nitro-.....	100-02-7	U170

WA-10-05 2-Nitropropane.....	Propane, 2-nitro-.....	79-46-9	U171

WA-10-05

Nitrosamines, N.O.S.[1]	.....	.....	.....

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WA-10-05 N-Nitrosodi-n-butylamine	1-Butanamine, N-butyl-N-nitroso-	924-16-3	U172

WA-10-05

N-Nitrosodiethanolamine ..	Ethanol, 2,2’-(nitrosoimino)bis-	1116-54-7	U173

WA-10-05

N-Nitrosodiethylamine	Ethanamine, N-ethyl-N-nitroso-	55-18-5	U174

WA-10-05

N-Nitrosodimethylamine ...	Methanamine, N-methyl-N-nitroso-	62-75-9	P082

WA-10-05

N-Nitroso-N-ethylurea.....	Urea, N-ethyl-N-nitroso-	759-73-9	U176

WA-10-05 N-Nitrosomethylethylamine	Ethanamine, N-methyl-N-nitroso-.....	10595-95-6	.....

WA-10-05

N-Nitroso-N-methylurea....	Urea, N-methyl-N-nitroso-	684-93-5	U177

WA-10-05 N-Nitroso-N-methylurethane	Carbamic acid, methylnitroso-, ethyl ester	615-53-2	U178

WA-10-05

N-Nitrosomethylvinylamine	Vinylamine, N-methyl-N-nitroso-	4549-40-0	P084

WA-10-05 N-Nitrosomorpholine.....	Morpholine, 4-nitroso-.....	59-89-2	.....

WA-10-05

N-Nitrosonornicotine.....	Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)-	16543-55-8	.....

1585

WA-10-05

N-Nitrosopiperidine.....	Piperidine, 1-nitroso-.....	100-75-4	U179

WA-10-05

N-Nitrosopyrrolidine	Pyrrolidine, 1-nitroso-	930-55-2	U180

WA-10-05

N-Nitrososarcosine	Glycine, N-methyl-N-nitroso-	13256-22-9	.....

WA-10-05

5-Nitro-o-toluidine.....	Benzenamine, 2-methyl-5-nitro-.....	99-55-8	U181

WA-10-05 Octachlorodibenzo-p-dioxin (OCDD)	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin.....	.....	.....

WA-10-05 Octachlorodibenzofuran(OCDF)	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	.....	.....

1591

WA-10-05

Octamethylpyrophosphoramide	Diphosphoramide, octamethyl-.....	152-16-9	P085

Osmium tetroxide	Osmium oxide OsO_4, (T-4)-	20816-12-0	P087

Oxamyl	Ethanimidothioc acid, 2-(dimethylamino)-N-[[(methylamino)carbonyl]oxy]-2-oxo-, methyl ester	23135-22-0	P194

WA-10-05			
Paraldehyde.....	1,3,5-Trioxane, 2,4,6-trimethyl-	123-63-7	U182

WA-10-05

Parathion.....	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester	56-38-2	P089

WA-10-05

Pebulate	Carbamothioic acid, butylethyl-, S-propyl ester	1114-71-2	.....

WA-10-05

Pentachlorobenzene	Benzene, pentachloro-	608-93-5	U183

WA-10-05 Pentachlorodibenzo-p-dioxins	.....	.....	.....

WA-10-05

Pentachlorodibenzofurans..	.....	.....	.....

1600

WA-10-05

Pentachloroethane.....	Ethane, pentachloro-.....	76-01-7	U184

WA-10-05			
Pentachloronitrobenzene (PCNB)	Benzene, pentachloronitro-.....	82-68-8	U185

WA-10-05

Pentachlorophenol	Phenol, pentachloro-.....	87-86-5	See F027

WA-10-05 Phenacetin.....	Acetamide, N-(4-ethoxyphenyl)-.....	62-44-2	U187

WA-10-05			
Phenol	Same	108-95-2	U188

WA-10-05

Phenylenediamine.....	Benzenediamine.....	25265-76-3	.....

1606

Phenylmercury acetate.....	Mercury, (acetato-O)phenyl-	62-38-4	P092

WA-10-05

Phenylthiourea	Thiourea, phenyl-.....	103-85-5	P093

WA-10-05

Phosgene.....	Carbonic dichloride	75-44-5	P095

WA-10-05			
Phosphine.....	Same	7803-51-2	P096

1610

Phorate	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	298-02-2	P094

WA-10-05 Phthalic acid esters, N.O.S.[1]	.....	.....	.....

WA-10-05

Phthalic anhydride	1,3-Isobenzofurandione	85-44-9	U190

Physostigmine.....	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-	57-47-6	P204

Physostigmine salicylate....	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1)	57-64-7	P188

WA-10-05 2-Picoline.....	Pyridine, 2-methyl-.....	109-06-8	U191

WA-10-05 Polychlorinated biphenyls, N.O.S.[1]	.....	.....	.....

WA-10-05

Potassium cyanide	Potassium cyanide K(CN)	151-50-8	P098

WA-10-05 Potassium dimethyldithiocarbamate	Carbamodithioc acid, dimethyl-, potassium salt	128-03-0	.....

WA-10-05 Potassium n-hydroxymethyl-n-methyldithiocarbamate	Carbamodithioic acid, (hydroxymethyl)methyl-, monopotassium salt	51026-28-9	.....

WA-10-05 Potassium n-methyldithiocarbamate	Carbamodithioc acid, methyl-, monopotassium salt	137-41-7	.....

WA-10-05 Potassium pentachlorophenate	Pentachlorophenol, potassium salt.....	7778-73-6	None

WA-10-05

Potassium silver cyanide....	Argentate(1-), bis(cyano-C)-, potassium	506-61-6	P099

WA-10-05

Promecarb.....	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate	2631-37-0	P201

WA-10-05 Pronamide.....	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	23950-58-5	U192

WA-10-05

1,3-Propane sultone	1,2-Oxathiolane, 2,2-dioxide	1120-71-4	U193

WA-10-05 n-Propylamine.....	1-Propanamine.....	107-10-8	U194

WA-10-05

Propargyl alcohol.....	2-Propyn-1-ol.....	107-19-7	P102

WA-10-05			
Propham.....	Carbamic acid, phenyl-, 1-methylethyl ester	122-42-9	U373

WA-10-05

Propoxur	Phenol, 2-(1-methylethoxy)-, methylcarbamate	114-26-1	U411

WA-10-05

Propylene dichloride.....	Propane, 1,2-dichloro-	78-87-5	U083

WA-10-05

1,2-Propylenimine	Aziridine, 2-methyl-	75-55-8	P067

WA-10-05

Propylthiouracil	4(1H)-Pyrimidinone, 2,3-dihydro-6-propyl-2-thioxo-	51-52-5	.....

WA-10-05

Prosulfocarb.....	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester	52888-80-9	U387

WA-10-05 Pyridine.....	Same	110-86-1	U196

Reserpine	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-	50-55-5	U200

WA-10-05			
Resorcinol	1,3-Benzenediol	108-46-3	U201

WA-10-05

Saccharin.....	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide	81-07-2	U202

WA-10-05

Saccharin salts	.....	.....	U202

WA-10-05

Safrole.....	1,3-Benzodioxole, 5-(2-propenyl)-.....	94-59-7	U203

WA-10-05 Selenium	Same	7782-49-2	.....

WA-10-05 Selenium compounds, N.O.S.[1]	.....	.....	.....

WA-10-05

Selenium dioxide	Selenious acid	7783-00-8	U204

WA-10-05

Selenium sulfide	Selenium sulfide SeS_2.....	7488-56-4	U205

WA-10-05 Selenium, tetrakis(dimethyldithiocarbamate)	Carbamodithioic acid, dimethyl-, tetraanhydrosulfide with orthothioselenious acid	144-34-3	.....

WA-10-05 Selenourea.....	Same	630-10-4	P103

WA-10-05

Silver.....	Same	7440-22-4	.....

WA-10-05 Silver compounds, N.O.S.[1]	.....	.....	.....

WA-10-05

Silver cyanide	Silver cyanide Ag(CN)	506-64-9	P104

Silvex (2,4,5-TP)	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	93-72-1	See F027

WA-10-05

Sodium cyanide	Sodium cyanide Na(CN).....	143-33-9	P106

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WA-10-05 Sodium dibutyldithiocarbamate	Carbamodithioic acid, dibutyl-, sodium salt.....	136-30-1	.....

WA-10-05 Sodium diethyldithiocarbamate	Carbamodithioic acid, diethyl-, sodium salt	148-18-5	.....

WA-10-05 Sodium dimethyldithiocarbamate	Carbamodithioic acid, dimethyl-, sodium salt..	128-04-1	.....

WA-10-05 Sodium pentachlorophenate	Pentachlorophenol, sodium salt.....	131-52-2	None

Streptozotocin.....	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)carbonyl]amino]-	18883-66-4	U206

WA-10-05

Strychnine	Strychnidin-10-one	57-24-9	P108

WA-10-05

Strychnine salts.....	.....		P108

1658

WA-10-05 Sulfallate.....	Carbamodithioic acid, diethyl-, 2-chloro-2-propenyl ester	95-06-7	.....

WA-10-05

TCDD	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro- ..	1746-01-6	.....

WA-10-05 Tetrabutylthiuram disulfide	Thioperoxydicarbonic diamide, tetrabutyl-	1634-02-2	.....

WA-10-05 1,2,4,5-Tetrachlorobenzene	Benzene, 1,2,4,5-tetrachloro-.....	95-94-3	U207

WA-10-05 Tetrachlorodibenzo-p-dioxins	.....	.....	.....

WA-10-05

Tetrachlorodibenzofurans ..	.....	.....	.....

1664

WA-10-05 Tetrachloroethane, N.O.S.[1]	Ethane, tetrachloro-, N.O.S.	25322-20-7	

WA-10-05 1,1,1,2-Tetrachloroethane..	Ethane, 1,1,1,2-tetrachloro-	630-20-6	U208

WA-10-05 1,1,2,2-Tetrachloroethane..	Ethane, 1,1,2,2-tetrachloro-	79-34-5	U209

WA-10-05

Tetrachloroethylene	Ethene, tetrachloro-	127-18-4	U210

WA-10-05

2,3,4,6-Tetrachlorophenol .	Phenol, 2,3,4,6-tetrachloro-	58-90-2	See F027

WA-10-05 2,3,4,6-Tetrachlorophenol, potassium salt	same	53535-27-6	None

WA-10-05 2,3,4,6-Tetrachlorophenol, sodium salt	same	25567-55-9	None

WA-10-05

Tetraethyldithiopyrophosphate	Thiodiphosphoric acid, tetraethyl ester.....	3689-24-5	P109

WA-10-05

Tetraethyl lead	Plumbane, tetraethyl-.....	78-00-2	P110

WA-10-05

Tetraethyl pyrophosphate ..	Diphosphoric acid, tetraethyl ester	107-49-3	P111

WA-10-05 Tetramethylthiuram monosulfide	Bis(dimethylthiocarbamoyl) sulfide	97-74-5	.....

WA-10-05

Tetranitromethane.....	Methane, tetranitro-	509-14-8	P112

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WA-10-05 Thallium.....	Same	7440-28-0	.....

WA-10-05 Thallium compounds, N.O.S.[1]	.....	.....	.....

WA-10-05

Thallic oxide	Thallium oxide Tl_2O_3	1314-32-5	P113

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WA-10-05

Thallium(I) acetate.....	Acetic acid, thallium(1+) salt	563-68-8	U214

Thallium(I) carbonate	Carbonic acid, dithallium(1+) salt	6533-73-9	U215

WA-10-05

Thallium(I) chloride.....	Thallium chloride TlCl	7791-12-0	U216

WA-10-05

Thallium(I) nitrate	Nitric acid, thallium(1+) salt	10102-45-1	U217

WA-10-05

Thallium selenite	Selenious acid, dithallium(1+) salt	12039-52-0	P114

WA-10-05

Thallium(I) sulfate.....	Sulfuric acid, dithallium(1+) salt.....	7446-18-6	P115

WA-10-05

Thioacetamide.....	Ethanethioamide	62-55-5	U218

WA-10-05

Thiodicarb.....	Ethanimidothioic acid, N,N'-[thiobis[(methylimino)carbonyloxy]] bis-, dimethyl ester	59669-26-0	U410

WA-10-05

Thiofanox.....	2-Butanone, 3,3-dimethyl-1-(methylthio)-, 0-[(methylamino)carbonyl] oxime	39196-18-4	P045

WA-10-05

Thiomethanol.....	Methanethiol.....	74-93-1	U153

WA-10-05

Thiophanate-methyl.....	Carbamic acid, [1,2-phenylenebis(iminocarbonothioyl)]bis-, dimethyl ester	23564-05-8	U409

WA-10-05

Thiophenol.....	Benzenethiol	108-98-5	P014

WA-10-05

Thiosemicarbazide.....	Hydrazinecarbothioamide.....	79-19-6	P116

WA-10-05 Thiourea.....	Same	62-56-6	U219

WA-10-05

Thiram	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-	137-26-8	U244

Tirpate.....	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino) carbonyl] oxime	26419-73-8	P185

WA-10-05

Toluene	Benzene, methyl-	108-88-3	U220

Toluenediamine	Benzenediamine, ar-methyl-.....	25376-45-8	U221

WA-10-05

Toluene-2,4-diamine.....	1,3-Benzenediamine, 4-methyl-.....	95-80-7	.....

WA-10-05

Toluene-2,6-diamine.....	1,3-Benzenediamine, 2-methyl-.....	823-40-5	.....

WA-10-05

Toluene-3,4-diamine.....	1,2-Benzenediamine, 4-methyl-.....	496-72-0	.....

WA-10-05

Toluene diisocyanate	Benzene, 1,3-diisocyanatomethyl-.....	26471-62-5	U223

WA-10-05

o-Toluidine	Benzenamine, 2-methyl-.....	95-53-4	U328

WA-10-05 o-Toluidine hydrochloride.....	Benzenamine, 2-methyl-, hydrochloride	636-21-5	U222

WA-10-05

p-Toluidine	Benzenamine, 4-methyl-.....	106-49-0	U353

WA-10-05			
Toxaphene.....	Same	8001-35-2	P123

WA-10-05 Triallate.....	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester	2303-17-5	U389

WA-10-05

1,2,4-Trichlorobenzene.....	Benzene, 1,2,4-trichloro-.....	120-82-1	.....

WA-10-05

1,1,2-Trichloroethane	Ethane, 1,1,2-trichloro-.....	79-00-5	U227

WA-10-05

Trichloroethylene.....	Ethene, trichloro-.....	79-01-6	U228

WA-10-05

Trichloromethanethiol	Methanethiol, trichloro-.....	75-70-7	P118

WA-10-05 Trichloromonofluoromethane	Methane, trichlorofluoro-	75-69-4	U121

WA-10-05

2,4,5-Trichlorophenol.....	Phenol, 2,4,5-trichloro-.....	95-95-4	See F027

WA-10-05

2,4,6-Trichlorophenol.....	Phenol, 2,4,6-trichloro-.....	88-06-2	See F027

WA-10-05

2,4,5-T	Acetic acid, (2,4,5-trichlorophenoxy)-	93-76-5	See F027

WA-10-05 Trichloropropane, N.O.S.[1]	.....	25735-29-9	.....

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WA-10-05

1,2,3-Trichloropropane.....	Propane, 1,2,3-trichloro-.....	96-18-4	.....

WA-10-05

Triethylamine.....	Ethanamine, N,N-diethyl-.....	121-44-8	U404

WA-10-05 O,O,O-Triethyl phosphorothioate	Phosphorothioic acid, O,O,O-triethyl ester	126-68-1	.....

WA-10-05 1,3,5-Trinitrobenzene	Benzene, 1,3,5-trinitro-.....	99-35-4	U234

WA-10-05 Tris(1-aziridinyl)phosphine sulfide	Aziridine, 1,1’,1”-phosphinothioylidynetris-....	52-24-4	.....

WA-10-05 Tris(2,3-dibromopropyl) phosphate	1-Propanol, 2,3-dibromo-, phosphate (3:1)	126-72-7	U235

Trypan blue.....	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'diyl)bis(azo)]bis[5-amino-4-hydroxy-, tetrasodium salt	72-57-1	U236

Uracil mustard	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-	66-75-1	U237

WA-10-05

Vanadium pentoxide.....	Vanadium oxide V_2O_5	1314-62-1	P120

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WA-10-05

Vernolate.....	Carbamothioc acid, dipropyl-, S-propyl ester	1929-77-7	.....

WA-10-05

Vinyl chloride	Ethene, chloro-.....	75-01-4	U043

WA-10-05

Warfarin.....	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations less than 0.3%	81-81-2	U248

WA-10-05 Warfarin.....	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations greater than 0.3%	81-81-2	P001

WA-10-05 Warfarin salts, when present at concentrations less than 0.3%	.....	.....	U248

WA-10-05 Warfarin salts, when present at concentrations greater than 0.3%	.....	.....	P001

WA-10-05

Zinc cyanide.....	Zinc cyanide $Zn(CN)_2$.....	557-21-1	P121

1731

WA-10-05

Zinc phosphide.....	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10%	1314-84-7	P122

1732

WA-10-05

Zinc phosphide.....	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less	1314-84-7	U249

Ziram	Zinc, bis(dimethylcarbamodithioato-S,S')-, (T-4)-	137-30-4	P205

[1] The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in this appendix.

CHAPTER NR 662
HAZARDOUS WASTE GENERATOR STANDARDS

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Subchapter A —General

NR 662.010 Purpose, scope and applicability. (1) This chapter establishes standards for generators of hazardous waste.

(2) Section NR 662.220(2) and (3) shall be used to determine the applicability of provisions of subchs. A to V that are dependent on calculations of the quantity of hazardous waste generated per month.

(3) A generator who treats, stores or disposes of hazardous waste on-site shall only comply with s. NR 662.011 for determining whether or not the generator has a hazardous waste, s. NR 662.012 for obtaining an EPA identification number, s. NR 662.034 or 662.192 for accumulation of hazardous waste, s. NR 662.040 (3) and (4) for recordkeeping, s. NR 662.043 for additional reporting and if applicable, s. NR 662.070 for farmers, with respect to that waste.

(4) Any person who exports or imports hazardous waste, subject to the manifesting requirements of subchs. A to S or the universal waste management standards of ch. NR 673, to or from the countries listed in s. NR 662.058(1)(a) for recovery, shall comply with subch. H.

(5) Any person who imports hazardous waste into the United States shall comply with the standards applicable to generators established in subchs. A to S.

(6) A farmer who generates waste pesticides which are hazardous waste and who complies with all of the requirements of s. NR 662.070 is not required to comply with other standards in subchs. A to V or ch. NR 670, 664, 665 or 668 with respect to the pesticides.

(7) A person who generates a hazardous waste as defined by ch. NR 661 is subject to the compliance requirements and penalties prescribed in ch. 291, Stats., if that person does not comply with the requirements of subchs. A to V.

(8) An owner or operator who initiates a shipment of hazardous waste from a treatment, storage or disposal facility shall comply with the generator standards established in subchs. A to V.

(9) Persons responding to an explosives or munitions emergency in accordance with ss. NR 664.0001(7)(h)1.d. or 4. or 665.0001(3)(k)1.d. or 4. and 670.001(3)(c)1.d. or 3. are not required to comply with the standards of subchs. A to V.

Note: The provisions of s. NR 662.034, 662.192 or 662.220 are applicable to the on-site accumulation of hazardous waste by generators. Therefore, the provisions of s. NR 662.034, 662.192 or 662.220 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.

Note: A generator who treats, stores or disposes of hazardous waste on-site shall comply with the applicable standards and license requirements in chs. NR 664, 665, 666, 668 and 670.

NR 662.011 Hazardous waste determination. A person who generates a solid waste, as defined in s. NR 661.02, shall determine if that waste is a hazardous waste using the following method:

(1) The person may first determine if the waste is excluded from regulation under s. NR 661.04.

(2) The person shall then determine if the waste is listed as a hazardous waste in subch. D (lists of hazardous wastes) of ch. NR 661.

Note: Even if the waste is listed, the generator still has an opportunity under s. NR 660.22 to demonstrate to the EPA that the waste from the generator's particular facility or operation is not a hazardous waste.

(3) For purposes of compliance with ch. NR 668, or if the waste is not listed in subch. D (lists of hazardous wastes) of ch. NR 661, the generator shall then determine whether the waste is identified in subch. C (characteristics of hazardous waste) of ch. NR 661 by any of the following:

(a) Testing the waste according to the methods set forth in subch. C (characteristics of hazardous waste) of ch. NR 661, or according to an equivalent method approved by the department under s. NR 660.21.

1. Chemical and physical samples shall be analyzed by a laboratory certified or registered under ch. NR 149, except for field analyses for pH, specific conductance and temperature.

(b) Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

(4) If the waste is determined to be hazardous, the generator shall refer to chs. NR 661, 664, 665, 666, 668 and 673 for possible exclusions or restrictions pertaining to management of the specific waste.

NR 662.012 EPA identification numbers. (1) A generator may not treat, store, dispose of, transport or offer for transportation, hazardous waste without having received an EPA identification number from the department, another authorized state or EPA.

(2) A generator who has not received an EPA identification number may obtain one by applying to the department using EPA form 8700-12. Upon receiving the request, the department will assign an EPA identification number to the generator.

Note: See s. NR 660.07 for information on obtaining EPA form 8700-12.

(3) A generator may not offer hazardous waste to transporters or to treatment, storage or disposal facilities that have not received an EPA identification number.

Subchapter B —Manifest

NR 662.020 General requirements. (1) A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage or disposal shall prepare a manifest as follows:

(a) If s. NR 662.021 requires use of a Wisconsin manifest, use the Wisconsin manifest form 4400-66P according to the instructions on the back of the form.

(b) If the EPA manifest continuation form 8700-22A is used, complete the form according to the instructions in the appendix to 40 CFR part 262 and include the following additional information:

1. The state manifest document number.
2. The hazardous waste number corresponding to the name of the waste being shipped.

(c) If s. NR 662.021 requires use of another state's manifest, use the other state's manifest forms according to that state's manifest instructions and include the additional information required in par. (b)1. and 2.

Note: The Wisconsin manifest form 4400-66P may be obtained from the department by E-mail: waste.management@dnr.state.wi.us.wi.us, phone (608) 266-2111 or Fax (608) 267-2768.

(2) A generator shall designate on the manifest one facility which is licensed or permitted to handle the waste described on the manifest.

(3) A generator may also designate on the manifest one alternate facility which is licensed or permitted to handle the generator's waste in the event an emergency prevents delivery of the waste to the primary designated facility.

(4) If the transporter is unable to deliver the hazardous waste to the designated facility or the alternate facility, the generator shall either designate another facility or instruct the transporter to return the waste.

Note: A conditional manifest exemption for hazardous waste produced by small quantity generators is in s. NR 662.191.

(6) The requirements of this subchapter and s. NR 662.032(2) do not apply to the transport of hazardous wastes on a public or private right-of-way within or along the border of contiguous property under the control of the same person, even if the contiguous property is divided by a public or private right-of-way. Notwithstanding s. NR 663.10(1), the generator or transporter shall comply with the requirements for transporters in ss. NR 663.30 and 663.31 in the event of a discharge of hazardous waste on a public or private right-of-way.

NR 662.021 Acquisition of manifests. (1) If the state to which the shipment is manifested (consignment state) is Wisconsin, then the generator shall use the Wisconsin manifest.

(2) If the consignment state is other than Wisconsin and that state supplies the manifest and requires its use, then the generator shall use that state's manifest.

(3) If the consignment state is other than Wisconsin and does not supply the manifest, and the generator is located in Wisconsin, then the generator shall use the Wisconsin manifest.

NR 662.022 Number of copies. The manifest consists of at least the number of copies which will provide the generator, each transporter, the owner or operator of the designated facility, and a copy to be returned to the generator.

NR 662.023 Use of the manifest. (1) The generator shall do all of the following:

(a) Sign the manifest certification by hand.

(b) Obtain the handwritten signature of the initial transporter and date of acceptance on the manifest.

(c) Retain one copy, in accordance with s. NR 662.040(1) or 662.193(1)(a).

(2) The generator shall give the transporter the remaining copies of the manifest.

(3) For shipments of hazardous waste outside of Wisconsin, the generator shall submit a copy of each manifest to the department within 30 days of receiving the signed copy from the designated facility.

(4) For shipments of hazardous waste within the United States solely by water (bulk shipments only), the generator shall send 3 copies of the manifest dated and signed in accordance with this section to the owner or operator of the designated facility or the last water (bulk shipment) transporter to handle the waste in the United States if exported by water. Copies of the manifest are not required for each transporter.

(5) For rail shipments of hazardous waste within the United States which originate at the site of generation, the generator shall send at least 3 copies of the manifest dated and signed in accordance with this section to any of the following:

(a) The next non-rail transporter, if any.

(b) The designated facility if transported solely by rail.

(c) The last rail transporter to handle the waste in the United States if exported by rail.

(6) For shipments of hazardous waste to a designated facility in an authorized state which has not yet obtained authorization to regulate that particular waste as hazardous, the generator shall assure that the designated facility agrees to sign and return the manifest to the generator, and that any out-of-state transporter signs and forwards the manifest to the designated facility.

Note: See s. NR 663.20(5) and (6) for special provisions for rail or water (bulk shipment) transporters.

Subchapter C —Pre-Transport

NR 662.030 Packaging. Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator shall package the waste in accordance with the applicable U.S. department of transportation regulations on packaging under 49 CFR parts 173, 178 and 179.

NR 662.031 Labeling. Before transporting or offering hazardous waste for transportation off-site, a generator shall label each package in accordance with the applicable U.S. department of transportation regulations on hazardous materials under 49 CFR part 172.

NR 662.032 Marking. (1) Before transporting or offering hazardous waste for transportation off-site, a generator shall mark each package of hazardous waste in accordance with the applicable U.S. department of transportation regulations on hazardous materials under 49 CFR part 172.

(2) Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator shall mark each container of 110 gallons or less used in the transportation with the following words and information displayed in accordance with the requirements of 49 CFR 172.304:

"HAZARDOUS WASTE—State and Federal Law Prohibit Improper Disposal. If found, contact the nearest police or public safety authority, state emergency management, state department of natural resources or the U.S. Environmental Protection Agency.

Generator's Name and Address_____.

Manifest Document Number_____."

NR 662.033 Placarding. Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator shall placard or offer the initial transporter the appropriate placards according to U.S. department of transportation regulations for hazardous materials under 49 CFR part 172, subpart F.

NR 662.034 Accumulation. (1) NINETY-DAY ACCUMULATION TIME. Except as provided in s. NR 662.192(1), (2) and (3), a generator may accumulate hazardous waste on-site for 90 days or less without an operating license or interim license, provided that all of the following requirements are met:

(a) The waste is placed as follows:

1. In containers and the generator complies with the applicable requirements of subchs. I (containers), AA (air emission standards for process vents), BB (air emission standards for equipment leaks) and CC (air emission standards for tanks, surface impoundments and containers) of ch. NR 665.

2. In tanks and the generator complies with the applicable requirements of subchs. J (tank systems), AA (air emission standards for process vents), BB (air emission standards for equipment leaks) and CC (air emission standards for tanks, surface impoundments and containers) of ch. NR 665 except ss. NR 665.0197(3) and 665.0200.

3. On drip pads and the generator complies with subch. W (drip pads) of ch. NR 665 and maintains all of the following records at the facility:

a. A description of procedures that will be followed to ensure that all wastes are removed from the drip pad and associated collection system at least once every 90 days.

b. Documentation of each waste removal, including the quantity of waste removed from the drip pad and the sump or collection system and the date and time of removal.

4. In containment buildings and the generator complies with subch. DD (containment buildings) of ch. NR 665 and has placed the professional engineer certification that the building complies with the design standards specified in s. NR 665.1101 in the facility's operating record no later than 60 days after the date of initial operation of the unit. After the effective date of this subdivision . . . . [revisor inserts date], PE certification will be required prior to operation of the unit. The owner or operator shall maintain any of the following records at the facility:

a. A written description of procedures to ensure that each waste volume remains in the unit for no more than 90 days, a written description of the waste generation and management practices for the facility showing that they are consistent with respecting the 90 day limit and documentation that the procedures are complied with.

b. Documentation that the unit is emptied at least once every 90 days. In addition, the generator is exempt from all of the requirements in subchs. G (closure and long-term care) and H (financial requirements) of ch. NR 665, except for ss. NR 665.0111 and 665.0114.

(b) The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container.

(c) While being accumulated on-site, each container and tank is labeled or marked clearly with the words, ”Hazardous Waste”.

(d) The generator complies with the requirements for owners or operators in subchs. C (preparedness and prevention) and D (contingency plan and emergency procedures) of ch. NR 665 and ss. NR 665.0016 and 668.07(1)(e).

(2) STORAGE FACILITY LICENSING AND ACCUMULATION TIME EXTENSION. A generator who accumulates hazardous waste for more than 90 days is an operator of a storage facility and is subject to the requirements of chs. NR 664 and 665 and the license requirements of ch. NR 670 unless the generator has been granted an extension to the 90-day period. The department may grant an extension if hazardous wastes must remain on-site for longer than 90 days due to unforeseen, temporary and uncontrollable circumstances. An extension of up to 30 days may be granted at the discretion of the department on a case-by-case basis.

(3) SATELLITE ACCUMULATION. (a) A generator may accumulate as much as 55 gallons of hazardous waste or one quart of acutely hazardous waste listed in s. NR 661.33(5) in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without an operating license or interim license and without complying with sub. (1) provided the generator does all of the following:

1. Complies with ss. NR 665.0171, 665.0172 and 665.0173(1).

2. Marks the containers either with the words ”Hazardous Waste” or with other words that identify the contents of the containers.

(b) A generator who accumulates either hazardous waste or acutely hazardous waste listed in s. NR 661.33(5) in excess of the amounts listed in par. (a) at or near any point of generation shall, with respect to that amount of excess waste, comply within 3 days with sub. (1) or other applicable provisions of chs. NR 660 to 673. During the 3-day period the generator shall continue to comply with par. (a)1. and 2. The generator shall mark the container holding the excess accumulation of hazardous waste with the date the excess amount began accumulating.

Note: Special accumulation requirements for small quantity generators are in s. NR 662.192.

(7) F006 WASTEWATER TREATMENT SLUDGES – 180-DAY ACCUMULATION TIME. A generator who generates 1,000 kilograms (2,205 pounds) or greater of hazardous waste per calendar month who also generates wastewater treatment sludges from electroplating operations that meet the listing description for the hazardous waste code F006, may accumulate F006 waste on-site for more than 90 days, but not more than 180 days without an operating license or interim license provided that all of the following conditions are met:

(a) The generator has implemented pollution prevention practices that reduce the amount of any hazardous substances, pollutants or contaminants entering F006 or otherwise released to the environment prior to its recycling.

(b) The F006 waste is legitimately recycled through metals recovery.

(c) No more than 20,000 kilograms (44,100 pounds) of F006 waste is accumulated on-site at any one time.

(d) The F006 waste is managed in accordance with all of the following:

1. The F006 waste is placed:

a. In containers and the generator complies with the applicable requirements of subchs. I (containers), AA (air emission standards for process vents), BB (air emission standards for equipment leaks) and CC (air emission standards for tanks, surface impoundments and containers) of ch. NR 665.

b. In tanks and the generator complies with the applicable requirements of subchs. J (tank systems), AA (air emission standards for process vents), BB (air emission standards for equipment leaks) and CC (air emission standards for tanks, surface impoundments and containers) of ch. NR 665, except ss. NR 665.0197(3) and 665.0200.

c. In containment buildings and the generator complies with subch. DD (containment buildings) of ch. NR 665, and has placed the professional engineer certification that the building complies with the design standards specified in s. NR 665.1101 in the facility's operating record prior to operation of the unit. The owner or operator shall maintain any of the following records at the facility:

1) A written description of procedures to ensure that the F006 waste remains in the unit for no more than 180 days, a written description of the waste generation and management practices for the facility showing that they are consistent with the 180-day limit and documentation that the generator is complying with the procedures.

2) Documentation that the unit is emptied at least once every 180 days.

2. In addition, such a generator is exempt from all the requirements in subchs. G (closure and long-term care) and H (financial requirements) of ch. NR 665, except for ss. NR 665.0111 and 665.0114.

3. The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container.

4. While being accumulated on-site, each container and tank is labeled or marked clearly with the words, "Hazardous Waste".

5. The generator complies with the requirements for owners or operators in subchs. C (preparedness and prevention) and D (contingency plan and emergency procedures) of ch. NR 665 and ss. NR 665.0016 and 668.07(1)(e).

(8) F006 WASTEWATER TREATMENT SLUDGES – 270-DAY ACCUMULATION TIME. A generator who generates 1,000 kilograms (2,205 pounds) or greater of hazardous waste per calendar month who also generates wastewater treatment sludges from electroplating operations that meet the listing description for the hazardous waste code F006, and who must transport this waste, or offer this waste for transportation, over a distance of 200 miles or more for off-site metals recovery, may accumulate F006 waste on-site for more than 90 days, but not more than 270 days without an operating license or interim license if the generator complies with the requirements of sub. (7)(a) to (d).

(9) F006 WASTEWATER TREATMENT SLUDGES – STORAGE FACILITY LICENSING, ACCUMULATION TIME EXTENSION AND ACCUMULATION LIMIT EXCEPTION. A generator accumulating F006 in accordance with subs. (7) and (8) who accumulates F006 waste on-site for more than 180 days (or for more than 270 days if the generator must transport this waste, or offer this waste for transportation, over a distance of 200 miles or more), or who accumulates more than 20,000 kilograms (44,100 pounds) of F006 waste on-site is an operator of a storage facility and is subject to the requirements of chs. NR 664 and 665 and the license requirements of ch. NR 670 unless the generator has been granted an extension to the 180-day (or 270-day if applicable) period or an exception to the 20,000 kilogram (44,100 pound) accumulation limit. Extensions and exceptions may be granted by the department if F006 waste must remain on-site for longer than 180 days (or 270 days if applicable) or if more than 20,000 kilograms (44,100 pounds) of F006 waste must remain on-site due to unforeseen, temporary and uncontrollable circumstances. An extension of up to 30 days or an exception to the accumulation limit may be granted at the discretion of the department on a case-by-case basis.

Subchapter D —Recordkeeping and Reporting

NR 662.040 Recordkeeping. (1) A generator shall keep a copy of each manifest signed in accordance with s. NR 662.023(1) for 3 years or until the generator receives a signed copy from the designated facility which received the waste. This signed copy shall be retained as a record for at least 3 years from the date the waste was accepted by the initial transporter.

(2) A generator shall keep a copy of each annual report and exception report for a period of at least 3 years from the due date of the report.

(3) A generator shall keep records of any test results, waste analyses or other determinations made in accordance with s. NR 662.011 for at least 3 years from the date that the waste was last sent to on-site or off-site treatment, storage or disposal.

(4) The periods or retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the department.

NR 662.041 Annual report. (1) A generator who ships any hazardous waste off-site to a treatment, storage or disposal facility within the United States shall prepare and submit a single copy of an annual report to the department by March 1 of each year. The annual report shall be submitted on department forms and cover generator activities during the previous year.

(2) Each annual report shall include all of the following information:

(a) The EPA identification number, name and address of the generator.

(b) The calendar year covered by the report.

(c) The certification signed by the generator or authorized representative.

(d) The generator fee worksheet to determine the environmental repair fee that shall be paid to the department as specified in s. 289.67(2), Stats.

(3) Each annual report for odd numbered years shall include the following information:

(a) The information in sub. (2) (a) to (d).

(b) The EPA identification number, name and address for each off-site treatment, storage or disposal facility in the United States to which waste was shipped during the year.

(c) The name and EPA identification number of each transporter used during the reporting year for shipments to a treatment, storage or disposal facility within the United States.

(d) A description, EPA hazardous waste number (from subch. C or D of ch. NR 661), U.S. department of transportation hazard class and quantity of each hazardous waste shipped off-site for shipments to a treatment, storage or disposal facility within the United States. This information shall be listed by EPA identification number of each off-site facility to which waste was shipped.

(e) A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.

(f) A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent the information is available for years prior to 1987.

Note: The annual report forms may be obtained at:

http://dnr.wi.gov/org/aw/air/emission/crs/index.htm, or by E-mail: .wi.us, phone (608) 266-2111 or Fax: (608) 267-2768

(4) Any generator who treats, stores or disposes of hazardous waste on-site shall submit an annual report covering those wastes in accordance with the provisions of chs. NR 670, 664, 665 and 666. Reporting for exports of hazardous waste is not required on the annual report form. A separate annual report requirement is set forth at s. NR 662.056.

NR 662.042 Exception reporting. (1) A generator of greater than 1,000 kilograms (2,205 pounds) of hazardous waste in a calendar month who does not receive a copy of the manifest with the handwritten

signature of the owner or operator of the designated facility within 35 days of the date the waste was accepted by the initial transporter shall contact the transporter or the owner or operator of the designated facility to determine the status of the hazardous waste.

(2) A generator of greater than 1,000 kilograms (2,205 pounds) of hazardous waste in a calendar month shall submit an exception report to the department if the generator has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 45 days of the date the waste was accepted by the initial transporter. The exception report shall include all of the following:

(a) A legible copy of the manifest for which the generator does not have confirmation of delivery.

(b) A cover letter signed by the generator or an authorized representative explaining the efforts taken to locate the hazardous waste and the results of those efforts.

Note: The exception reporting requirement for small quantity generators is in s. NR 662.193(2)

NR 662.043 Additional reporting. The department may require generators to furnish additional reports concerning the quantities and disposition of wastes identified or listed in ch. NR 661.

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Note: Special recordkeeping and reporting requirements for small quantity generators are in s. NR 662.193.

Subchapter E —Exports

Note: The export requirements on which this subchapter is based (40 CFR part 262, subpart E) are administered by EPA and not the department because the exercise of foreign relations and international commerce powers is reserved to the federal government under the U.S. Constitution. Wisconsin has adopted these requirements into its rules for the convenience of the regulated community and for completeness. The enforcement of the 40 CFR part 262, subpart E requirements remains EPA's responsibility even though Wisconsin has adopted these requirements into its rules. The 40 CFR part 262, subpart E requirements apply to only those wastes identified or listed under the federal program that are subject to federal manifesting requirements

NR 662.050 Applicability. This subchapter establishes requirements applicable to exports of hazardous waste. Except to the extent s. NR 662.058 provides otherwise, a primary exporter of hazardous waste shall comply with the special requirements of this subchapter and a transporter transporting hazardous waste for export shall comply with applicable requirements of ch. NR 663. Section NR 662.058 sets forth the requirements of international agreements between the United States and receiving countries which establish different notice, export and enforcement procedures for the transportation, treatment, storage and disposal of hazardous waste for shipments between the United States and those countries.

NR 662.051 Definitions. The following definitions apply to this subchapter:

(1) "Consignee" means the ultimate treatment, storage or disposal facility in a receiving country to which the hazardous waste will be sent.

(2) "EPA acknowledgment of consent" means the cable sent to EPA from the U.S. embassy in a receiving country that acknowledges the written consent of the receiving country to accept the hazardous waste and describes the terms and conditions of the receiving country's consent to the shipment.

(3) "Primary exporter" means any person who is required to originate the manifest for a shipment of hazardous waste in accordance with 40 CFR part 262, subpart B, or equivalent provision in subch. B, which specifies a treatment, storage or disposal facility in a receiving country as the facility to which the hazardous waste will be sent and any intermediary arranging for the export.

(4) "Receiving country" means a foreign country to which a hazardous waste is sent for the purpose of treatment, storage or disposal (except short-term storage incidental to transportation).

(5) "Transit country" means any foreign country, other than a receiving country, through which a hazardous waste is transported.

NR 662.052 General requirements. Exports of hazardous waste are prohibited except in compliance with the applicable requirements of this subchapter and 40 CFR part 263. Exports of hazardous waste are prohibited unless all of the following conditions have been met:

(1) Notification in accordance with s. NR 662.053 has been provided.

(2) The receiving country has consented to accept the hazardous waste.

(3) A copy of the EPA acknowledgment of consent to the shipment accompanies the hazardous waste shipment and, unless exported by rail, is attached to the manifest (or shipping paper for exports by water (bulk shipment)).

(4) The hazardous waste shipment conforms to the terms of the receiving country's written consent as reflected in the EPA acknowledgment of consent.

NR 662.053 Notification of intent to export. (1) A primary exporter of hazardous waste shall notify EPA of an intended export before the waste is scheduled to leave the United States. A complete notification may be submitted 60 days before the initial shipment is intended to be shipped off site. This notification may cover export activities extending over a 12-month or lesser period. The notification shall be in writing, signed by the primary exporter, and include all of the following information:

(a) Name, mailing address, telephone number and EPA ID number of the primary exporter.

(b) By consignee, for each hazardous waste type, all of the following:

1. A description of the hazardous waste and the EPA hazardous waste number (from 40 CFR part 261, subparts C and D), U.S. DOT proper shipping name, hazard class and ID number (UN or NA) for each hazardous waste as identified in 49 CFR parts 171 to 177.

2. The estimated frequency or rate at which the waste is to be exported and the period of time over which the waste is to be exported.

3. The estimated total quantity of the hazardous waste in units as specified in Table II of the appendix to 40 CFR part 262.

4. All points of entry to and departure from each foreign country through which the hazardous waste will pass.

5. A description of the means by which each shipment of the hazardous waste will be transported (e.g., mode of transportation vehicle (including air, highway, rail or water), type of container (such as drums, boxes and tanks)).

6. A description of the manner in which the hazardous waste will be treated, stored or disposed of in the receiving country (e.g., land or ocean incineration, other land disposal, ocean dumping, recycling).

7. The name and site address of the consignee and any alternate consignee.

8. The name of any transit countries through which the hazardous waste will be sent and a description of the approximate length of time the hazardous waste will remain in the country and the nature of its handling while there.

(2) Notifications submitted by mail may be sent to:

Office of Enforcement and Compliance Assurance
Office of Compliance; Enforcement Planning, Targeting and Data Division (2222A)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

Hand-delivered notifications may be sent to:

Office of Enforcement and Compliance Assurance
Office of Compliance; Enforcement Planning, Targeting and Data Division (2222A)
U.S. Environmental Protection Agency
Ariel Rios Bldg., 12th St. and Pennsylvania Ave., NW

In both cases, the following shall be prominently displayed on the front of the envelope: ”Attention: Notification of Intent to Export.”

(3) Except for changes to the telephone number in sub. (1)(a), changes to sub. (1)(b)5. and decreases in the quantity indicated pursuant to sub. (1)(b)3. when the conditions specified on the original notification change (including any exceedance of the estimate of the quantity of hazardous waste specified in the original notification), the primary exporter shall provide EPA with a written renotification of the change. The shipment cannot take place until consent of the receiving country to the changes (except for changes to sub. (1)(b)8. and in the ports of entry to and departure from transit countries pursuant to sub. (1)(b)4.) has been obtained and the primary exporter receives an EPA acknowledgment of consent reflecting the receiving country’s consent to the changes.

(4) Upon request by EPA, a primary exporter shall furnish to EPA any additional information which a receiving country requests in order to respond to a notification.

(5) In conjunction with the U.S. department of state, EPA will provide a complete notification to the receiving country and any transit countries. A notification is complete when EPA receives a notification which EPA determines satisfies the requirements of sub. (1). Where a claim of confidentiality is asserted with respect to any notification information required by sub. (1), EPA may find the notification not complete until any claim is resolved in accordance with 40 CFR 260.2.

(6) Where the receiving country consents to the receipt of the hazardous waste, EPA will forward an EPA acknowledgment of consent to the primary exporter for purposes of 40 CFR 262.54(h). Where the receiving country objects to receipt of the hazardous waste or withdraws a prior consent, EPA will notify the primary exporter in writing. EPA will also notify the primary exporter of any responses from transit countries.

NR 662.054 Special manifest requirements. A primary exporter shall comply with the manifest requirements of 40 CFR 262.20 to 262.23 except for all of the following:

(1) In lieu of the name, site address and EPA ID number of the designated permitted facility, the primary exporter shall enter the name and site address of the consignee.

(2) In lieu of the name, site address and EPA ID number of a permitted alternate facility, the primary exporter may enter the name and site address of any alternate consignee.

(3) In special handling instructions and additional information, the primary exporter shall identify the point of departure from the United States.

(4) The following statement shall be added to the end of the first sentence of the certification set forth in item 16 of the uniform hazardous waste manifest form: ”and conforms to the terms of the attached EPA acknowledgment of consent”.

(5) In lieu of the requirements of 40 CFR 262.21, the primary exporter shall obtain the manifest form from the primary exporter’s state if that state supplies the manifest form and requires its use. If the primary exporter’s state does not supply the manifest form, the primary exporter may obtain a manifest form from any source.

(6) The primary exporter shall require the consignee to confirm in writing the delivery of the hazardous waste to that facility and to describe any significant discrepancies (as defined in 40 CFR 264.72(a)) between the manifest and the shipment. A copy of the manifest signed by the facility may be used to confirm delivery of the hazardous waste.

(7) In lieu of the requirements of 40 CFR 262.20(d), where a shipment cannot be delivered for any reason to the designated or alternate consignee, the primary exporter shall take the action required by pars. (a) or (b) and (c):

(a) Renotify EPA of a change in the conditions of the original notification to allow shipment to a new consignee in accordance with s. NR 662.053(3) and obtain an EPA acknowledgment of consent prior to delivery.

(b) Instruct the transporter to return the waste to the primary exporter in the United States or designate another facility within the United States.

(c) Instruct the transporter to revise the manifest in accordance with the primary exporter's instructions.

(8) The primary exporter shall attach a copy of the EPA acknowledgment of consent to the shipment to the manifest which shall accompany the hazardous waste shipment. For exports by rail or water (bulk shipment), the primary exporter shall provide the transporter with an EPA acknowledgment of consent which shall accompany the hazardous waste but which need not be attached to the manifest except that for exports by water (bulk shipment) the primary exporter shall attach the copy of the EPA acknowledgment of consent to the shipping paper.

(9) The primary exporter shall provide the transporter with an additional copy of the manifest for delivery to the U.S. customs official at the point the hazardous waste leaves the United States in accordance with 40 CFR 263.20(g)(4).

NR 662.055 Exception reports. In lieu of the requirements of 40 CFR 262.42, a primary exporter shall file an exception report with the EPA administrator if any of the following occurs:

(1) The primary exporter has not received a copy of the manifest signed by the transporter stating the date and place of departure from the United States within 45 days from the date it was accepted by the initial transporter.

(2) Within 90 days from the date the waste was accepted by the initial transporter, the primary exporter has not received written confirmation from the consignee that the hazardous waste was received.

(3) The waste is returned to the United States.

NR 662.056 Annual reports. (1) Primary exporters of hazardous waste shall file with the EPA administrator no later than March 1 of each year, a report summarizing the types, quantities, frequency and ultimate destination of all hazardous waste exported during the previous calendar year. The reports shall include the following:

(a) The EPA identification number, name and mailing and site address of the exporter.

(b) The calendar year covered by the report.

(c) The name and site address of each consignee.

(d) By consignee, for each hazardous waste exported, a description of the hazardous waste, the EPA hazardous waste number (from 40 CFR part 261, subpart C or D), U.S. DOT hazard class, the name and U.S. EPA ID number (where applicable) for each transporter used, the total amount of waste shipped and number of shipments pursuant to each notification.

(e) Except for hazardous waste produced by exporters of greater than 100 kg (220 pounds) but less than 1,000 kg (2,205 pounds) in a calendar month, unless provided pursuant to 40 CFR 262.41, in even numbered years, all of the following:

1. A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.

2. A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent the information is available for years prior to 1984.

(f) A certification signed by the primary exporter which states:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

(2) Annual reports submitted by mail may be sent to:

Office of Enforcement and Compliance Assurance

WA-10-05

Office of Compliance; Enforcement Planning, Targeting and Data Division (2222A)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

Hand-delivered reports may be sent to:

Office of Enforcement and Compliance Assurance
Office of Compliance; Enforcement Planning, Targeting and Data Division (2222A)
U.S. Environmental Protection Agency
Ariel Rios Bldg., 12th St. and Pennsylvania Ave., NW
Washington, DC

NR 662.057 Recordkeeping. (1) For all exports a primary exporter shall do all of the following:

(a) Keep a copy of each notification of intent to export for a period of at least 3 years from the date the hazardous waste was accepted by the initial transporter.

(b) Keep a copy of each EPA acknowledgment of consent for a period of at least 3 years from the date the hazardous waste was accepted by the initial transporter.

(c) Keep a copy of each confirmation of delivery of the hazardous waste from the consignee for at least 3 years from the date the hazardous waste was accepted by the initial transporter.

(d) Keep a copy of each annual report for a period of at least 3 years from the due date of the report.

(2) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the EPA administrator.

NR 662.058 International agreements. (1) Any person who exports or imports hazardous waste subject to the manifest requirements of subchs. A to S or the universal waste management standards of ch. NR 673, to or from designated member countries of the Organization for Economic Cooperation and Development (OECD) as defined in par. (a) for purposes of recovery is subject to subch. H. The requirements of this subchapter and subch. F do not apply.

(a) For the purposes of this subchapter, the designated OECD countries consist of Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom and the United States.

(b) For the purposes of this subchapter, Canada and Mexico are considered OECD member countries only for the purpose of transit.

(2) Any person who exports hazardous waste to or imports hazardous waste from a designated OECD member country for purposes other than recovery (e.g., incineration, disposal), Mexico (for any purpose), or Canada (for any purpose) remains subject to the requirements of this subchapter and subch. F.

Subchapter F —Imports

Note: The import requirements on which this subchapter is based (40 CFR part 262, subpart F) are administered by EPA and not the department because the exercise of foreign relations and international commerce powers is reserved to the federal government under the U.S. Constitution. Wisconsin has adopted these requirements into its rules for the convenience of the regulated community and for completeness. The enforcement of the 40 CFR part 262, subpart F requirements remains EPA's responsibility even though Wisconsin has adopted these requirements into its rules. Wisconsin plays a key role in providing EPA with information on whether Wisconsin facilities designated to receive hazardous waste imports are authorized to manage specific wastes and in ensuring facility compliance with all applicable environmental laws and rules. The 40 CFR part 262, subpart F requirements apply to only those wastes identified or listed under the federal program that are subject to federal manifesting requirements.

NR 662.060 Imports. (1) Any person who imports hazardous waste from a foreign country into the United States shall comply with the requirements of subchs. A to E and G to S and the special requirements of this subchapter.

(2) When importing hazardous waste, a person shall meet all the requirements of s. NR 662.020(1) for the manifest except for all of the following:

(a) In place of the generator's name, address and EPA identification number, the name and address of the foreign generator and the importer's name, address and EPA identification number shall be used.

(b) In place of the generator's signature on the certification statement, the U.S. importer or an agent shall sign and date the certification and obtain the signature of the initial transporter.

(3) A person who imports hazardous waste shall obtain the manifest form from the consignment state if the state supplies the manifest and requires its use. If the consignment state does not supply the manifest form, then the manifest form may be obtained from any source.

Subchapter G —Farmers

NR 662.070 Farmers. A farmer disposing of waste pesticides from the farmer's own use which are hazardous wastes is not required to comply with the standards in subchs. A to V or other standards in ch. NR 664, 665, 668 or 670 for those wastes provided the farmer triple rinses each emptied pesticide container in accordance with s. NR 661.07(2)(c) and disposes of the pesticide residues on the farmer's own farm in a manner consistent with the disposal instructions on the pesticide label.

Subchapter H —Transfrontier Shipments for Recovery within the OECD

Note: The requirements on which this subchapter is based (40 CFR part 262, subpart H) are administered by EPA and not the department because the exercise of foreign relations and international commerce powers is reserved to the federal government under the U.S. Constitution. Wisconsin has adopted these requirements into its rules for the convenience of the regulated community and for completeness. The enforcement of the 40 CFR part 262, subpart H requirements remains EPA's responsibility even though Wisconsin has adopted these requirements into its rules. Wisconsin plays a key role in providing EPA with information on whether Wisconsin facilities designated to receive hazardous waste imports are authorized to manage specific wastes and in ensuring facility compliance with all applicable environmental laws and rules. The 40 CFR part 262, subpart H requirements apply to only those wastes identified or listed under the federal program that are subject to federal manifesting requirements.

NR 662.080 Applicability. (1) The requirements of this subchapter apply to imports and exports of wastes that are considered hazardous under U.S. national procedures and are destined for recovery operations in the countries listed in s. NR 662.058(1)(a). A waste is considered hazardous under U.S. national procedures if it meets the federal definition of hazardous waste in 40 CFR 261.3 and it is subject to either the manifesting requirements of subpart B, except as required by s. NR 662.220 (5)(f) and (6)(f), and s. NR 662.191 or the universal waste management standards of ch. NR 673.

(2) Any person (notifier, consignee or recovery facility operator) who mixes 2 or more wastes (including hazardous and non-hazardous wastes) or otherwise subjects 2 or more wastes (including hazardous and non-hazardous wastes) to physical or chemical transformation operations, and thereby creates a new hazardous waste, becomes a generator and assumes all subsequent generator duties under RCRA and any notifier duties, if applicable, under this subchapter.

NR 662.081 Definitions. The following definitions apply to this subchapter:

(1) "Competent authorities" means the regulatory authorities of concerned countries having jurisdiction over transfrontier movements of wastes destined for recovery operations.

(2) "Concerned countries" means the exporting and importing OECD member countries and any OECD member countries of transit.

(3) ”Consignee” means the person to whom possession or other form of legal control of the waste is assigned at the time the waste is received in the importing country.

(4) ”Country of transit” means any designated OECD country in s. NR 662.058(1)(a) and (b) other than the exporting or importing country across which a transfrontier movement of wastes is planned or takes place.

(5) ”Exporting country” means any designated OECD member country in s. NR 662.058(1)(a) from which a transfrontier movement of wastes is planned or has commenced.

(6) ”Importing country” means any designated OECD country in s. NR 662.058(1)(a) to which a transfrontier movement of wastes is planned or takes place for the purpose of submitting the wastes to recovery operations there.

(7) ”Notifier” means the person under the jurisdiction of the exporting country who has, or will have at the time the planned transfrontier movement commences, possession or other forms of legal control of the wastes and who proposes their transfrontier movement for the ultimate purpose of submitting them to recovery operations. When the United States (U.S.) is the exporting country, notifier is interpreted to mean a person domiciled in the U.S.

(8) ”OECD area” means all land or marine areas under the national jurisdiction of any designated OECD member country in s. NR 662.058. When the rules refer to shipments to or from an OECD country, this means OECD area.

(9) ”Recognized trader” means a person who, with appropriate authorization of concerned countries, acts in the role of principal to purchase and subsequently sell wastes. This person has legal control of the wastes from time of purchase to time of sale. Such a person may act to arrange and facilitate transfrontier movements of wastes destined for recovery operations.

(10) ”Recovery facility” means an entity which, under applicable domestic law, is operating or is authorized to operate in the importing country to receive wastes and to perform recovery operations on them.

(11) ”Recovery operations” means activities leading to resource recovery, recycling, reclamation, direct re-use or alternative uses as listed in Table 2.B of the Annex of OECD Council Decision C(88)90(Final) of 27 May 1988, (available from the Environmental Protection Agency, RCRA Information Center (RIC), 1235 Jefferson-Davis Highway, first floor, Arlington, VA 22203 (Docket # F-94-IEHF-FFFFF) and the Organisation for Economic Co-operation and Development, Environment Direcorate, 2 rue Andre Pascal, 75775 Paris Cedex 16, France) which include:

R1 Use as a fuel (other than in direct incineration) or other means to generate energy

R2 Solvent reclamation or regeneration

R3 Recycling or reclamation of organic substances which are not used as solvents

R4 Recycling or reclamation of metals and metal compounds

R5 Recycling or reclamation of other inorganic materials

R6 Regeneration of acids or bases

R7 Recovery of components used for pollution control

R8 Recovery of components from catalysts

R9 Used oil re-refining or other reuses of previously used oil

R10 Land treatment resulting in benefit to agriculture or ecological improvement

R11 Uses of residual materials obtained from any of the operations numbered R1-R10

R12 Exchange of wastes for submission to any of the operations numbered R1-R11

R13 Accumulation of material intended for any operation in Table 2.B

(12) ”Transfrontier movement” means any shipment of wastes destined for recovery operations from an area under the national jurisdiction of one OECD member country to an area under the national jurisdiction of another OECD member country.

NR 662.082 General conditions. (1) SCOPE. The level of control for exports and imports of waste is indicated by assignment of the waste to a green, amber or red list and by U.S. national procedures as defined in s. NR 662.080(1). The green, amber and red lists are incorporated by reference in s. NR 662.089 (5).

(a) Wastes on the green list are subject to existing controls normally applied to commercial transactions, except as follows:

1. Green-list wastes that are considered hazardous under U.S. national procedures are subject to amber-list controls.

2. Green-list wastes that are sufficiently contaminated or mixed with amber-list wastes, such that the waste or waste mixture is considered hazardous under U.S. national procedures, are subject to amber-list controls.

3. Green-list wastes that are sufficiently contaminated or mixed with other wastes subject to red-list controls such that the waste or waste mixture is considered hazardous under U.S. national procedures shall be handled in accordance with the red-list controls.

(b) Wastes on the amber list that are considered hazardous under U.S. national procedures as defined in s. NR 662.080(1) are subject to the amber-list controls of this subchapter. If amber-list wastes are sufficiently contaminated or mixed with other wastes subject to red-list controls such that the waste or waste mixture is considered hazardous under U.S. national procedures, the wastes shall be handled in accordance with the red-list controls.

(c) Wastes on the red list that are considered hazardous under U.S. national procedures as defined in s. NR 662.080(1) are subject to the red-list controls of this subchapter.

Note: Some wastes on the amber or red lists are not listed or otherwise identified as hazardous under RCRA (e.g., polychlorinated biphenyls) and therefore are not subject to the amber- or red-list controls of this subchapter. Regardless of the status of the waste under RCRA, however, other federal environmental statutes (e.g., the toxics substances control act) may restrict certain waste imports or exports. The restrictions continue to apply without regard to this subchapter.

(d) Wastes not yet assigned to a list are eligible for transfrontier movements, as follows:

1. If the wastes are considered hazardous under U.S. national procedures as defined in s. NR 662.080(1), the wastes are subject to the red-list controls.

2. If the wastes are not considered hazardous under U.S. national procedures as defined in s. NR 662.080(1), the wastes may move as though they appeared on the green list.

(2) GENERAL CONDITIONS APPLICABLE TO TRANSFRONTIER MOVEMENTS OF HAZARDOUS WASTE. (a) The waste shall be destined for recovery operations at a facility that, under applicable domestic law, is operating or is authorized to operate in the importing country.

(b) The transfrontier movement shall be in compliance with applicable international transport agreements.

Note: These international agreements include, but are not limited to, the Chicago Convention (1944), ADR (1957), ADNR (1970), MARPOL Convention (1973 or 1978), SOLAS Convention (1974), IMDG Code (1985), COTIF (1985) and RID (1985).

(c) Any transit of waste through a non-OECD member country shall be conducted in compliance with all applicable international and national laws and regulations.

(3) PROVISIONS RELATING TO RE-EXPORT FOR RECOVERY TO A THIRD COUNTRY. (a) Re-export of wastes subject to the amber-list control system from the U.S., as the importing country, to a third country listed in s. NR 662.058(1)(a) may occur only after a notifier in the U.S. provides notification to and obtains consent of the competent authorities in the third country, the original exporting country and new transit countries. The notification shall comply with the notice and consent procedures in s. NR 662.083 for all concerned countries and the original exporting country. The competent authorities of the original exporting country as well as the competent authorities of all other concerned countries have 30 days to object to the proposed movement.

1. The 30-day period begins once the competent authorities of both the initial exporting country and new importing country issue acknowledgments of receipt of the notification.

2. The transfrontier movement may commence if no objection has been lodged after the 30-day period has passed or immediately after written consent is received from all relevant OECD importing and transit countries.

(b) Re-export of waste subject to the red-list control system from the original importing country to a third country listed in s. NR 662.058(1)(a) may occur only following notification of the competent authorities of the third country, the original exporting country and new transit countries by a notifier in the original importing country in accordance with s. NR 662.083. The transfrontier movement may not proceed until receipt by the original importing country of written consent from the competent authorities of the third country, the original exporting country and new transit countries.

(c) In the case of re-export of amber or red-list wastes to a country other than those in s. NR 662.058(1)(a), notification to and consent of the competent authorities of the original OECD member country of export and any OECD member countries of transit is required as specified in pars. (a) and (b) in addition to compliance with all international agreements and arrangements to which the first importing OECD member country is a party and all applicable regulatory requirements for exports from the first importing country.

NR 662.083 Notification and consent. (1) APPLICABILITY. Consent shall be obtained from the competent authorities of the relevant OECD importing and transit countries prior to exporting hazardous waste destined for recovery operations subject to this subchapter. Hazardous wastes subject to amber-list controls are subject to the requirements of sub. (2), hazardous wastes subject to red-list controls are subject to the requirements of sub. (3) and wastes not identified on any list are subject to the requirements of sub. (4).

(2) AMBER-LIST WASTES. The export from the U.S. of hazardous wastes as described in s. NR 662.080(1) that appear on the amber list is prohibited unless the notification and consent requirements of par. (a) or (b) are met.

(a) Transactions requiring specific consent shall meet the following requirements:

1. 'Notification.' At least 45 days prior to commencement of the transfrontier movement, the notifier shall provide written notification in English of the proposed transfrontier movement to:

Office of Enforcement and Compliance Assurance
Office of Compliance; Enforcement Planning, Targeting and Data Division (2222A)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

with the words "Attention: OECD Export Notification" prominently displayed on the envelope. This notification shall include all of the information identified in sub. (5). In cases where wastes having similar physical and chemical characteristics, the same United Nations classification and the same RCRA waste

codes are to be sent periodically to the same recovery facility by the same notifier, the notifier may submit one notification of intent to export these wastes in multiple shipments during a period of up to one year.

2. 'Tacit consent.' If no concerned country (i.e., exporting, importing or transit countries) lodges an objection to a notification provided pursuant to subd. 1. within 30 days after the date of issuance of the acknowledgment of receipt of notification by the competent authority of the importing country, the transfrontier movement may commence. Tacit consent expires one calendar year after the close of the 30-day period. Renotification and renewal of all consents is required for exports after that date.

3. 'Written consent.' If the competent authorities of all the relevant OECD importing and transit countries provide written consent in a period less than 30 days, the transfrontier movement may commence immediately after all necessary consents are received. Written consent expires for each relevant OECD importing and transit country one calendar year after the date of that country's consent unless otherwise specified. Renotification and renewal of each expired consent is required for exports after that date.

(b) Shipments to facilities pre-approved by the competent authorities of the importing countries to accept specific wastes for recovery shall meet the following requirements:

1. 'Notification.' The notifier shall provide EPA the information identified in sub. (5) in English, at least 10 days in advance of commencing shipment to a pre-approved facility. The notification may indicate that the recovery facility is pre-approved, and may apply to a single specific shipment or to multiple shipments as described in par. (a)1.. This information shall be sent to:

Office of Enforcement and Compliance Assurance
Office of Compliance; Enforcement Planning, Targeting and Data Division (2222A)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

with the words "OECD Export Notification—Pre-approved Facility" prominently displayed on the envelope.

2. 'Tacit consent' Shipments may commence after the notification required in par. (a)1. has been received by the competent authorities of all concerned countries, unless the notifier has received information indicating that the competent authorities of one or more concerned country objects to the shipment.

(3) RED-LIST WASTES. The export from the U.S. of hazardous wastes as described in s. NR 662.080(1) that appear on the red list is prohibited unless notice is given pursuant to sub. (2)(a)1. and the notifier receives written consent from the importing country and any transit countries prior to commencement of the transfrontier movement.

4) UNLISTED WASTES. Wastes not assigned to the green, amber or red list that are considered hazardous under U.S. national procedures as defined in s. NR 662.080(1) are subject to the notification and consent requirements established for red-list wastes in accordance with sub. (3). Unlisted wastes that are not considered hazardous under U.S. national procedures as defined in s. NR 662.080(1) are not subject to amber or red controls when exported or imported.

(5) NOTIFICATION INFORMATION. Notifications submitted under this section shall include all of the following:

(a) Serial number or other accepted identifier of the notification form.

(b) Notifier name, EPA identification number (if applicable), address and telephone and telefax numbers.

(c) Importing recovery facility name, address, telephone and telefax numbers and technologies employed.

(d) Consignee name (if not the owner or operator of the recovery facility), address and telephone and telefax numbers; whether the consignee will engage in waste exchange or storage prior to delivering the waste to the final recovery facility and identification of recovery operations to be employed at the final recovery facility.

(e) Intended transporters or their agents.

(f) Country of export and relevant competent authority, and point of departure.

(g) Countries of transit and relevant competent authorities, and points of entry and departure.

(h) Country of import and relevant competent authority, and point of entry.

(i) Statement of whether the notification is a single notification or a general notification. If general, include period of validity requested.

(j) Date foreseen for commencement of transfrontier movement.

(k) Designation of waste type from the appropriate list (amber or red and waste list code), descriptions of each waste type, estimated total quantity of each, RCRA waste code and United Nations number for each waste type.

(L)Certification and declaration signed by the notifier that states:

I certify that the above information is complete and correct to the best of my knowledge. I also certify that legally-enforceable written contractual obligations have been entered into, and that any applicable insurance or other financial guarantees are or shall be in force covering the transfrontier movement.

Name: _____
Signature: _____
Date: _____

Note: The U.S. does not currently require financial assurance. However, U.S. exporters may be asked by other governments to provide and certify to the assurance as a condition of obtaining consent to a proposed movement.

NR 662.084 Tracking document. (1) All U.S. parties subject to the contract provisions of s. NR 662.085 shall ensure that a tracking document meeting the conditions of sub. (2) accompanies each transfrontier shipment of wastes subject to amber-list or red-list controls from the initiation of the shipment until it reaches the final recovery facility, including cases in which the waste is stored or exchanged by the consignee prior to shipment to the final recovery facility, except as provided in pars. (a) and (b).

(a) For shipments of hazardous waste within the U.S. solely by water (bulk shipments only) the generator shall forward the tracking document with the manifest to the last water (bulk shipment) transporter to handle the waste in the U.S. if exported by water (in accordance with the manifest routing procedures at s. NR 662.023(3)).

(b) For rail shipments of hazardous waste within the U.S. which originate at the site of generation, the generator shall forward the tracking document with the manifest (in accordance with the routing procedures for the manifest in s. NR 662.023(4)) to the next non-rail transporter, if any, or the last rail transporter to handle the waste in the U.S. if exported by rail.

(2) The tracking document shall include all information required under s. NR 662.083 (for notification), and the following:

(a) Date shipment commenced.

(b) Name (if not notifier), address and telephone and telefax numbers of primary exporter.

(c) Company name and EPA ID number of all transporters.

(d) Identification (license, registered name or registration number) of means of transport, including types of packaging.

(e) Any special precautions to be taken by transporters.

(f) Certification and declaration signed by notifier that no objection to the shipment has been lodged as follows:

WA-10-05

I certify that the above information is complete and correct to the best of my knowledge. I also certify that legally-enforceable written contractual obligations have been entered into, that any applicable insurance or other financial guarantees are or shall be in force covering the transfrontier movement, and that:

1. All necessary consents have been received; OR
2. The shipment is directed at a recovery facility within the OECD area and no objection has been received from any of the concerned countries within the 30 day tacit consent period; OR
3. The shipment is directed at a recovery facility pre-authorized for that type of waste within the OECD area; such an authorization has not been revoked, and no objection has been received from any of the concerned countries.

(delete sentences that are not applicable)

Name: _____
Signature: _____
Date: _____

(g) Appropriate signatures for each custody transfer (e.g., transporter, consignee and owner or operator of the recovery facility).

(3) Notifiers also shall comply with the special manifest requirements of s. NR 662.054(1), (2), (3), (5) and (9) and consignees shall comply with the import requirements of subch. F.

(4) Each U.S. person that has physical custody of the waste from the time the movement commences until it arrives at the recovery facility shall sign the tracking document (e.g., transporter, consignee and owner or operator of the recovery facility).

(5) Within 3 working days of the receipt of imports subject to this subchapter, the owner or operator of the U.S. recovery facility shall send signed copies of the tracking document to the notifier, to the:

Office of Enforcement and Compliance Assurance
Office of Compliance; Enforcement Planning, Targeting and Data Division (2222A)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

and to the competent authorities of the exporting and transit countries.

NR 662.085 Contracts. (1) Transfrontier movements of hazardous wastes subject to amber or red control procedures are prohibited unless they occur under the terms of a valid written contract, chain of contracts or equivalent arrangements (when the movement occurs between parties controlled by the same corporate or legal entity). The contracts or equivalent arrangements shall be executed by the notifier and the owner or operator of the recovery facility, and shall specify responsibilities for each. Contracts or equivalent arrangements are valid for the purposes of this section only if persons assuming obligations under the contracts or equivalent arrangements have appropriate legal status to conduct the operations specified in the contract or equivalent arrangement.

(2) Contracts or equivalent arrangements shall specify the name and EPA ID number, where available, of all of the following:

(a) The generator of each type of waste.
(b) Each person who will have physical custody of the wastes.
(c) Each person who will have legal control of the wastes.
(d) The recovery facility.

(3) Contracts or equivalent arrangements shall specify which party to the contract will assume responsibility for alternate management of the wastes if its disposition cannot be carried out as described in the notification of intent to export. In those cases, contracts shall specify that:

(a) The person having actual possession or physical control over the wastes will immediately inform the notifier and the competent authorities of the exporting and importing countries and, if the wastes are located in a country of transit, the competent authorities of that country.

(b) The person specified in the contract will assume responsibility for the adequate management of the wastes in compliance with applicable laws and regulations including, if necessary, arranging their return to the original country of export.

(4) Contracts shall specify that the consignee will provide the notification required in s. NR 662.082(3) prior to re-export of controlled wastes to a third country.

(5) Contracts or equivalent arrangements shall include provisions for financial guarantees, if required by the competent authorities of any concerned country, in accordance with applicable national or international law requirements.

Note: Financial guarantees so required are intended to provide for alternate recycling, disposal or other means of sound management of the wastes in cases where arrangements for the shipment and the recovery operations cannot be carried out as foreseen. The U.S. does not require financial guarantees at this time; however, some OECD countries do. It is the responsibility of the notifier to ascertain and comply with those requirements. In some cases, transporters or consignees may refuse to enter into the necessary contracts absent specific references or certifications to financial guarantees.

(6) Contracts or equivalent arrangements shall contain provisions requiring each contracting party to comply with all applicable requirements of this subchapter.

(7) Upon request by EPA, U.S. notifiers, consignees or recovery facilities shall submit to EPA copies of contracts, chain of contracts or equivalent arrangements (when the movement occurs between parties controlled by the same corporate or legal entity). Information contained in the contracts or equivalent arrangements for which a claim of confidentiality is asserted in accordance with 40 CFR 2.203(b) shall be treated as confidential and shall be disclosed by EPA only as provided in 40 CFR 260.2.

Note: Although the U.S. does not require routine submission of contracts at this time, OECD Council Decision C(92)39/FINAL allows members to impose those requirements. When other OECD countries require submission of partial or complete copies of the contract as a condition to granting consent to proposed movements, EPA will request the required information. Absent submission of the information, some OECD countries may deny consent for the proposed movement.

NR 662.086 Provisions relating to recognized traders. (1) A recognized trader who takes physical custody of a waste and conducts recovery operations (including storage prior to recovery) is acting as the owner or operator of a recovery facility and shall be so authorized in accordance with all applicable federal laws.

(2) A recognized trader acting as a notifier or consignee for transfrontier shipments of waste shall comply with all the requirements of this subchapter associated with being a notifier or consignee.

NR 662.087 Reporting and recordkeeping. (1) ANNUAL REPORTS. For all waste movements subject to this subchapter, persons (e.g., notifiers, recognized traders) who meet the definition of primary exporter in s. NR 662.051 shall file an annual report with the:

Office of Enforcement and Compliance Assurance
Office of Compliance; Enforcement Planning, Targeting and Data Division (2222A)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

no later than March 1 of each year summarizing the types, quantities, frequency and ultimate destination of all of the hazardous waste exported during the previous calendar year. (If the primary exporter is required to file an annual report for waste exports that are not covered under this subchapter, the primary exporter may include all export information in one report provided the following information on exports of waste destined for recovery within the designated OECD member countries is contained in a separate section.) The reports shall include all of the following:

(a) The EPA identification number, name and mailing and site address of the notifier filing the report.

(b) The calendar year covered by the report.

(c) The name and site address of each final recovery facility.

(d) By final recovery facility, for each hazardous waste exported, a description of the hazardous waste, the EPA hazardous waste number (from 40 CFR part 261, subpart C or D), designation of waste type from OECD waste list and applicable waste code from the OECD lists, U.S. DOT hazard class, the name and U.S. EPA identification number (where applicable) for each transporter used, the total amount of hazardous waste shipped pursuant to this subchapter and number of shipments pursuant to each notification.

(e) In even numbered years, for each hazardous waste exported, except for hazardous waste produced by exporters of greater than 100 kg (220 pounds) but less than 1,000 kg (2,205 pounds) in a calendar month, and except for hazardous waste for which information was already provided pursuant to s. NR 662.041, all of the following:

1. A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.

2. A description of the changes in volume and toxicity of the waste actually achieved during the year in comparison to previous years to the extent the information is available for years prior to 1984.

(f) A certification signed by the person acting as primary exporter that states:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

(2) EXCEPTION REPORTS. Any person who meets the definition of primary exporter in s. NR 662.051 shall file an exception report in lieu of the requirements of ss. NR 662.042 and 662.193(2) with the EPA administrator if any of the following occurs:

(a) The primary exporter has not received a copy of the tracking documentation signed by the transporter stating point of departure of the waste from the United States, within 45 days from the date it was accepted by the initial transporter.

(b) Within 90 days from the date the waste was accepted by the initial transporter, the notifier has not received written confirmation from the recovery facility that the hazardous waste was received.

(c) The waste is returned to the United States.

(3) RECORDKEEPING. (a) Persons who meet the definition of primary exporter in s. NR 662.051 shall keep all of the following records:

1. A copy of each notification of intent to export and all written consents obtained from the competent authorities of concerned countries for a period of at least 3 years from the date the hazardous waste was accepted by the initial transporter.

2. A copy of each annual report for a period of at least 3 years from the due date of the report.

3. A copy of any exception reports and a copy of each confirmation of delivery (i.e., tracking documentation) sent by the recovery facility to the notifier for at least 3 years from the date the hazardous waste was accepted by the initial transporter or received by the recovery facility, whichever is applicable.

(b) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the EPA administrator.

NR 662.089 OECD waste lists. (1) For the purposes of this subchapter, a waste is considered hazardous under U.S. national procedures, and hence subject to this subchapter, if all of the following are true:

(a) The waste meets the federal definition of hazardous waste in 40 CFR 261.3.

(b) The waste is subject to the manifesting requirements of subch. B, except as required by s. NR 662.220(5)(f) and (6)(f), 662.191 or the universal waste management standards of ch. NR 673.

(2) If a waste is hazardous under sub. (1) and it appears on the amber or red list, it is subject to amber- or red-list requirements respectively.

(3) If a waste is hazardous under sub. (1) and it does not appear on either amber or red lists, it is subject to red-list requirements.

(4) The appropriate control procedures for hazardous wastes and hazardous waste mixtures are addressed in s. NR 662.082.

(5) The OECD Green List of Wastes (revised May 1994), Amber List of Wastes and Red List of Wastes (both revised May 1993) as set forth in Appendix 3, Appendix 4 and Appendix 5, respectively, to the OECD Council Decision C(92)39/FINAL (Concerning the Control of Transfrontier Movements of Wastes Destined for Recovery Operations) are incorporated by reference. On July 11, 1996, the director of the federal register approved these incorporations by reference in accordance with 5 USC 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval and a notice of any change in these materials will be published in the federal register.

Note: The materials are available for inspection at: the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC; the U.S. Environmental Protection Agency, RCRA Information Center (RIC), 1235 Jefferson-Davis Highway, first floor, Arlington, VA 22203 (Docket # F-94-IEHF-FFFFF) and may be obtained from the Organisation for Economic Co-operation and Development, Environment Direcorate, 2 rue Andre Pascal, 75775 Paris Cedex 16, France.

Subchapter S —Small Quantity Generators

NR 662.190 Applicability. (1) A generator is a small quantity generator in a calendar month if the generator generates greater than 100 kilograms (220 pounds) but less than 1,000 kilograms (2,205 pounds) of non-acutely hazardous waste in that month.

(2) The requirements in subchs. A to H apply to small quantity generators, except for all of the following:

(a) The manifest requirements of s. NR 662.191 may apply instead of subch. B.

(b) The accumulation requirements of s. NR 662.192 shall apply instead of s. NR 662.034.

(c) The recordkeeping and reporting requirements of s. NR 662.193 shall apply instead of subch. D.

NR 662.191 Conditional manifest exemption. The manifest requirements of subch. B do not apply to hazardous waste produced by small quantity generators where all of the following conditions are met:

(1) The waste is reclaimed under a contractual agreement pursuant to which all of the following conditions are met:

(a) The type of waste and frequency of shipments are specified in the agreement.

(b) The vehicle used to transport the waste to the recycling facility and to deliver regenerated material back to the generator is owned and operated by the reclaimer of the waste.

(2) The generator maintains a copy of the reclamation agreement in the generator's files for a period of at least 3 years after termination or expiration of the agreement.

NR 662.192 Special accumulation requirements. (1) ONE HUNDRED AND EIGHTY-DAY ACCUMULATION TIME. A small quantity generator may accumulate hazardous waste on-site for 180 days or less without an operating license or interim license provided that all of the following conditions are met:

(a) *Accumulation limit.* The quantity of waste accumulated on-site never exceeds 6,000 kilograms (13,230 pounds).

(b) *Accumulation in containers.* The generator complies with the requirements of subch. I of ch. NR 665, except for ss. NR 665.0176 and 665.0178.

(c) *Accumulation in tanks.* The generator complies with the requirements of s. NR 662.194.

(d) *Preparedness and prevention, land disposal restrictions and marking and labeling.* The generator complies with the requirements of subch. C of ch. NR 665, s. NR 668.07(1)(e) and all of the following conditions:

1. The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container.

2. While being accumulated on-site, each container and tank is labeled or marked clearly with the words, ”Hazardous Waste”.

(e) *Emergency procedures and personnel training.* The generator complies with all of the following requirements:

1. At all times there shall be at least one employee either on the premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures specified in subd. 4. This employee is the emergency coordinator.

2. The generator shall post all of the following information next to the telephone:

a. The name and telephone number of the emergency coordinator.

b. Location of fire extinguishers and spill control material, and, if present, fire alarm.

c. The telephone number of the fire department, unless the facility has a direct alarm.

3. The generator shall ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.

4. The emergency coordinator or a designee shall respond to any emergencies that arise. The applicable responses are as follows:

a. In the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher.

b. In the event of a spill, contain the flow of hazardous waste to the extent possible, and as soon as is practicable, clean up the hazardous waste and any contaminated materials or soil.

c. In the event of a fire, explosion or other release which could threaten human health outside the facility or when the generator has knowledge that a spill has reached surface water, the generator shall immediately notify the national response center (using their 24-hour toll free number 800/424-8802). The report shall include all of the following information:

1) The name, address and U.S. EPA identification number of the generator.

2) Date, time and type of incident (e.g., spill or fire).

3) Quantity and type of hazardous waste involved in the incident.

4) Extent of injuries, if any.

5) Estimated quantity and disposition of recovered materials, if any.

d. In the event of a release or discharge, the generator shall give notice to the division of emergency management at (800) 943-0003 and comply with the requirements of s. 292.11, Stats., and ch. NR 706.

(2) TWO HUNDRED AND SEVENTY-DAY ACCUMULATION TIME. Small quantity generators who must transport their own hazardous waste, or offer their own hazardous waste for transportation, over a distance of 200 miles or more for off-site treatment, storage or disposal may accumulate hazardous waste

on-site for 270 days or less without an operating license or interim license provided that the generators comply with the requirements of sub. (1).

(3) STORAGE FACILITY LICENSING AND ACCUMULATION TIME EXTENSION. A small quantity generator who accumulates hazardous waste in quantities exceeding 6,000 kg (13,230 pounds) or accumulates hazardous waste for more than 180 days (or for more than 270 days if the generator must transport the waste, or offer the waste for transportation, over a distance of 200 miles or more) is an operator of a storage facility and is subject to the requirements of chs. NR 664 and 665 and the license requirements of ch. NR 670 unless the generator has been granted an extension to the 180-day (or 270-day if applicable) period. An extension may be granted by the department if hazardous wastes must remain on-site for longer than 180 days (or 270 days if applicable) due to unforeseen, temporary and uncontrollable circumstances. An extension of up to 30 days may be granted at the discretion of the department on a case-by-case basis.

(4) SATELLITE ACCUMULATION. (a) A small quantity generator may accumulate as much as 55 gallons of hazardous waste or one quart of acutely hazardous waste listed in s. NR 661.33(5) in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without an operating license or interim license and without complying with subs. (1) and (2) provided the generator does all of the following:

1. Complies with ss. NR 665.0171, 665.0172 and 665.0173(1).

2. Marks the containers either with the words ”Hazardous Waste” or with other words that identify the contents of the containers.

(b) A generator who accumulates either hazardous waste or acutely hazardous waste listed in s. NR 661.33(5) in excess of the amounts listed in par. (a) at or near any point of generation shall, with respect to that amount of excess waste, comply within 3 days with subs. (1) and (2) or other applicable provisions of chs. NR 660 to 670. During the 3-day period the generator shall continue to comply with par. (a)1. and 2. The generator shall mark the container holding the excess accumulation of hazardous waste with the date the excess amount began accumulating.

NR 662.193 Special recordkeeping and reporting requirements. A small quantity generator is subject only to all of the following recordkeeping and reporting requirements:

(1) RECORDKEEPING. (a) A generator shall keep a copy of each manifest signed in accordance with s. NR 662.023(1) for 3 years or until the generator receives a signed copy from the designated facility which received the waste. This signed copy shall be retained as a record for at least 3 years from the date the waste was accepted by the initial transporter.

(b) A generator shall keep records of any test results, waste analyses or other determinations made in accordance with s. NR 662.011 for at least 3 years from the date that the waste was last sent to on-site or off-site treatment, storage or disposal.

(c) The generator shall keep a copy of each annual report for a period of at least 3 years from the due date of the report.

(d) The periods or retention referred to in this subsection are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the department.

(2) EXCEPTION REPORTING. A small quantity generator who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 60 days of the date the waste was accepted by the initial transporter shall submit a legible copy of the manifest, with some indication that the generator has not received confirmation of delivery, to the department.

Note: The submission to the department need only be a handwritten or typed note on the manifest itself, or on an attached sheet of paper, stating that the return copy was not received.

(3) ANNUAL REPORTING. A small quantity generator is subject to the annual reporting requirements in s. NR 662.041(1) and (2).

(4) ADDITIONAL REPORTING. The department may require generators to furnish additional reports concerning the quantities and disposition of wastes identified or listed in ch. NR 661.

NR 662.194 Special requirements for accumulating in tanks. (1) APPLICABILITY. The requirements of this section apply to small quantity generators who accumulate hazardous waste in tanks for less than 180 days (or 270 days if the generator must ship the waste greater than 200 miles) and do not accumulate over 6,000 kg (13,230 pounds) on-site at any time.

(2) GENERAL OPERATING REQUIREMENTS. Generators shall comply with all of the following requirements:

(a) Treatment or storage of hazardous waste in tanks shall comply with s. NR 665.0017(2).

(b) Hazardous wastes or treatment reagents may not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode or otherwise fail before the end of its intended life.

(c) Uncovered tanks shall be operated to ensure at least 60 centimeters (2 feet) of freeboard, unless the tank is equipped with a containment structure (e.g., dike or trench), a drainage control system or a diversion structure (e.g., standby tank) with a capacity that equals or exceeds the volume of the top 60 centimeters (2 feet) of the tank.

(d) Where hazardous waste is continuously fed into a tank, the tank shall be equipped with a means to stop this inflow (e.g., waste feed cutoff system or by-pass system to a stand-by tank).

Note: These systems are intended to be used in the event of a leak or overflow from the tank due to a system failure (e.g., a malfunction in the treatment process, a crack in the tank, etc.).

(3) INSPECTIONS. Generators shall inspect all of the following, where present:

(a) Tank discharge control equipment (e.g., waste feed cutoff systems, by-pass systems and drainage systems) at least once each operating day, to ensure that it is in good working order.

(b) Data gathered from monitoring equipment (e.g., pressure and temperature gauges) at least once each operating day to ensure that the tank is being operated according to its design.

(c) The level of waste in the tank at least once each operating day to ensure compliance with sub. (2)(c).

(d) The construction materials of the tank at least weekly to detect corrosion or leaking of fixtures or seams.

(e) The construction materials of, and the area immediately surrounding, tank discharge confinement structures (e.g., dikes) at least weekly to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

Note: As required by s. NR 665.0015(3), the owner or operator shall remedy any deterioration or malfunction found.

(4) CLOSURE. Generators shall, upon closure of the facility, remove all hazardous waste from tanks, discharge control equipment and discharge confinement structures.

Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with s. NR 661.03(3) or (4), that any solid waste removed from the tank is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it in accordance with all applicable requirements of chs. NR 662, 663 and 665.

(5) SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES. Generators shall comply with all of the following requirements:

(a) Ignitable or reactive waste may not be placed in a tank, unless subd. 1., 2. or 3. applies:

1. The waste is treated, rendered or mixed before or immediately after placement in a tank so that all of the following apply:

a. The resulting waste, mixture or dissolution of material no longer meets the definition of ignitable or reactive waste under s. NR 661.21 or 661.23.

b. Section NR 665.0017(2) is complied with.

2. The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react.

3. The tank is used solely for emergencies.

(b) The owner or operator of a facility which treats or stores ignitable or reactive waste in covered tanks shall comply with the buffer zone requirements for tanks contained in Tables 2-1 to 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1977 or 1981), incorporated by reference in s. NR 660.11.

(6) SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES. Generators shall comply with all of the following requirements:

(a) Incompatible wastes, or incompatible wastes and materials, (see appendix V of ch. NR 665 for examples) may not be placed in the same tank, unless s. NR 665.0017(2) is complied with.

(b) Hazardous waste may not be placed in an unwashed tank which previously held an incompatible waste or material, unless s. NR 665.0017(2) is complied with.

Subchapter V —Very Small Quantity Generators

Note: This subchapter is similar to federal regulations contained in 40 CFR 261.5, as revised on July 30, 2003.

NR 662.220 Special requirements for very small quantity generators. **(1)** CONDITIONAL EXEMPTION FROM SMALL AND LARGE QUANTITY GENERATOR STANDARDS. Except for generators identified in subs. (4), (5)(b), (6)(b) or (8), a very small quantity generator is not subject to regulation under subchs. A to S, provided the generator complies with the other requirements of this section.

(2) QUANTITY DETERMINATIONS. When making the quantity determinations of this chapter, the generator shall include all hazardous waste that the generator generates, except hazardous waste that is any of the following:

(a) Exempt from regulation under s. NR 661.04(3) to (6), 661.06(1)(c), 661.07(1)(a) or 661.08.

(b) Managed immediately upon generation only in on-site elementary neutralization units, wastewater treatment units or totally enclosed treatment facilities as defined in s. NR 660.10.

(c) Recycled, without prior storage or accumulation, only in an on-site process subject to regulation under s. NR 661.06(3)(b).

(d) Used oil managed under the requirements of s. NR 661.06(1)(d) and ch. NR 679.

(e) Spent lead-acid batteries managed under the requirements of subch. G (spent lead-acid batteries being reclaimed) of ch. NR 666.

(f) Universal waste managed under s. NR 661.09 and ch. NR 673.

(3) QUANTITY OF HAZARDOUS WASTE GENERATED. In determining the quantity of hazardous waste generated, a generator need not include any of the following:

(a) Hazardous waste when it is removed from on-site storage.

(b) Hazardous waste produced by on-site treatment (including reclamation) of the generator's hazardous waste, so long as the hazardous waste that is treated was counted once.

(c) Spent materials that are generated, reclaimed and subsequently reused on-site, so long as the spent materials have been counted once.

(4) ACUTE HAZARDOUS WASTE GENERATION RATE LIMITS. If a generator generates acute hazardous waste in a calendar month in greater than any of the following quantities, the generator is subject to full regulation as a large quantity generator under this chapter:

(a) A total of one kilogram (2.2 pounds) of acute hazardous wastes listed in s. NR 661.31, 661.32 or 661.33(5).

(b) A total of 100 kilograms (220 pounds) of any residue or contaminated soil, waste or other debris resulting from the clean-up of a spill, into or on any land or water, of any acute hazardous wastes listed in s. NR 661.31, 661.32 or 661.33(5).

Note: "Full regulation" means those regulations applicable to generators of greater than 1,000 kg of non-acutely hazardous waste in a calendar month.

(5) STANDARDS FOR GENERATORS OF ACUTE HAZARDOUS WASTE. In order for a generator who generates acute hazardous wastes in quantities equal to or less than those set forth in sub. (4)(a) or (b) to be exempted from full regulation as a large quantity generator, the generator shall comply with all of the following requirements:

(a) Section NR 662.011.

(b) The generator may accumulate acute hazardous waste on-site. If the generator accumulates at any time acute hazardous wastes in quantities greater than those set forth in sub. (4)(a) or (b), the generator is subject to full regulation as a large quantity generator under this chapter. The time period of s. NR 662.034(1), for accumulation of wastes on-site, begins when the accumulated wastes exceed the applicable exemption limit.

(c) If waste is placed in containers the very small quantity generator shall:

1. Comply with the requirements in ss. NR 665.0171, 665.0172, 665.0173(1) and 665.0177(1).

2. Mark the containers with the words "Hazardous Waste".

(d) If waste is placed in tanks the very small quantity generator shall meet all of the following requirements:

1. All tanks shall be leak proof and in good overall condition.

2. All tanks shall be made or lined with materials which will not react with or be incompatible with the hazardous waste being stored.

3. Incompatible wastes and materials may not be placed in the same tank.

4. While being accumulated on-site, each tank shall be labeled or marked clearly with the words, "Hazardous Waste".

5. If the tank beings to leak, the contents shall be removed and placed in leak proof containers or tanks immediately. All spilled material shall be cleaned up and properly managed.

(e) A very small quantity generator shall either treat or dispose of the generator's hazardous waste in an on-site facility or ensure delivery to an off-site treatment, storage or disposal facility, either of which, if located in the U.S., is any of the following:

1. If located in Wisconsin:

a. Has an interim or final operating license issued under ch. NR 670, or is exempt from the licensing requirements under ch. NR 670.

b. Is a licensed solid waste disposal facility which has been approved by the department to accept hazardous waste from very small quantity generators.

c. Is a universal waste handler or destination facility subject to the requirements of ch. NR 673.

d. Is a facility which does any of the following:

1) Beneficially uses or reuses, or legitimately recycles or reclaims the waste.

2) Treats the waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

2. If located outside of Wisconsin is:

a. Permitted under 40 CFR part 270 or is in interim status under 40 CFR parts 270 and 265.

b. Authorized to manage hazardous waste by a state with a hazardous waste management program approved under 40 CFR part 271.

c. Permitted, licensed or registered by a state to manage municipal solid waste and, if managed in a municipal solid waste landfill is subject to 40 CFR part 258.

d. Permitted, licensed or registered by a state to manage non-municipal non-hazardous waste and, if managed in a non-municipal non-hazardous waste disposal unit after January 1, 1998, is subject to the requirements in 40 CFR 257.5 to 257.30.

e. A universal waste handler or destination facility subject to the requirements of 40 CFR part 273.

3. A facility which does any of the following:

a. Beneficially uses or reuses, or legitimately recycles or reclaims the waste.

b. Treats the waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

(f) A very small quantity generator is not required to use a manifest. The very small quantity generator who chooses to use a manifest shall comply with all of the following:

1. The notification requirements of s. NR 660.07.

2. The manifest requirements of ss. NR 662.020 to 662.023.

3. The exception reporting requirement in s. NR 662.193(2).

4. The manifest recordkeeping requirement in s. NR 662.040(1).

(6) STANDARDS FOR GENERATORS OF NON-ACUTELY HAZARDOUS WASTE. In order for a generator who generates 100 kilograms or less of non-acutely hazardous waste during a calendar month to be exempted from subchs. A to S under this section, the generator shall comply with all of the following requirements:

(a) Section NR 662.011.

(b) The very small quantity generator may accumulate hazardous waste on-site. If the generator accumulates at any time more than a total of 1,000 kilograms (2,205 pounds) of hazardous waste, the generator is subject to regulation under subch. S. The time periods of s. NR 662.192(1) and (2) for accumulation of waste on-site begin for a very small quantity generator when the accumulated waste exceeds 1,000 kilograms (2,205 pounds).

(c) If waste is placed in containers the very small quantity generator shall:

1. Comply with the requirements in ss. NR 665.0171, 665.0172, 665.0173(1) and 665.0177(1).

2. Mark the containers with the words “Hazardous Waste”.

(d) If waste is placed in tanks the very small quantity generator shall meet all of the following requirements:

1. All tanks shall be leak proof and in good overall condition.

2. All tanks shall be made or lined with materials that will not react with or be incompatible with the hazardous waste being stored.

3. Incompatible wastes and materials may not be placed in the same tank.

4. While being accumulated on-site, each tank shall be labeled or marked clearly with the words, ”Hazardous Waste”.

5. If the tank beings to leak, the contents shall be removed and placed in leak proof containers or tanks immediately. All spilled material shall be cleaned up and properly managed.

(e) A very small quantity generator shall either treat or dispose of the generator’s hazardous waste in an on-site facility or ensure delivery to an off-site treatment, storage or disposal facility, either of which, if located in the U.S., is any of the following:

1. If located in Wisconsin:

a. Has an interim or final operating license issued under ch. NR 670,or is exempt from the licensing requirements under ch. NR 670.

b. Is a licensed solid waste disposal facility which has been approved by the department to accept hazardous waste from very small quantity generators.

c. Is a universal waste handler or destination facility subject to the requirements of ch. NR 673.

d. Is a facility which does any of the following:

1) Beneficially uses or reuses, or legitimately recycles or reclaims the waste.

2) Treats the waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

2. If located outside of Wisconsin is:

a. Permitted under 40 CFR part 270 or is in interim status under 40 CFR parts 270 and 265.

b. Authorized to manage hazardous waste by a state with a hazardous waste management program approved under 40 CFR part 271.

c. Permitted, licensed or registered by a state to manage municipal solid waste and, if managed in a municipal solid waste landfill is subject to 40 CFR part 258.

d. Permitted, licensed or registered by a state to manage non-municipal non-hazardous waste and, if managed in a non-municipal non-hazardous waste disposal unit after January 1, 1998, is subject to the requirements in 40 CFR 257.5 to 257.30.

e. Is a universal waste handler or destination facility subject to the requirements of ch. NR 673.

3. A facility which does any of the following:

a. Beneficially uses or reuses, or legitimately recycles or reclaims the waste.

b. Treats the waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

(f) A very small quantity generator is not required to use a manifest. A very small quantity generator who chooses to use a manifest shall comply with all of the following:

1. The notification requirements of s. NR 660.07.

2. The manifest requirements of ss. NR 662.020 to 662.023.

3. The exception reporting requirement in s. NR 662.193(2).

4. The manifest recordkeeping requirement in s. NR 662.040(1).

(7) CONTINUED REDUCED REGULATION OF GENERATORS WITH CERTAIN MIXTURES OF HAZARDOUS WASTE AND NON-HAZARDOUS WASTE. A very small quantity generator subject to the reduced requirements of this section may mix the generator's hazardous waste and non-hazardous waste and remain subject to these reduced requirements even though the resultant mixture exceeds the quantity limitations identified in this section, unless the mixture meets any of the characteristics of hazardous waste identified in subch. C of ch. NR 661.

(8) FULL REGULATION OF GENERATORS WITH CERTAIN MIXTURES OF SOLID WASTE AND HAZARDOUS WASTE. If a generator mixes the generator's solid waste and hazardous waste that exceeds a quantity exemption level of this section, the generator is subject to full regulation as a large quantity generator under this chapter.

(9) USED OIL REGULATION OF CERTAIN MIXTURES OF HAZARDOUS WASTE AND USED OIL. If a very small quantity generator subject to the reduced requirements of this section mixes the generator's hazardous waste and used oil, the mixture is subject to ch. NR 679. Any material produced from such a mixture by processing, blending or other treatment is also subject to ch. NR 679.

CHAPTER NR 663
HAZARDOUS WASTE TRANSPORTER STANDARDS

Subchapter A —General

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Subchapter C —Hazardous Waste Discharges

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Subchapter A —General

Note: Chapter NR 662 and this chapter establish the responsibilities of generators and transporters of hazardous waste in the handling, transportation and management of that waste. In these rules, the department has expressly referenced certain regulations of the U.S. department of transportation (DOT) governing the transportation of hazardous materials. These rules concern, among other things, labeling, marking, placarding, using proper containers and reporting discharges. The department has expressly referenced these rules in order to satisfy its statutory obligation to promulgate rules which are necessary to protect human health and the environment in the transportation of hazardous waste. The department's reference to these DOT regulations ensures consistency with the requirements of DOT and thus avoids the establishment of duplicative or conflicting requirements with respect to these matters.

DOT has revised its hazardous materials transportation regulations in order to encompass the transportation of hazardous waste and to regulate intrastate, as well as interstate, transportation of hazardous waste. Transporters of hazardous waste are cautioned that DOT's regulations are fully applicable to their activities and enforceable by DOT. These DOT regulations are codified in 49 CFR subpart C.

Except for transporters of bulk shipments of hazardous waste by water, a transporter who meets all applicable requirements of 49 CFR parts 171 to 179 and the requirements of ss. NR 663.11 and 663.31 will be deemed in compliance with this chapter. Regardless of DOT's action, the department retains its authority to enforce the requirements of ch. 663.

NR 663.10 Scope (1) This chapter establishes standards which apply to persons transporting hazardous waste within Wisconsin if the transportation requires a manifest under ch. NR 662.

(2) This chapter does not apply to on-site transportation of hazardous waste by generators or by owners or operators of licensed hazardous waste management facilities.

(3) A transporter of hazardous waste shall also comply with ch. NR 662, hazardous waste generator standards, if the transporter does any of the following:

(a) Transports hazardous waste into Wisconsin from abroad.

(b) Mixes hazardous wastes of different DOT shipping descriptions by placing them into a single container.

(4) A transporter of hazardous waste subject to the manifesting requirements of ch. NR 662, or subject to the universal waste management standards of ch. NR 673, that is being imported from or exported to any of the countries listed in s. NR 662.058(1)(a) for purposes of recovery is subject to this subchapter and to all other relevant requirements of subch. H of ch. NR 662, including, but not limited to, s. NR 662.084 for tracking documents.

(5) This chapter does not apply to transportation during an explosives or munitions emergency response, conducted according to ss. NR 664.0001(7)(h)1.d. or 4. or 665.0001(3)(k)1.d. or 4., and 670.001(3)(c)1.d. or 3.

(6) Section NR 666.203 identifies how the requirements of this chapter apply to military munitions classified as solid waste under s. NR 666.202.

NR 663.11 EPA identification number. (1) A transporter may not transport hazardous wastes without having received an EPA identification number from the department, another authorized state or EPA.

(2) A transporter who has not received an EPA identification number may obtain one by applying to the department using EPA form 8700-12. Upon receiving the request, the department will assign an EPA identification number to the transporter.

Note: See s. NR 660.07 for information on obtaining EPA form 8700-12.

NR 663.12 Transfer facility requirements. A transporter who stores manifested shipments of hazardous waste in containers meeting the requirements of s. NR 662.030 at a transfer facility for a period

of 10 days or less is not subject to regulation under chs. NR 664, 665, 668 and 670 with respect to the storage of those wastes.

NR 663.13 Hazardous waste transportation licenses. (1) (a) An application for a hazardous waste transportation license shall be submitted on forms supplied by the department and shall be accompanied by the fee specified in Appendix II of ch. NR 670.

Note: These forms may be obtained from the department by E-mail: waste.management@dnr.state.wi.us, phone (608) 266-2111 or Fax (608) 267-2768.

(b) Each location at which a person transporting hazardous waste bases transport vehicles shall be licensed as a separate transportation service. An application form and fee for each transportation service shall be submitted to the regional office of the department in the region where the transportation service is located. A person who transports hazardous waste into or through Wisconsin, but whose operation is based out–of–state, shall submit an application form and fee for a transportation license in the region where the hazardous waste transportation activity is concentrated.

(c) The department shall notify the applicant that the application for a hazardous waste transportation license has been approved or denied within 65 business days after the application is received by the department.

(d) The owner or operator of a transportation service who has been issued a license shall renew the license annually by submitting both of the following to the department:

1. A completed license renewal form, by the date specified on the renewal form.
2. The fee listed on the environmental fee statement, by the date specified on the fee statement.

(e) The owner or operator of a transportation service who fails to renew the license according to par. (d) shall pay a late processing fee of $150 in addition to the license fee.

(f) The license application shall be signed by the owner of the transportation service. If the transportation service is owned by one person and operated by another, both the owner or operator shall sign the application.

(g) If the department fails to approve or deny an application for issuance or renewal of a hazardous waste transportation license within 65 business days after a complete application is received by the department or by the date of expiration of the current license, whichever occurs later, the department shall refund the fees paid by the applicant for the transportation license.

(h) If there is a change in the ownership of the transportation service, the new owner or operator shall reapply for a license by submitting the license application form required by par. (a).

Note: The department will mail the annual license renewal form and environmental fee statement to the owners or operators of licensed transportation facilities.

Note: The license application is considered to be complete when the environmental fee and the completed and signed license application or renewal form are received by the department.

Subchapter B —Compliance with the Manifest System and Recordkeeping

NR 663.20 The manifest system. (1) A transporter may not accept hazardous waste from a generator unless it is accompanied by a manifest signed in accordance with the provisions of s. NR 662.020, unless the generator meets the conditional manifest exemptions in s. NR 662.220(5)(f), (6)(f) or 662.191. In the case of exports other than those subject to subch. H of ch. NR 662, a transporter may not accept waste from a primary exporter or other person if the transporter knows the shipment does not conform to the EPA acknowledgment of consent; and unless, in addition to a manifest signed in accordance with the provisions of s. NR 662.020, the waste is also accompanied by an EPA acknowledgment of consent which, except for shipment by rail, is attached to the manifest (or shipping paper for exports by water (bulk shipment)). For exports of hazardous waste subject to the requirements of subch. H of ch. NR 662, a

transporter may not accept hazardous waste without a tracking document that includes all information required by s. NR 662.084.

(2) Before transporting the hazardous waste, the transporter shall sign and date the manifest acknowledging acceptance of the hazardous waste from the generator. The transporter shall return a signed copy to the generator before leaving the generator's property.

(3) The transporter shall ensure that the manifest accompanies the hazardous waste. In the case of exports, the transporter shall ensure that a copy of the EPA acknowledgment of consent also accompanies the hazardous waste.

(4) A transporter who delivers a hazardous waste to another transporter or to the designated facility shall do all of the following:

(a) Obtain the date of delivery and the handwritten signature of that transporter or of the owner or operator of the designated facility on the manifest.

(b) Retain one copy of the manifest in accordance with s. NR 663.22.

(c) Give the remaining copies of the manifest to the accepting transporter or designated facility.

(5) The requirements of subs. (3), (4) and (6) do not apply to water (bulk shipment) transporters if all of the following conditions are met:

(a) The hazardous waste is delivered by water (bulk shipment) to the designated facility.

(b) A shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports, an EPA acknowledgment of consent accompanies the hazardous waste.

(c) The delivering transporter obtains the date of delivery and handwritten signature of the owner or operator of the designated facility on either the manifest or the shipping paper.

(d) The person delivering the hazardous waste to the initial water (bulk shipment) transporter obtains the date of delivery and signature of the water (bulk shipment) transporter on the manifest and forwards it to the designated facility.

(e) Each water (bulk shipment) transporter retains a copy of the shipping paper or manifest in accordance with s. NR 663.22.

(6) For shipments involving rail transportation, the requirements of subs. (3), (4) and (5) do not apply and all of the following requirements do apply:

(a) When accepting hazardous waste from a non-rail transporter, the initial rail transporter shall do all of the following:

1. Sign and date the manifest acknowledging acceptance of the hazardous waste.

2. Return a signed copy of the manifest to the non-rail transporter.

3. Forward at least 3 copies of the manifest to one of the following:

a. The next non-rail transporter, if any.

b. The designated facility, if the shipment is delivered to that facility by rail.

c. The last rail transporter designated to handle the waste in the United States.

4. Retain one copy of the manifest and rail shipping paper in accordance with s. NR 663.22.

(b) Rail transporters shall ensure that a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports an EPA acknowledgment of consent accompanies the hazardous waste at all times.

Note: Intermediate rail transporters are not required to sign either the manifest or shipping paper.

(c) When delivering hazardous waste to the designated facility, a rail transporter shall do all of the following:

1. Obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper (if the manifest has not been received by the facility).

2. Retain a copy of the manifest or signed shipping paper in accordance with s. NR 663.22.

(d) When delivering hazardous waste to a non-rail transporter a rail transporter shall do all of the following:

1. Obtain the date of delivery and the handwritten signature of the next non-rail transporter on the manifest.

2. Retain a copy of the manifest in accordance with s. NR 663.22.

(e) Before accepting hazardous waste from a rail transporter, a non-rail transporter shall sign and date the manifest and provide a copy to the rail transporter.

(7) Transporters who transport hazardous waste out of the United States shall do all of the following:

(a) Indicate on the manifest the date the hazardous waste left the United States.

(b) Sign the manifest and retain one copy in accordance with s. NR 663.22(3).

(c) Return a signed copy of the manifest to the generator.

(d) Give a copy of the manifest to a U.S. customs official at the point of departure from the United States.

(8) A transporter transporting hazardous waste from a small quantity generator need not comply with the requirements of this section or those of s. NR 663.22 provided that all of the following conditions are met:

(a) The waste is being transported pursuant to a reclamation agreement as provided for in s. NR 662.191.

(b) The transporter records, on a log or shipping paper, all of the following information for each shipment:

1.The name, address and U.S. EPA identification number of the generator of the waste.

2. The quantity of waste accepted.

3. All department of transportation required shipping information.

4. The date the waste is accepted.

(c) The transporter carries this record when transporting waste to the reclamation facility.

(d) The transporter retains these records for a period of at least 3 years after termination or expiration of the agreement.

NR 663.21 Compliance with the manifest. (1) The transporter shall deliver the entire quantity of hazardous waste which the transporter has accepted from a generator or a transporter to one of the following:

(a) The designated facility listed on the manifest.

(b) The alternate designated facility, if the hazardous waste cannot be delivered to the designated facility because an emergency prevents delivery.

(c) The next designated transporter.

(d) The place outside the United States designated by the generator.

(2) If the hazardous waste cannot be delivered in accordance with sub. (1), the transporter shall contact the generator for further directions and shall revise the manifest according to the generator's instructions.

NR 663.22 Recordkeeping. (1) A transporter of hazardous waste shall keep a copy of the manifest signed by the generator, the transporter and the next designated transporter or the owner or operator of the designated facility for a period of 3 years from the date the hazardous waste was accepted by the initial transporter.

(2) For shipments delivered to the designated facility by water (bulk shipment), each water (bulk shipment) transporter shall retain a copy of the shipping paper containing all of the information required in s. NR 663.20(5)(b) for a period of 3 years from the date the hazardous waste was accepted by the initial transporter.

(3) For shipments of hazardous waste by rail within the United States, all of the following conditions shall be met:

(a) The initial rail transporter shall keep a copy of the manifest and shipping paper with all of the information required in s. NR 663.20(6)(b) for a period of 3 years from the date the hazardous waste was accepted by the initial transporter.

(b) The final rail transporter shall keep a copy of the signed manifest (or the shipping paper if signed by the designated facility in lieu of the manifest) for a period of 3 years from the date the hazardous waste was accepted by the initial transporter.

Note: Intermediate rail transporters are not required to keep records pursuant to these rules.

(4) A transporter who transports hazardous waste out of the United States shall keep a copy of the manifest indicating that the hazardous waste left the United States for a period of 3 years from the date the hazardous waste was accepted by the initial transporter.

(5) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the department.

Subchapter C —Hazardous Waste Discharges

NR 663.30 Immediate action. (1) In the event of a discharge of hazardous waste during transportation, the transporter shall take appropriate immediate action as required by ch. NR 708 to protect human health and the environment (e.g., notify local authorities, dike the discharge area).

(2) If a discharge of hazardous waste occurs during transportation and an official (state or local government or a federal agency) acting within the scope of that person's official responsibilities determines that immediate removal of the waste is necessary to protect human health or the environment, that official may authorize the removal of the waste by transporters who do not have EPA identification numbers or transportation licenses and without the preparation of a manifest.

(3) An air, rail, highway or water transporter who has discharged hazardous waste shall do all of the following:

(a) Give notice, if required by 49 CFR 171.15, to the national response center.

(b) Report in writing as required by 49 CFR 171.16 to the Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, DC 20590.

(c) Give notice to the division of emergency management and comply with the requirements of s. 292.11, Stats., and ch. NR 706.

(4) A water (bulk shipment) transporter who has discharged hazardous waste shall give the same notice as required by 33 CFR 153.203 for oil and hazardous substances.

Note: The telephone number for the national response center is (800) 424-8802. The telephone number for the division of emergency management in Wisconsin is (800) 943-0003.

NR 663.31 Discharge clean up. A transporter shall clean up any hazardous waste discharge that occurs during transportation or take action as may be required or approved by federal, state or local officials so that the hazardous waste discharge no longer presents a hazard to human health or the environment.

CHAPTER NR 664
HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITY STANDARDS

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Subchapter A —General

NR 664.0001 Purpose, scope and applicability. **(1)** The purpose of this chapter is to establish minimum state standards which define the acceptable management of hazardous waste.

(2) The standards in this chapter apply to owners and operators of all facilities which treat, store or dispose of hazardous waste, except as specifically provided otherwise in this chapter or ch. NR 661 and s. NR 662.220.

(3) The requirements of this chapter apply to a person disposing of hazardous waste by means of ocean disposal subject to a permit issued under 33 USC 1401 to 1445.

Note: This chapter does apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea. Title 33 USC 1401 to 1445 is also known as the ocean dumping portion of the federal marine protection, research and sanctuaries act.

(4) The requirements of this chapter apply to a person disposing of hazardous waste by means of underground injection subject to a permit issued under an underground injection control (UIC) program approved or promulgated under 42 USC 300f to 300j-26 only to the extent they are required by 40 CFR 144.14.

Note: This chapter does apply to the above ground treatment or storage of hazardous waste before it is injected underground. Title 42 USC 300f to 300j-26 is also known as the federal safe drinking water act.

(5) The requirements of this chapter do not apply to the owner or operator of a POTW who treats, stores or disposes of hazardous waste in compliance with s. NR 670.001(3)(b)9.

(7) The requirements of this chapter do not apply to any of the following:

(a) The owner or operator of a facility licensed or registered by the department to manage either of the following:

1. Municipal or industrial solid waste, if the only hazardous waste the facility disposes of is from very small quantity generators and the facility has been approved by the department to accept hazardous waste from very small quantity generators.

2. Household and very small quantity generator waste, if the facility complies with the requirements of ch. NR 666 subch. HH.

Note: The specific requirements for solid waste landfills accepting hazardous waste from very small quantity generators are contained in s. NR 506.155. Very small quantity generators have the option of ensuring delivery of their hazardous waste to certain solid waste disposal facilities under ss. NR 662.220(5)(e)1.b. or 2c. and d., or 662.220(6)(e)1.b. or 2 c. or d.

(b) The owner or operator of a facility managing recyclable materials described in s. NR 661.06(1)(b), (c) and (d) (except to the extent they are referred to in subch. C, F, G or H of ch. NR 666, or ch. NR 679).

(c) A generator accumulating waste on-site in compliance with s. NR 662.034 or 662.192, or treating waste in containers or tanks, provided the requirements of s. NR 662.034, 662.192 or 662.220 are met.

(d) A farmer disposing of waste pesticides from the farmer's own use in compliance with s. NR 662.070.

(e) The owner or operator of a totally enclosed treatment facility, as defined in s. NR 660.10.

(f) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in s. NR 660.10, provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 high TOC subcategory defined in s. NR 668.40, the table "Treatment Standards for Hazardous Wastes"), or reactive (D003) waste, to remove the characteristic before land disposal, the owner or operator shall comply with s. NR 664.0017(2).

(h)1. Except as provided in subd. 2., a person engaged in treatment or containment activities during immediate response to any of the following situations:

a. A discharge of a hazardous waste.

b. An imminent and substantial threat of a discharge of hazardous waste.

c. A discharge of a material which, when discharged, becomes a hazardous waste.

d. An immediate threat to human health, public safety, property or the environment, from the known or suspected presence of military munitions, other explosive material or an explosive device, as determined by an explosive or munitions emergency response specialist as defined in s. NR 660.10.

2. An owner or operator of a facility otherwise regulated by this chapter shall comply with all applicable requirements of subchs. C and D.

3. Any person who is covered by subd. 1. and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this chapter and chs. NR 200 to 210, 212 to 214 and 216 for those activities.

4. In the case of an explosives or munitions emergency response, if a federal, state, tribal or local official acting within the scope of that person's official responsibilities, or an explosives or munitions emergency response specialist, determines that immediate removal of the material or waste is necessary to protect human health or the environment, that official or specialist may authorize the removal of the material or waste by transporters who do not have EPA identification numbers or hazardous waste transportation licenses and without the preparation of a manifest. In the case of emergencies involving military munitions, the responding military emergency response specialist's organizational unit shall retain records for 3 years identifying the dates of the response, the responsible persons responding, the type and description of material addressed and its disposition.

(i) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of s. NR 662.030 at a transfer facility for a period of 10 days or less.

(j) The addition of absorbent material to waste in a container (as defined in s. NR 660.10) or the addition of waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and ss. NR 664.0017(2), 664.0171 and 664.0172 are complied with.

(k) Universal waste handlers and universal waste transporters (as defined in s. NR 660.10) handling any of the following wastes. These handlers are regulated under ch. NR 673, when handling any of the following universal wastes:

1.Batteries as described in s. NR 673.02.

2. Pesticides as described in s. NR 673.03.

3. Thermostats as described in s. NR 673.04.

4. Lamps as described in s. NR 673.05.

(8) The requirements of this chapter apply to owners or operators of all facilities which treat, store or dispose of hazardous wastes referred to in ch. NR 668.

(9) Section NR 666.205 identifies when the requirements of this chapter apply to the storage of military munitions classified as solid waste under s. NR 666.202. The treatment and disposal of hazardous waste military munitions are subject to the applicable licensing, procedural and technical standards in chs. NR 660 to 670.

(10) The requirements of subchs. B, C and D and s. NR 664.0101 do not apply to remediation waste management sites. (However, some remediation waste management sites may be a part of a facility that is subject to a license issued under s. 291.25, Stats., and ch. NR 670 because the facility is also treating, storing or disposing of hazardous wastes that are not remediation wastes. In these cases, subchs. B, C and D, and s. NR 664.0101 do apply to the facility subject to the license.) Instead of meeting the requirements of subchs. B, C and D, owners or operators of remediation waste management sites shall do all of the following:

(a) Obtain an EPA identification number as specified in s. NR 660.07.

(b) Obtain a detailed chemical and physical analysis of a representative sample of the hazardous remediation wastes to be managed at the site. At a minimum, the analysis shall contain all of the information which must be known to treat, store or dispose of the waste according to this chapter and ch. NR 668, and shall be kept accurate and up to date.

(c) Prevent people who are unaware of the danger from entering, and minimize the possibility for unauthorized people or livestock to enter onto the active portion of the remediation waste management site, unless the owner or operator can demonstrate to the department all of the following:

1. Physical contact with the waste, structures or equipment within the active portion of the remediation waste management site will not injure people or livestock who may enter the active portion of the remediation waste management site.

2. Disturbance of the waste or equipment by people or livestock, who enter onto the active portion of the remediation waste management site, will not cause a violation of the requirements of this chapter.

(d) Inspect the remediation waste management site for malfunctions, deterioration, operator errors and discharges that may be causing, or may lead to, a release of hazardous waste constituents to the environment, or a threat to human health. The owner or operator shall conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment, and shall remedy the problem before it leads to a human health or environmental hazard. Where a hazard is imminent or has already occurred, the owner or operator shall take remedial action immediately.

(e) Provide personnel with classroom or on-the-job training on how to perform their duties in a way that ensures the remediation waste management site complies with the requirements of this chapter, and on how to respond effectively to emergencies.

(f) Take precautions to prevent accidental ignition or reaction of ignitable or reactive waste, and prevent threats to human health and the environment from ignitable, reactive and incompatible waste.

(g) For remediation waste management sites regulated under subchs. I to O and X, design, construct, operate and maintain a unit within a 100-year floodplain to prevent washout of any hazardous waste by a 100-year flood, unless the owner or operator can meet the demonstration of s. NR 664.0018(2).

(h) Not place any non-containerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, underground mine or cave.

(i) Develop and maintain a construction quality assurance program for all surface impoundments, waste piles and landfill units that are required to comply with ss. NR 664.0221(3) and (4), 664.0251(3) and (4) and 664.0301(3) and (4) at the remediation waste management site, according to the requirements of s. NR 664.0019.

(j) Develop and maintain procedures to prevent accidents and a contingency and emergency plan to control accidents that occur. These procedures shall address proper design, construction, maintenance and operation of remediation waste management units at the site. The goal of the plan shall be to minimize the possibility of, and the hazards from a fire, explosion or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water that could threaten human health or the environment. The plan shall explain specifically how to treat, store and dispose of the hazardous remediation waste in question, and shall be implemented immediately whenever a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment occurs.

(k) Designate at least one employee, either on the facility premises or on call (that is, available to respond to an emergency by reaching the facility quickly), to coordinate all emergency response measures. This emergency coordinator shall be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person shall have the authority to commit the resources needed to carry out the contingency plan.

(L) Develop, maintain and implement a plan to meet the requirements in pars. (b) to (f), (i) and (j).

(m) Maintain records documenting compliance with pars. (a) to (L).

NR 664.0003 Relationship to interim license standards. A facility owner or operator who has fully complied with the requirements for an interim license, as defined in s. 291.25, Stats., and s. NR 670.070, shall comply with ch. NR 665 in lieu of this chapter, until final administrative disposition of the owner or operator's operating license application is made, except as provided under subch. S.

Note: As stated in s. 291.25, Stats., the treatment, storage or disposal of hazardous waste is prohibited except according to a license. Section 291.25(4), Stats., provides for the interim licensing of an existing facility which

meets certain conditions until final administrative disposition of the owner's or operator's operating license application is made.

NR 664.0004 Imminent danger action. Notwithstanding any other provisions of this chapter, enforcement actions may be brought pursuant to s. 291.85, Stats.

Subchapter B —General Facility Standards

NR 664.0010 Applicability. **(1)** This subchapter applies to owners and operators of all hazardous waste facilities, except as provided in s. NR 664.0001 and sub. (2).

(2) Section NR 664.0018(2) applies only to facilities regulated under subchs. I to O and X.

NR 664.0011 Identification number. Every facility owner or operator shall apply to the department for an EPA identification number according to the procedures in s. NR 660.07.

NR 664.0012 Required notices. **(1)**(a) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source shall notify the regional administrator in writing at least 4 weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(b) The owner or operator of a recovery facility that has arranged to receive hazardous waste subject to subch. H of ch. NR 662 shall provide a copy of the tracking document bearing all required signatures to the notifier, to the:

Office of Enforcement and Compliance Assurance
Office of Compliance; Enforcement Planning, Targeting and Data Division (2222A)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

and to the competent authorities of all other concerned countries within 3 working days of receipt of the shipment. The original of the signed tracking document shall be maintained at the facility for at least 3 years.

(2) The owner or operator of a facility that receives hazardous waste from an off-site source (except where the owner or operator is also the generator) shall inform the generator in writing that the owner or operator has the appropriate licenses for, and will accept the waste the generator is shipping. The owner or operator shall keep a copy of this written notice as part of the operating record.

(3) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the long-term care period, the owner or operator shall notify the new owner or operator in writing of the requirements of this chapter and ch. NR 670.

Note: An owner's or operator's failure to notify the new owner or operator of the requirements of this chapter in no way relieves the new owner or operator of that person's obligation to comply with all applicable requirements.

NR 664.0013 General waste analysis. **(1)**(a) Before an owner or operator treats, stores or disposes of any hazardous wastes, or nonhazardous wastes if applicable under s. NR 664.0113(4), the owner or operator shall obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis shall contain all the information which must be known to treat, store or dispose of the waste according to this chapter and ch. NR 668.

1. Chemical and physical samples shall be analyzed by a laboratory certified or registered under ch. NR 149, except for field analyses for pH, specific conductance and temperature.

(b) The analysis may include data developed under ch. NR 661 and s. NR 662.220, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

Note: For example, the facility's records of analyses performed on the waste before the effective date of these rules, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with par. (a). The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part of the information required by par. (a), except as otherwise specified in s. NR 668.07(2) and (3). If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.

(c) The analysis shall be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis shall be repeated when any of the following occurs:

1. The owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous wastes, or non-hazardous wastes if applicable under s. NR 664.0113(4), has changed.

2. For off-site facilities, the results of the inspection required in par. (d) indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(d) The owner or operator of an off-site facility shall inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(2) The owner or operator shall develop and follow a written waste analysis plan which describes the procedures which the owner or operator will carry out to comply with sub. (1). The owner or operator shall keep this plan at the facility. At a minimum, the plan shall specify all of the following:

(a) The parameters for which each hazardous waste, or non-hazardous waste if applicable under s. NR 664.0113(4), will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with sub. (1)).

(b) The test methods which will be used to test for these parameters.

(c) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using one of the following:

1. One of the sampling methods described in Appendix I of ch. NR 661.

2. An equivalent sampling method.

Note: See s. NR 660.21 for related discussion.

(d) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date.

(e) For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply.

(f) Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods specified in ss. NR 664.0017, 664.0314, 664.0341, 664.1034(4), 664.1063(4), 664.1083 and 668.07.

(g) For surface impoundments exempted from land disposal restrictions under s. NR 668.04(1), the procedures and schedules for all of the following:

1. The sampling of impoundment contents.

2. The analysis of test data.

3. The annual removal of residues which are not delisted under s. NR 660.22 or which exhibit a characteristic of hazardous waste and meet any of the following criteria:

a. The residues do not meet applicable treatment standards of subch. D of ch. NR 668.

b. Where no treatment standards have been established, any of the following applies:

1) The residues are prohibited from land disposal under s. NR 668.32 or 42 USC 6924(d).

2) The residues are prohibited from land disposal under s. NR 668.33(6).

(h) For owners and operators seeking an exemption to the air emission standards of subch. CC according to s. NR 664.1082, any of the following:

1. If direct measurement is used for the waste determination, the procedures and schedules for waste sampling and analysis, and the results of the analysis of test data to verify the exemption.

2. If knowledge of the waste is used for the waste determination, any information prepared by the facility owner or operator or by the generator of the hazardous waste, if the waste is received from off-site, that is used as the basis for knowledge of the waste.

(3) For off-site facilities, the waste analysis plan required in sub. (2) shall also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan shall describe all of the following:

(a) The procedures which will be used to determine the identity of each movement of waste managed at the facility.

(b) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

Note: Chapter NR 670 requires that the waste analysis plan be submitted with the feasibility and plan of operation report.

(c) The procedures that the owner or operator of an off-site landfill receiving containerized hazardous waste will use to determine whether a hazardous waste generator or treater has added a biodegradable sorbent to the waste in the container.

NR 664.0014 Security. **(1)** The owner or operator shall prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of the facility, unless the owner or operator can demonstrate to the department all of the following:

(a) Physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility.

(b) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this chapter.

Note: Chapter NR 670 requires that an owner or operator who wishes to make the demonstration referred to in pars. (a) and (b) shall do so with the feasibility report or feasibility and plan of operation report.

(2) Unless the owner or operator has made a successful demonstration under sub. (1)(a) and (b), a facility shall have any of the following:

(a) A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility.

(b) All of the following:

1. An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility.

2. A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance or controlled roadway access to the facility).

Note: The requirements of sub. (2) are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of par. (a) or (b).

(3) Unless the owner or operator has made a successful demonstration under sub. (1)(a) and (b), a sign with the legend, ”Danger—Unauthorized Personnel Keep Out”, shall be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend shall be written in English and in any other language predominant in the area surrounding the facility, and shall be legible from a distance of at least 25 feet. Existing signs with a legend other than ”Danger—Unauthorized Personnel Keep Out” may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

Note: See s. NR 664.0117(2) for discussion of security requirements at disposal facilities during the long-term care period.

NR 664.0015 General inspection requirements. **(1)** The owner or operator shall inspect the facility for malfunctions and deterioration, operator errors and discharges which may be causing, or may lead to, release of hazardous waste constituents to the environment or a threat to human health. The owner or operator shall conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(2)(a) The owner or operator shall develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting or responding to environmental or human health hazards.

(b) The owner or operator shall keep this schedule at the facility.

(c) The schedule shall identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).

Note: Chapter NR 670 requires the inspection schedule to be submitted with the feasibility and plan of operation report. The department shall evaluate the schedule along with the rest of the report to ensure that it adequately protects human health and the environment. As part of this review, the department may modify or amend the schedule as may be necessary.

(d) The frequency of inspection may vary for the items on the schedule. However, the frequency should be based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, shall be inspected daily when in use. At a minimum, the inspection schedule shall include the items and frequencies called for in ss. NR 664.0174, 664.0193, 664.0195, 664.0226, 664.0254, 664.0303, 664.0347, 664.0602, 664.1033, 664.1052, 664.1053, 664.1058 and 664.1083 to 664.1089, where applicable.

(3) The owner or operator shall remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action shall be taken immediately.

(4) The owner or operator shall record inspections in an inspection log or summary and shall keep these records for at least 3 years from the date of inspection. At a minimum, these records shall include the date and time of the inspection, the name of the inspector, a notation of the observations made and the date and nature of any repairs or other remedial actions.

NR 664.0016 Personnel training. **(1)**(a) Facility personnel shall successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility’s compliance with the requirements of this chapter. The owner or operator shall ensure that this program includes all the elements described in the document required under sub. (4)(c).

Note: Chapter NR 670 requires that owners and operators submit with the feasibility and plan of operation report, an outline of the training program used (or to be used) at the facility and a brief description of how the training program is designed to meet actual job tasks.

(b) This program shall be directed by a person trained in hazardous waste management procedures, and shall include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(c) At a minimum, the training program shall be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment and emergency systems, including, where applicable, all of the following:

1. Procedures for using, inspecting, repairing and replacing facility emergency and monitoring equipment.
2. Key parameters for automatic waste feed cut-off systems.
3. Communications or alarm systems.
4. Response to fires or explosions.
5. Response to groundwater contamination incidents.
6. Shutdown of operations.

(2) Facility personnel shall successfully complete the program required in sub. (1) within 6 months after the effective date of this chapter… [revisor insert date] or 6 months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of this chapter…[revisor insert date] may not work in unsupervised positions until they have completed the training requirements of sub. (1).

(3) Facility personnel shall take part in an annual review of the initial training required in sub. (1).

(4) The owner or operator shall maintain all of the following documents and records at the facility:

(a) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job.

(b) A written job description for each position listed under par. (a). This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but shall include the requisite skill, education or other qualifications, and duties of employees assigned to each position.

(c) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under par. (a).

(d) Records that document that the training or job experience required under subs. (1), (2) and (3) has been given to, and completed by, facility personnel.

(5) Training records on current personnel shall be kept until closure of the facility. Training records on former employees shall be kept for at least 3 years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

NR 664.0017 General requirements for ignitable, reactive or incompatible wastes. **(1)** The owner or operator shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste shall be separated and protected from sources of ignition or reaction including, but not limited to, open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions) and radiant heat. While ignitable or reactive waste is being handled, the owner or operator shall confine smoking and open flame to specially designated locations. ”No Smoking” signs shall be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(2) Where specifically required by other sections of this chapter, the owner or operator of a facility that treats, stores or disposes ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, shall take precautions to prevent reactions which do any of the following:

(a) Generate extreme heat or pressure, fire or explosions or violent reactions.

(b) Produce uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health or the environment.

(c) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions.

(d) Damage the structural integrity of the device or facility.

(e) Through other like means threaten human health or the environment.

(3) When required to comply with sub. (1) or (2), the owner or operator shall document that compliance. This documentation may be based on references to published scientific or engineering literature, data from trial tests (e.g., bench scale or pilot scale tests), waste analyses (as specified in s. NR 664.0013), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

NR 664.0018 Location standards.

Note: There is no location standard for seismic considerations in Wisconsin. See appendix VI of 40 CFR part 264 for more information.

(2) FLOODPLAINS. (a) A facility located in a 100-year floodplain shall be designed, constructed, operated and maintained to prevent washout of any hazardous waste by a 100-year flood, unless the owner or operator can demonstrate any of the following to the department's satisfaction:

1. Procedures are in effect which will cause the waste to be removed safely, before flood waters can reach the facility, to a location where the wastes will not be vulnerable to flood waters.

2. For existing surface impoundments, waste piles, landfills and miscellaneous units, no adverse effects on human health or the environment will result if washout occurs, considering all of the following:

a. The volume and physical and chemical characteristics of the waste in the facility.

b. The concentration of hazardous constituents that would potentially affect surface waters as a result of washout.

c. The impact of the concentrations on the current or potential uses of and water quality standards established for the affected surface waters.

d. The impact of hazardous constituents on the sediments of affected surface waters or the soils of the 100-year floodplain that could result from washout.

Note: The location where wastes are moved must be a facility which is either licensed by the department under ch. NR 670, authorized to manage hazardous waste by a state with a hazardous waste management program authorized under 40 CFR part 271, or interim licensed under chs. NR 665 and 670.

(b) As used in par. (a):

1. "100-year floodplain" means any land area which is subject to a one percent or greater chance of flooding in any given year from any source.

2. "Washout" means the movement of hazardous waste from the active portion of the facility as a result of flooding.

3. "100-year flood" means a flood that has a one percent chance of being equaled or exceeded in any given year.

(3) SALT DOME FORMATIONS, SALT BED FORMATIONS, UNDERGROUND MINES AND CAVES. The placement of any noncontainerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, underground mine or cave is prohibited.

(4) WETLAND. A hazardous waste facility may not be located in a wetland.

(5) CRITICAL HABITAT. A hazardous waste facility may not be located in a critical habitat.

NR 664.0019 Construction quality assurance program. **(1)** CQA PROGRAM. (a) A construction quality assurance (CQA) program is required for all surface impoundment, waste pile and landfill units

that are required to comply with ss. NR 664.0221(3) and (4), 664.0251(3) and (4) and 664.0301 (3) and (4). The program shall ensure that the constructed unit meets or exceeds all design criteria and specifications in the approved feasibility and plan of operation report. The program shall be developed and implemented under the direction of a CQA officer who is a registered professional engineer.

(b) The CQA program shall address all of the following physical components, where applicable:

1. Foundations.
2. Dikes.
3. Low-permeability soil liners.
4. Geomembranes (flexible membrane liners).
5. Leachate collection and removal systems and leak detection systems.
6. Final cover systems.

(2) WRITTEN CQA PLAN. The owner or operator of units subject to the CQA program under sub. (1) shall develop and implement a written CQA plan. The plan shall identify steps that will be used to monitor and document the quality of materials and the condition and manner of their installation. The CQA plan shall include all of the following:

(a) Identification of applicable units, and a description of how they will be constructed.

(b) Identification of key personnel in the development and implementation of the CQA plan, and CQA officer qualifications.

(c) A description of inspection and sampling activities for all unit components identified in sub. (1)(b), including observations and tests that will be used before, during and after construction to ensure that the construction materials and the installed unit components meet the design specifications. The description shall cover sampling size and locations, frequency of testing, data evaluation procedures, acceptance and rejection criteria for construction materials, plans for implementing corrective measures and data or other information to be recorded and retained in the operating record under s. NR 664.0073.

(3) CONTENTS OF PROGRAM. (a) The CQA program shall include observations, inspections, tests and measurements sufficient to ensure all of the following:

1. Structural stability and integrity of all components of the unit identified in sub. (1)(b).
2. Proper construction of all components of the liners, leachate collection and removal system, leak detection system and final cover system, according to approved feasibility and plan of operation report specifications and good engineering practices, and proper installation of all components (e.g., pipes) according to design specifications.
3. Conformity of all materials used with design and other material specifications under ss. NR 664.0221, 664.0251 and 664.0301.

(b) The CQA program shall include test fills for compacted soil liners, using the same compaction methods as in the full scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of ss. NR 664.0221(3)(a)1.b., 664.0251(3)(a)1.b. and 664.0301(3)(a)1.b. in the field. Compliance with the hydraulic conductivity requirements shall be verified by using in-situ testing on the constructed test fill. The department may accept an alternative demonstration, in lieu of a test fill, where data are sufficient to show that a constructed soil liner will meet the hydraulic conductivity requirements of ss. NR 664.0221(3)(a)1.b., 664.0251(3)(a)1.b. and 664.0301(3)(a)1.b. in the field.

(4) CERTIFICATION. Waste may not be received in a unit subject to s. NR 664.0019 until the owner or operator has submitted to the department by certified mail or hand delivery a certification signed by the CQA officer that the approved CQA plan has been successfully carried out and that the unit meets the requirements of s. NR 664.0221(3) or (4), 664.0251(3) or (4) or 664.0301(3) or (4); and the procedure in s. NR 670.030(12)(b)2. has been completed. Documentation supporting the CQA officer's certification shall be furnished to the department upon request. The department may choose to perform a site inspection after reviewing the CQA documentation. An inspection by the department or the submittal of additional information is subject to the fees stated in Appendix II of ch. NR 670.

NR 664.0025 Construction certification for a new facility. Owners and operators of all newly constructed treatment or storage facilities shall submit a written statement to the department, within 15 days after the construction is completed, certifying that the facility was constructed in substantial compliance with the approved feasibility and plan of operation report.

Subchapter C —Preparedness and Prevention

NR 664.0030 Applicability. This subchapter applies to owners and operators of all hazardous waste facilities, except as s. NR 664.0001 provides otherwise.

NR 664.0031 Design and operation of facility. Facilities shall be designed, constructed, maintained and operated to minimize the possibility of a fire, explosion or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water which could threaten human health or the environment.

NR 664.0032 Required equipment. All facilities shall be equipped with all of the following, unless it can be demonstrated to the department that none of the hazards posed by waste handled at the facility could require any of the following particular kinds of equipment:

(1) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.

(2) A device, such as a telephone (immediately available at the scene of operations) or a hand-held 2-way radio, capable of summoning emergency assistance from local police departments, fire departments or state or local emergency response teams.

(3) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas or dry chemicals), spill control equipment and decontamination equipment.

(4) Water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers or water spray systems.

Note: Chapter NR 670 requires that an owner or operator who wishes to make the demonstration referred to in this section shall do so with the feasibility and plan of operation report.

NR 664.0033 Testing and maintenance of equipment. All facility communications or alarm systems, fire protection equipment, spill control equipment and decontamination equipment, where required, shall be tested and maintained as necessary to assure its proper operation in time of emergency.

NR 664.0034 Access to communications or alarm system. **(1)** Whenever hazardous waste is being poured, mixed, spread or otherwise handled, all personnel involved in the operation shall have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless the department has ruled that such a device is not required under s. NR 664.0032.

(2) If there is ever just one employee on the premises while the facility is operating, that employee shall have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held 2-way radio, capable of summoning external emergency assistance, unless the department has ruled that such a device is not required under s. NR 664.0032.

NR 664.0035 Required aisle space. The owner or operator shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the department that aisle space is not needed for any of these purposes.

Note: Chapter NR 670 requires that an owner or operator who wishes to make the demonstration referred to in this section must do so with the feasibility and plan of operation report.

NR 664.0037 Arrangements with local authorities. **(1)** The owner or operator shall attempt to make all of the following arrangements, as appropriate for the type of waste handled at the facility and the potential need for the services of these organizations:

(a) Arrangements to familiarize police, fire departments and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility and possible evacuation routes.

(b) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority.

(c) Agreements with state emergency response teams, emergency response contractors and equipment suppliers.

(d) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions or releases at the facility.

(2) Where state or local authorities decline to enter into these arrangements, the owner or operator shall document the refusal in the operating record.

Subchapter D —Contingency Plan and Emergency Procedures

NR 664.0050 Applicability. This subchapter applies to owners and operators of all hazardous waste facilities, except as s. NR 664.0001 provides otherwise.

NR 664.0051 Purpose and implementation of contingency plan. **(1)** The owner or operator shall have a contingency plan for the facility. The contingency plan shall be designed to minimize hazards to human health or the environment from fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water.

(2) The provisions of the plan shall be carried out immediately whenever there is a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

NR 664.0052 Content of contingency plan. **(1)** The contingency plan shall describe the actions facility personnel shall take to comply with ss. NR 664.0051 and 664.0056 in response to fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water at the facility.

(2) If the owner or operator has already prepared a spill prevention, control and countermeasures (SPCC) plan according to 40 CFR part 112 or 300, or some other emergency or contingency plan, the owner or operator need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this chapter.

(3) The plan shall describe arrangements agreed to by local police departments, fire departments, hospitals, contractors and state and local emergency response teams to coordinate emergency services, pursuant to s. NR 664.0037.

(4) The plan shall list names, addresses and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see s. NR 664.0055), and this list shall be kept up to date. Where more than one person is listed, one shall be named as primary emergency coordinator and others shall be listed in the order in which they will assume responsibility as alternates. For new facilities, this information shall be supplied to the department at the time of certification, rather than at the time of feasibility and plan of operation report submittal.

(5) The plan shall include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external) and decontamination equipment), where this equipment is required. This list shall be kept up to date. In addition, the plan shall include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(6) The plan shall include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan shall describe the signal or signals to be used to begin evacuation, evacuation routes and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

NR 664.0053 Copies of contingency plan. A copy of the contingency plan and all revisions to the plan shall be:

(1) Maintained at the facility.

(2) Submitted to all local police departments, fire departments, hospitals and state and local emergency response teams that may be called upon to provide emergency services.

Note: The contingency plan shall be submitted to the department with the feasibility and plan of operation report under ch. NR 670 and, after modification or approval, will become a condition of any approval or modification issued.

NR 664.0054 Amendment of contingency plan. The contingency plan shall be reviewed, and immediately amended, if necessary, whenever any of the following occurs:

(1) The facility license is revised.

(2) The plan fails in an emergency.

(3) The facility changes—in its design, construction, operation, maintenance or other circumstances—in a way that materially increases the potential for fires, explosions or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency.

(4) The list of emergency coordinators changes.

(5) The list of emergency equipment changes.

NR 664.0055 Emergency coordinator. At all times, there shall be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator shall be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility and the facility layout. In addition, this person shall have the authority to commit the resources needed to carry out the contingency plan.

Note: The emergency coordinator's responsibilities are more fully spelled out in s. NR 664.0056. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of wastes handled by the facility, and type and complexity of the facility.

NR 664.0056 Emergency procedures. **(1)** Whenever there is an imminent or actual emergency situation, the emergency coordinator (or a designee when the emergency coordinator is on call) shall immediately do all of the following:

(a) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel.

(b) Notify appropriate state or local agencies with designated response roles if their help is needed.

(2) Whenever there is a release, fire or explosion, the emergency coordinator shall immediately identify the character, exact source, amount and areal extent of any released materials. The emergency coordinator may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

(3) Concurrently, the emergency coordinator shall assess possible hazards to human health or the environment that may result from the release, fire or explosion. This assessment shall consider both direct and indirect effects of the release, fire or explosion (e.g., the effects of any toxic, irritating or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

(4) If the emergency coordinator determines that the facility has had a release, fire or explosion which could threaten human health, or the environment, outside the facility, that person shall report the findings according to all of the following:

(a) If the emergency coordinator's assessment indicates that evacuation of local areas may be advisable, the emergency coordinator shall immediately notify appropriate local authorities. The emergency coordinator shall be available to help appropriate officials decide whether local areas should be evacuated.

(b) The emergency coordinator shall immediately notify either the government official designated as the on-scene coordinator for that geographical area (in the applicable regional contingency plan under 40 CFR part 300), or the national response center (using its 24-hour toll free number 800/424-8802) and the division of emergency government (using its 24-hour toll free number 800/943-0003). The report shall include all of the following:

1. Name and telephone number of reporter.
2. Name and address of facility.
3. Time and type of incident (e.g., release, fire).
4. Name and quantity of materials involved, to the extent known.
5. The extent of injuries, if any.
6. The possible hazards to human health, or the environment, outside the facility.

(5) During an emergency, the emergency coordinator shall take all reasonable measures necessary to ensure that fires, explosions and releases do not occur, recur or spread to other hazardous waste at the facility. These measures shall include, where applicable, stopping processes and operations, collecting and containing released waste and removing or isolating containers.

(6) If the facility stops operations in response to a fire, explosion or release, the emergency coordinator shall monitor for leaks, pressure buildup, gas generation or ruptures in valves, pipes or other equipment, wherever this is appropriate.

(7) Immediately after an emergency, the emergency coordinator shall provide for treating, storing or disposing of recovered waste, contaminated soil or surface water or any other material that results from a release, fire or explosion at the facility.

Note: Unless the owner or operator can demonstrate, according to s. NR 661.03(3) or (4), that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it according to all applicable requirements of chs. NR 662 and 663 and this chapter.

(8) The emergency coordinator shall ensure all of the following, in the affected areas of the facility:

(a) No waste that may be incompatible with the released material is treated, stored or disposed of until cleanup procedures are completed.

(b) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(9) The owner or operator shall notify the department, and appropriate state and local authorities, that the facility is in compliance with sub. (8) before operations are resumed in the affected areas of the facility.

(10) The owner or operator shall note in the operating record the time, date and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, the owner or operator

shall submit a written report on the incident to the department. The report shall include all of the following:

(a) Name, address and telephone number of the owner or operator.

(b) Name, address and telephone number of the facility.

(c) Date, time and type of incident (e.g., fire, explosion).

(d) Name and quantity of materials involved.

(e) The extent of injuries, if any.

(f) An assessment of actual or potential hazards to human health or the environment, where this is applicable.

(g) Estimated quantity and disposition of recovered material that resulted from the incident.

Subchapter E —Manifest System, Recordkeeping and Reporting

NR 664.0070 Applicability. This subchapter applies to owners and operators of both on-site and off-site facilities, except as s. NR 664.0001 provides otherwise. Sections NR 664.0071, 664.0072 and 664.0076 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources, and to owners and operators of off-site facilities with respect to waste military munitions exempted from manifest requirements under s. NR 666.203(1). Section NR 664.0073(2)(i) only applies to licensees who treat, store or dispose of hazardous wastes on-site where the wastes were generated.

NR 664.0071 Use of manifest system. **(1)** If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or an agent, shall do all of the following:

(a) Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received.

(b) Note any significant discrepancies in the manifest (as defined in s. NR 664.0072(1)) on each copy of the manifest.

Note: The department does not intend that the owner or operator of a facility whose procedures under s. NR 664.0013(3) include waste analysis shall perform that analysis before signing the manifest and giving it to the transporter. Section NR 664.0072(2), however, requires reporting an unreconciled discrepancy discovered during later analysis.

(c) Immediately give the transporter at least one copy of the signed manifest.

(d) Within 30 days after the delivery:

1. Send one copy of the manifest to the generator.

2. Send one copy of the manifest to the department in an electronic format specified by the department.

(e) Retain at the facility a copy of each manifest for at least 3 years from the date of delivery.

(f) Pay a manifest fee for each manifest submitted as designated in Appendix II of ch. NR 670. The department will bill each facility annually for accumulated manifest review fees.

(2) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or an agent, shall do all of the following:

(a) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received.

(b) Note any significant discrepancies (as defined in s. NR 664.0072(1)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper.

(c) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received).

(d) Within 30 days after the delivery, send one copy of the signed and dated manifest to the generator and one copy to the department. However, if the manifest has not been received within 30 days after delivery, the owner or operator, or an agent, shall send a copy of the shipping paper signed and dated to the generator.

Note: Section NR 662.023(3) requires the generator to send 3 copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment).

(e) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least 3 years from the date of delivery.

(f) Pay a manifest fee for each manifest submitted as designated in Appendix II of ch. NR 670. The department will bill each facility annually for accumulated manifest review fees.

(3) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility shall comply with the requirements of ch. NR 662.

Note: The provisions of s. NR 662.034 or 662.192 are applicable to the on-site accumulation of hazardous wastes by generators. Therefore, the provisions of s. NR 662.034 or 662.192 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.

(4) Within 3 working days of the receipt of a shipment subject to subch. H of ch. NR 662, the owner or operator of the facility shall provide a copy of the tracking document bearing all required signatures to the notifier, to the:

Office of Enforcement and Compliance Assurance
Office of Compliance; Enforcement Planning, Targeting and Data Division (2222A)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

and to competent authorities of all other concerned countries. The original copy of the tracking document shall be maintained at the facility for at least 3 years from the date of signature.

NR 664.0072 Manifest discrepancies. **(1)** Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are, for bulk waste, variations greater than 10% in weight, and for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(2) Upon discovering a significant discrepancy, the owner or operator shall attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator shall immediately submit to the department a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

NR 664.0073 Operating record. **(1)** The owner or operator shall keep a written operating record at the facility.

(2) All of the following information shall be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

(a) A description and the quantity of each hazardous waste received, and the methods and dates of its treatment, storage or disposal at the facility as required by Appendix I.

(b) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste shall be recorded on a map or diagram of each cell or disposal area. For all facilities, this information shall include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest.

Note: See s. NR 664.0119 for related requirements.

(c) Records and results of waste analyses and waste determinations performed as specified in ss. NR 664.0013, 664.0017, 664.0314, 664.0341, 664.1034, 664.1063, 664.1083, 668.04(1) and 668.07.

(d) Summary reports and details of all incidents that require implementing the contingency plan as specified in s. NR 664.0056(10).

(e) Records and results of inspections as required by s. NR 664.0015(4) (except these data need be kept only 3 years).

(f) Monitoring, testing or analytical data, and corrective action where required by subch. F and ss. NR 664.0019, 664.0191, 664.0193, 664.0195, 664.0222, 664.0223, 664.0226, 664.0252 to 664.0254, 664.0276, 664.0280, 664.0302 to 664.0304, 664.0309, 664.0347, 664.0602, 664.1034(3) to (6), 664.1035, 664.1063(4) to (9), 664.1064 and 664.1082 to 664.1090.

(g) For off-site facilities, notices to generators as specified in s. NR 664.0012(2).

(h) All closure cost estimates under s. NR 664.0142, and, for disposal facilities, all long-term care cost estimates under s. NR 664.0144.

(i) A certification by the licensee no less often than annually, that the licensee has a program in place to reduce the volume and toxicity of hazardous waste generated at the facility to the degree determined by the licensee to be economically practicable; and the proposed method of treatment, storage or disposal is that practicable method currently available to the licensee which minimizes the present and future threat to human health and the environment.

(j) Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to s. NR 668.05 or a petition pursuant to s. NR 668.06, and the applicable notice required by a generator under s. NR 668.07(1).

(k) For an off-site treatment facility, a copy of the notice required by the generator or the owner or operator under s. NR 668.07.

(L) For an on-site treatment facility, the information contained in the notice (except the manifest number) required by the generator or the owner or operator under s. NR 668.07.

(m) For an off-site land disposal facility, a copy of the notice required by the generator or the owner or operator of a treatment facility under s. NR 668.07.

(n) For an on-site land disposal facility, the information contained in the notice required by the generator or owner or operator of a treatment facility under s. NR 668.07, except for the manifest number.

(o) For an off-site storage facility, a copy of the notice required by the generator or the owner or operator under s. NR 668.07.

(p) For an on-site storage facility, the information contained in the notice (except the manifest number) required by the generator or the owner or operator under s. NR 668.07.

(q) Any records required under s. NR 664.0001(10)(m).

NR 664.0074 Availability, retention and disposition of records. **(1)** All records, including plans, required under this chapter shall be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee or representative of the department.

(2) The retention period for all records required under this chapter is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the department.

(3) A copy of records of waste disposal locations and quantities under s. NR 664.0073(2)(b) shall be submitted to the department and local land authority upon closure of the facility.

NR 664.0075 Annual report. The owner or operator shall prepare and submit a single copy of an annual report to the department by March 1 of each year. The annual report shall be submitted on department forms, shall cover facility activities during the previous calendar year and shall, at a minimum, include all of the following:

(1) The EPA identification number, name and address of the facility.

(2) The calendar year covered by the report.

(3) For off-site facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year. For imported shipments, the report shall give the name and address of the foreign generator.

(4) A description and the quantity of each hazardous waste the facility received during the year. For off-site facilities, this information shall be listed by EPA identification number of each generator.

(5) The method of treatment, storage or disposal for each hazardous waste.

(7) The most recent closure cost estimate under s. NR 664.0142, and, for disposal facilities, the most recent long-term care cost estimate under s. NR 664.0144.

(8) For generators who treat, store or dispose of hazardous waste on-site, a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.

(9) For generators who treat, store or dispose of hazardous waste on-site, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent the information is available for the years prior to 1984.

(10) The certification signed by the owner or operator of the facility or an authorized representative.

Note: The annual report forms may be obtained from: http://dnr.wi.gov/org/aw/air/emission/crs/index.htm , by E-mail: waste.management@dnr.state.wi.us, phone (608) 266-2111 or Fax (608) 267-2768.

NR 664.0076 Unmanifested waste report. If a facility accepts for treatment, storage or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper as described in s. NR 663.20(5)(b), and if the waste is not excluded from the manifest requirement by s. NR 662.220, then the owner or operator shall prepare and submit a report to the department within 15 days after receiving the waste. The report shall be designated 'Unmanifested Waste Report' and include all of the following information:

(1) The EPA identification number, name and address of the facility.

(2) The date the facility received the waste.

(3) The EPA identification number, name and address of the generator and the transporter, if available.

(4) A description and the quantity of each unmanifested hazardous waste the facility received.

(5) The method of treatment, storage or disposal for each hazardous waste.

(6) The certification signed by the owner or operator of the facility or an authorized representative.

(7) A brief explanation of why the waste was unmanifested, if known.

Note: Very small quantity hazardous waste generators are excluded from regulation under this chapter and are not required to use a manifest. Where a facility receives unmanifested hazardous wastes, the department suggests that the owner or operator obtain from each generator a certification that the generator qualifies for exclusion. Otherwise, the department suggests that the owner or operator file an unmanifested waste report for the hazardous waste movement.

NR 664.0077 Additional reports. In addition to submitting the annual reports and unmanifested waste reports described in ss. NR 664.0075 and 664.0076, the owner or operator shall also report all of the following to the department:

(1) Releases, fires and explosions as specified in s. NR 664.0056(10).

(2) Facility closures specified in s. NR 664.0115.

(3) Other information as required by subchs. F, K to N, AA, BB and CC.

Subchapter F —Releases From Solid Waste Management Units

NR 664.0090 Applicability.

Note: Groundwater monitoring requirements in chs. NR 140 and 141 also apply.

(1)(a) Except as provided in sub. (2), this subchapter applies to owners or operators of facilities that treat, store or dispose of hazardous waste. The owner or operator shall satisfy the requirements identified in par. (b) for all wastes (or constituents thereof) contained in solid waste management units at the facility, regardless of the time at which waste was placed in the units.

(b) All solid waste management units shall comply with the requirements in s. NR 664.0101. A surface impoundment or waste pile unit or landfill that receives hazardous waste after July 26, 1982 (in this subchapter, referred to as a ”regulated unit”) shall comply with the requirements of ss. NR 664.0091 to 664.0100 in lieu of s. NR 664.0101 for purposes of detecting, characterizing and responding to releases to the uppermost aquifer. The financial responsibility requirements of s. NR 664.0101 apply to regulated units.

(2) The owner or operator’s regulated unit or units are not regulated for releases into the uppermost aquifer under this subchapter if any of the following apply:

(a) The owner or operator is exempted under s. NR 664.0001.

(b) The owner or operator operates a unit which the department finds meets all of the following conditions:

1. Is an engineered structure.
2. Does not receive or contain liquid waste or waste containing free liquids.
3. Is designed and operated to exclude liquid, precipitation and other run-on and run-off.
4. Has both inner and outer layers of containment enclosing the waste.
5. Has a leak detection system built into each containment layer.
6. The owner or operator shall provide continuing operation and maintenance of these leak detection systems during the active life of the unit and the closure and long-term care periods.
7. To a reasonable degree of certainty, shall not allow hazardous constituents to migrate beyond the outer containment layer prior to the end of the long-term care period.

(d) The department finds that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and the long-term care period specified under s. NR 664.0117. A qualified geologist or geotechnical engineer shall certify this demonstration. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator shall base any predictions made under this paragraph on assumptions that maximize the rate of liquid migration.

(e) The owner or operator designs and operates a pile in compliance with s. NR 664.0250(3).

(3) This subchapter applies during the active life of the regulated unit (including the closure period). After closure of the regulated unit, this subchapter:

(a) Does not apply if all waste, waste residues, contaminated containment system components and contaminated subsoils are removed or decontaminated at closure.

(b) Applies during the long-term care period under s. NR 664.0117 if the owner or operator is conducting a detection monitoring program under s. NR 664.0098.

(c) Applies during the compliance period under s. NR 664.0096 if the owner or operator is conducting a compliance monitoring program under s. NR 664.0099 or a corrective action program under s. NR 664.0100.

(4) This subchapter may apply to miscellaneous units when necessary to comply with ss. NR 664.0601 to 664.0603.

(5) This subchapter applies to all owners and operators subject to s. NR 670.001(3)(g), when the department issues either a long-term care license or an enforceable document (as defined in s. NR

670.001(3)(g)) at the facility. When the department issues an enforceable document, references in this subchapter to ”in the license” mean ”in the enforceable document”.

(6) The department may replace all or part of the requirements of ss. NR 664.0091 to 664.0100 applying to a regulated unit with alternative requirements for groundwater monitoring and corrective action for releases to groundwater set out in the license (or in an enforceable document) (as defined in s. NR 670.001(3)(g)) where the department determines that all of the following apply:

(a) The regulated unit is situated among solid waste management units (or areas of concern), a release has occurred and both the regulated unit and one or more solid waste management units (or areas of concern) are likely to have contributed to the release.

(b) It is not necessary to apply the groundwater monitoring and corrective action requirements of ss. NR 664.0091 to 664.0100 because alternative requirements will protect human health and the environment.

NR 664.0091 Required programs. (1) Owners and operators subject to this subchapter shall conduct a monitoring and response program according to the following:

(a) Whenever hazardous constituents under s. NR 664.0093 from a regulated unit are detected at a point of standards application under s. NR 664.0095, the owner or operator shall institute a compliance monitoring program under s. NR 664.0099. Detected is defined as statistically significant evidence of contamination as described in s. NR 664.0098(6).

(b) Whenever the groundwater protection standard under s. NR 664.0092 is exceeded, the owner or operator shall institute a corrective action program under s. NR 664.0100. Exceeded is defined as statistically significant evidence of increased contamination as described in s. NR 664.0099(4).

(c) Whenever hazardous constituents under s. NR 664.0093 from a regulated unit exceed concentration limits under s. NR 664.0094 in groundwater between the point of standards application under s. NR 664.0095 and the downgradient facility property boundary, the owner or operator shall institute a corrective action program under s. NR 664.0100.

(d) In all other cases, the owner or operator shall institute a detection monitoring program under s. NR 664.0098.

(e) Chemical and physical samples shall be analyzed by a laboratory certified or registered under ch. NR 149, except for field analyses for pH, specific conductance and temperature.

(2) The department shall specify in the facility license the specific elements of the monitoring and response program. The department may include one or more of the programs identified in sub. (1) in the facility license as may be necessary to protect human health and the environment and shall specify the circumstances under which each of the programs will be required. In deciding whether to require the owner or operator to be prepared to institute a particular program, the department shall consider the potential adverse effects on human health and the environment that might occur before final administrative action on an application to modify the license to incorporate such a program could be taken.

NR 664.0092 Groundwater protection standard. The owner or operator shall comply with conditions specified in the facility license that are designed to ensure that hazardous constituents under s. NR 664.0093 detected in the groundwater from a regulated unit do not exceed the concentration limits under s. NR 664.0094 or the enforcement standards listed in ch. NR 140, whichever are more stringent, in the uppermost aquifer underlying the waste management area beyond the point of standards application under s. NR 664.0095 during the compliance period under s. NR 664.0096. The department shall establish this groundwater protection standard in the license when hazardous constituents have been detected in the groundwater.

NR 664.0093 Hazardous constituents. (1) The department shall specify in the facility license the hazardous constituents to which the groundwater protection standard of s. NR 664.0092 applies.

Hazardous constituents are constituents identified in ch. NR 661, Appendix VIII, that have been detected in groundwater in the uppermost aquifer underlying a regulated unit and that are reasonably expected to be in or derived from waste contained in a regulated unit, unless the department has excluded them under sub. (2).

(2) The department shall exclude a ch. NR 661, Appendix VIII constituent from the list of hazardous constituents specified in the license if it finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. In deciding whether to grant an exemption, the department shall consider all of the following:

(a) Potential adverse effects on groundwater quality, considering all of the following:

1. The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration.
2. The hydrogeological characteristics of the facility and surrounding land.
3. The quantity of groundwater and the direction of groundwater flow.
4. The proximity and withdrawal rates of groundwater users.
5. The current and future uses of groundwater in the area.
6. The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality.
7. The potential for health risks caused by human exposure to waste constituents.
8. The potential damage to wildlife, crops, vegetation and physical structures caused by exposure to waste constituents.
9. The persistence and permanence of the potential adverse effects.

(b) Potential adverse effects on hydraulically-connected surface water quality, considering all of the following:

1. The volume and physical and chemical characteristics of the waste in the regulated unit.
2. The hydrogeological characteristics of the facility and surrounding land.
3. The quantity and quality of groundwater, and the direction of groundwater flow.
4. The patterns of rainfall in the region.
5. The proximity of the regulated unit to surface waters.
6. The current and future uses of surface waters in the area and any water quality standards established for those surface waters.
7. The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality.
8. The potential for health risks caused by human exposure to waste constituents.
9. The potential damage to wildlife, crops, vegetation and physical structures caused by exposure to waste constituents.
10. The persistence and permanence of the potential adverse effects.

(2m) The department may not grant an exclusion under sub. (2) that would allow a violation of ch. NR 140 enforcement standards, except as provided by s. NR 140.28.

(3) In making any determination under sub. (2) about the use of groundwater in the area around the facility, the department shall consider any identification of underground sources of drinking water and exempted aquifers made under 40 CFR 144.7.

Note: There are no exempted aquifers in Wisconsin.

NR 664.0094 Concentration limits. (1) The department shall specify in the facility license concentration limits in the groundwater for hazardous constituents established under s. NR 664.0093. The concentration that is specified for a hazardous constituent shall meet the following conditions:

(a) May not exceed the background level of that constituent in the groundwater at the time that the limit is specified in the license.

(b) For any of the constituents listed in Table 1, may not exceed the respective value given in that table if the background level of the constituent is below the value given in Table 1.

TABLE 1 —MAXIMUM CONCENTRATION OF CONSTITUENTS FOR GROUNDWATER PROTECTION

Constituent	Maximum concentration [1]

WA-10-05

Arsenic	0.05

WA-10-05

Barium	1.0

1800

WA-10-05

Cadmium.....	0.01

1801

WA-10-05

Chromium	0.05

WA-10-05

Lead	0.05

1803

WA-10-05

Mercury.....	0.002

WA-10-05

Selenium	0.01

1805

WA-10-05

Silver	0.05

WA-10-05

Endrin (1,2,3,4,10,10-Hexachloro-1,7-epoxy 1,4,4a,5,6,7,8,9a-octahydro-1,4-endo, endo-5,8-dimethanonaphthalene)	0.0002

WA-10-05

Lindane (1,2,3,4,5,6-Hexachlorocyclohexane, gamma isomer).....	0.004

WA-10-05

Methoxychlor (1,1,1-Trichloro-2,2-bis (p-methoxyphenylethane)	0.1

WA-10-05

Toxaphene ($C_{10}H_{10}Cl_8$, Technical chlorinated camphene, 67-69 percent chlorine)	0.005

WA-10-05

2,4-D (2,4-Dichlorophenoxyacetic acid)	0.1

WA-10-05

2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)....	0.01

[1] Milligrams per liter.

(c) May not exceed an alternate limit established by the department under sub. (2).

(d) May not exceed the enforcement standards established under ch. NR 140, except as provided by s. NR 140.28.

(2) The department shall establish an alternate concentration limit for a hazardous constituent if it finds that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In establishing alternate concentration limits, the department shall consider all of the following factors:

(a) Potential adverse effects on groundwater quality, considering all of the following:

1. The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration.
2. The hydrogeological characteristics of the facility and surrounding land.
3. The quantity of groundwater and the direction of groundwater flow.
4. The proximity and withdrawal rates of groundwater users.
5. The current and future uses of groundwater in the area.
6. The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality.
7. The potential for health risks caused by human exposure to waste constituents.
8. The potential damage to wildlife, crops, vegetation and physical structures caused by exposure to waste constituents.
9. The persistence and permanence of the potential adverse effects.

(b) Potential adverse effects on hydraulically-connected surface-water quality, considering all of the following:

1. The volume and physical and chemical characteristics of the waste in the regulated unit.
2. The hydrogeological characteristics of the facility and surrounding land.
3. The quantity and quality of groundwater, and the direction of groundwater flow.
4. The patterns of rainfall in the region.
5. The proximity of the regulated unit to surface waters.
6. The current and future uses of surface waters in the area and any water quality standards established for those surface waters.
7. The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality.
8. The potential for health risks caused by human exposure to waste constituents.
9. The potential damage to wildlife, crops, vegetation and physical structures caused by exposure to waste constituents.
10. The persistence and permanence of the potential adverse effects.

(2m) The department may not establish an alternate concentration limit under sub. (2) that is inconsistent with ch. NR 140.

(3) In making any determination under sub. (2) about the use of groundwater in the area around the facility the department shall consider any identification of underground sources of drinking water and exempted aquifers made under 40 CFR 144.7.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0095 Point of standards application. (1)** The department shall specify in the facility license the point of standards application at which the groundwater protection standard of s. NR 664.0092 applies and at which monitoring shall be conducted. The point of standards application is a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units.

(2) The waste management area is the limit projected in the horizontal plane of the area on which waste will be placed during the active life of a regulated unit.

(a) The waste management area includes horizontal space taken up by any liner, dike or other barrier designed to contain waste in a regulated unit.

(b) If the facility contains more than one regulated unit, an imaginary line circumscribing the several regulated units describes the waste management area.

NR 664.0096 Compliance period. (1) The department shall specify in the facility license the compliance period during which the groundwater protection standard of s. NR 664.0092 applies. The compliance period is the number of years equal to the active life of the waste management area (including any waste management activity prior to licensing, and the closure period.)

(2) The compliance period begins when the owner or operator initiates a compliance monitoring program meeting the requirements of s. NR 664.0099.

(3) If the owner or operator is engaged in a corrective action program at the end of the compliance period specified in sub. (1), the compliance period is extended until the owner or operator can demonstrate that the groundwater protection standard of s. NR 664.0092 has not been exceeded for a period of 3 consecutive years.

NR 664.0097 General groundwater monitoring requirements. The owner or operator shall comply with the following requirements for any groundwater monitoring program developed to satisfy s. NR 664.0098, 664.0099 or 664.0100:

(1) The groundwater monitoring system shall consist of a sufficient number of wells, installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer that do all of the following:

(a) Represent the quality of background water that has not been affected by leakage from a regulated unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where all of the following conditions are met:

1. Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient.

2. Sampling at other wells shall provide an indication of background groundwater quality that is representative or more representative than that provided by the upgradient wells.

(b) Represent the quality of groundwater passing the point of standards application.

(c) Allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the waste management area to the uppermost aquifer.

(2) If a facility contains more than one regulated unit, separate groundwater monitoring systems are not required for each regulated unit provided that provisions for sampling the groundwater in the uppermost aquifer will enable detection and measurement at the point of standards application of hazardous constituents from the regulated units that have entered the groundwater in the uppermost aquifer.

(3) All monitoring wells shall be cased in a manner that maintains the integrity of the monitoring-well bore hole. This casing shall be screened or perforated and packed with gravel or sand, where necessary, to enable collection of groundwater samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth shall be sealed to prevent contamination of samples and the groundwater.

(4) The groundwater monitoring program shall include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of groundwater quality below the waste management area. At a minimum the program shall include procedures and techniques for all of the following:

(a) Sample collection.

(b) Sample preservation and shipment.

(c) Analytical procedures.

(d) Chain of custody control.

(5) The groundwater monitoring program shall include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents in groundwater samples.

(6) The groundwater monitoring program shall include a determination of the groundwater surface elevation each time groundwater is sampled.

(7) In detection monitoring or where appropriate in compliance monitoring, data on each hazardous constituent specified in the license shall be collected from background wells and wells at the points of standards applications. The number and kinds of samples collected to establish background shall be appropriate for the form of statistical test employed, following generally accepted statistical principles. The sample size shall be as large as necessary to ensure with reasonable confidence that a contaminant release to groundwater from a facility will be detected. The owner or operator shall determine an appropriate sampling procedure and interval for each hazardous constituent listed in the facility license which shall be specified in the unit license upon approval by the department. This sampling procedure shall be any of the following:

(a) A sequence of at least 4 samples, taken at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained, by reference to the uppermost aquifer's effective porosity, hydraulic conductivity and hydraulic gradient, and the fate and transport characteristics of the potential contaminants.

(b) An alternate sampling procedure proposed by the owner or operator and approved by the department.

(8) The owner or operator shall specify one of the following statistical methods to be used in evaluating groundwater monitoring data for each hazardous constituent which, upon approval by the department, shall be specified in the unit license. The statistical test chosen shall be conducted separately for each hazardous constituent in each well. Where practical quantification limits (pql's) are used in any of the following statistical procedures to comply with sub. (9)(e), the pql shall be proposed by the owner or operator and approved by the department. Use of any of the following statistical methods shall be protective of human health and the environment and shall comply with the performance standards outlined in sub. (9).

(a) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method shall include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

(b) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method shall include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

(c) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

(d) A control chart approach that gives control limits for each constituent.

(e) Another statistical test method submitted by the owner or operator and approved by the department.

(9) Any statistical method chosen under sub. (8) for specification in the unit license shall comply with all of the following performance standards, as appropriate:

(a) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal

theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(b) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experimentwise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons shall be maintained. This performance standard does not apply to tolerance intervals, prediction intervals or control charts.

(c) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be proposed by the owner or operator and approved by the department if it finds them to be protective of human health and the environment.

(d) If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be proposed by the owner or operator and approved by the department if it finds these parameters to be protective of human health and the environment. These parameters shall be determined after considering the number of samples in the background database, the data distribution and the range of the concentration values for each constituent of concern.

(e) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantification limit (pql) approved by the department under sub. (8) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(f) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(10) Groundwater monitoring data collected in accordance with sub. (7) including actual levels of constituents shall be maintained in the facility operating record. The department shall specify in the license when the data must be submitted for review.

NR 664.0098 Detection monitoring program. An owner or operator required to establish a detection monitoring program under this subchapter shall, at a minimum, discharge all of the following responsibilities:

(1) The owner or operator shall monitor for indicator parameters (e.g., specific conductance, total organic carbon or total organic halogen), waste constituents or reaction products that provide a reliable indication of the presence of hazardous constituents in groundwater. The department shall specify the parameters or constituents to be monitored in the facility license, after considering all of the following factors:

(a) The types, quantities and concentrations of constituents in wastes managed at the regulated unit.

(b) The mobility, stability and persistence of waste constituents or their reaction products in the unsaturated zone beneath the waste management area.

(c) The detectability of indicator parameters, waste constituents and reaction products in groundwater.

(d) The concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the groundwater background.

(2) The owner or operator shall install a groundwater monitoring system at the point of standards application as specified under s. NR 664.0095. The groundwater monitoring system shall comply with s. NR 664.0097(1)(b), (2) and (3).

(3) The owner or operator shall conduct a groundwater monitoring program for each chemical parameter and hazardous constituent specified in the license pursuant to sub. (1) in accordance with s. NR 664.0097(7). The owner or operator shall maintain a record of groundwater analytical data as measured and in a form necessary for the determination of statistical significance under s. NR 664.0097(8).

(4) The department shall specify the frequencies for collecting samples and conducting statistical tests to determine whether there is statistically significant evidence of contamination for any parameter or hazardous constituent specified in the license under sub. (1) in accordance with s. NR 664.0097(7). A sequence of at least 4 samples from each well (background and compliance wells) shall be collected at least semi-annually during detection monitoring.

(5) The owner or operator shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

(6) The owner or operator shall determine whether there is statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in the license pursuant to sub. (1) at a frequency specified under sub. (4).

(a) In determining whether statistically significant evidence of contamination exists, the owner or operator shall use the methods specified in the license under s. NR 664.0097(8). These methods shall compare data collected at the points of standards applications to the background groundwater quality data.

(b) The owner or operator shall determine whether there is statistically significant evidence of contamination at each monitoring well at the point of standards application within a reasonable period of time after completion of sampling. The department shall specify in the facility license what period of time is reasonable, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

(7) If the owner or operator determines pursuant to sub. (6) that there is statistically significant evidence of contamination for chemical parameters or hazardous constituents specified pursuant to sub. (1) at any monitoring well at the point of standards application, the owner or operator shall do all of the following:

(a) Notify the department of this finding in writing within 7 days. The notification shall indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination.

(b) Immediately sample the groundwater in all monitoring wells and determine whether constituents in the list of Appendix IX are present, and if so, in what concentration.

(c) For any Appendix IX compounds found in the analysis pursuant to par. (b), the owner or operator may resample within one month and repeat the analysis for those compounds detected. If the results of the second analysis confirm the initial results, then these constituents will form the basis for compliance monitoring. If the owner or operator does not resample for the compounds found pursuant to par. (b), the hazardous constituents found during this initial Appendix IX analysis will form the basis for compliance monitoring.

(d) Within 90 days, submit to the department an application to modify the license to establish a compliance monitoring program meeting the requirements of s. NR 664.0099. The application shall include all of the following information:

1. An identification of the concentration of any Appendix IX constituent detected in the groundwater at each monitoring well at the point of standards application.

2. Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of s. NR 664.0099.

3. Any proposed additions or changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical methods used at the facility necessary to meet the requirements of s. NR 664.0099.

4. For each hazardous constituent detected at the point of standards application, a proposed concentration limit under s. NR 664.0094(1)(a) or (b), or a notice of intent to seek an alternate concentration limit under s. NR 664.0094(2).

(e) Within 180 days, submit to the department all of the following:

1. All data necessary to justify an alternate concentration limit sought under s. NR 664.0094(2).

2. An engineering feasibility plan for a corrective action program necessary to meet the requirement of s. NR 664.0100, unless any of the following conditions are met:

a. All hazardous constituents identified under par. (b) are listed in s. NR 664.0094, Table 1, and their concentrations do not exceed the respective values given in that table.

b. The owner or operator has sought an alternate concentration limit under s. NR 664.0094(2) for every hazardous constituent identified under par. (b).

(f) If the owner or operator determines, pursuant to sub. (6), that there is a statistically significant difference for chemical parameters or hazardous constituents specified pursuant to sub. (1) at any monitoring well at the point of standards application, owner or operator may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis or statistical evaluation or natural variation in the groundwater. The owner or operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting an application to modify the license under par. (d); however, the owner or operator is not relieved of the requirement to submit an application to modify the license within the time specified in par. (d) unless the demonstration made under this paragraph successfully shows that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis or evaluation. In making a demonstration under this paragraph, the owner or operator shall do all of the following:

1. Notify the department in writing within 7 days of determining statistically significant evidence of contamination at the point of standards application that the owner or operator intends to make a demonstration under this paragraph.

2. Within 90 days, submit a report to the department which demonstrates that a source other than a regulated unit caused the contamination or that the contamination resulted from error in sampling, analysis or evaluation.

3. Within 90 days, submit to the department an application to modify the license to make any appropriate changes to the detection monitoring program for the facility.

4. Continue to monitor in accordance with the detection monitoring program established under this section.

(8) If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this section, owner or operator shall, within 90 days, submit an application to modify the license to make any appropriate changes to the program.

NR 664.0099 Compliance monitoring program. An owner or operator required to establish a compliance monitoring program under this subchapter shall, at a minimum, do all of the following:

(1) The owner or operator shall monitor the groundwater to determine whether regulated units are in compliance with the groundwater protection standard under s. NR 664.0092. The department shall specify the groundwater protection standard in the facility license, including all of the following:

(a) A list of the hazardous constituents identified under s. NR 664.0093.

(b) Concentration limits under s. NR 664.0094 for each of those hazardous constituents.

(c) The point of standards application under s. NR 664.0095.

(d) The compliance period under s. NR 664.0096.

(2) The owner or operator shall install a groundwater monitoring system at the point of standards application as specified under s. NR 664.0095. The groundwater monitoring system shall comply with s. NR 664.0097(1)(b), (2) and (3).

(3) The department shall specify the sampling procedures and statistical methods appropriate for the constituents and the facility, consistent with s. NR 664.0097(7) and (8).

(a) The owner or operator shall conduct a sampling program for each chemical parameter or hazardous constituent in accordance with s. NR 664.0097(7).

(b) The owner or operator shall record groundwater analytical data as measured and in form necessary for the determination of statistical significance under s. NR 664.0097(8) for the compliance period of the facility.

(4) The owner or operator shall determine whether there is statistically significant evidence of increased contamination for any chemical parameter or hazardous constituent specified in the license, pursuant to sub. (1), at a frequency specified under sub. (6).

(a) In determining whether statistically significant evidence of increased contamination exists, the owner or operator shall use the methods specified in the license under s. NR 664.0097(8). The methods shall compare data collected at the points of standards applications to a concentration limit developed in accordance with s. NR 664.0094.

(b) The owner or operator shall determine whether there is statistically significant evidence of increased contamination at each monitoring well at the point of standards application within a reasonable time period after completion of sampling. The department shall specify that time period in the facility license, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

(5) The owner or operator shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

(6) The department shall specify the frequencies for collecting samples and conducting statistical tests to determine statistically significant evidence of increased contamination in accordance with s. NR 664.0097(7). A sequence of at least 4 samples from each well (background and compliance wells) shall be collected at least semi-annually during the compliance period of the facility.

(7) The owner or operator shall analyze samples from all monitoring wells at the point of standards application for all constituents contained in Appendix IX at least annually to determine whether additional hazardous constituents are present in the uppermost aquifer and, if so, at what concentration, pursuant to procedures in s. NR 664.0098(6). If the owner or operator finds Appendix IX constituents in the groundwater that are not already identified in the license as monitoring constituents, the owner or operator may resample within one month and repeat the Appendix IX analysis. If the second analysis confirms the presence of new constituents, the owner or operator shall report the concentration of these additional constituents to the department within 7 days after the completion of the second analysis and add them to the monitoring list. If the owner or operator chooses not to resample, then the owner or operator shall report the concentrations of these additional constituents to the department within 7 days after completion of the initial analysis and add them to the monitoring list.

(8) If the owner or operator determines pursuant to sub. (4) that any concentration limits under s. NR 664.0094 are being exceeded at any monitoring well at the point of standards application the owner or operator shall do all of the following:

(a) Notify the department of this finding in writing within 7 days. The notification shall indicate what concentration limits have been exceeded.

(b) Submit to the department an application to modify the license to establish a corrective action program meeting the requirements of s. NR 664.0100 within 180 days, or within 90 days if an engineering feasibility study has been previously submitted to the department under s. NR 664.0098(7)(e). The application shall at a minimum include all of the following information:

1. A detailed description of corrective actions that will achieve compliance with the groundwater protection standard specified in the license under sub. (1).

2. A plan for a groundwater monitoring program that will demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program developed to meet the requirements of this section.

(9) If the owner or operator determines, pursuant to sub. (4), that the groundwater concentration limits under this section are being exceeded at any monitoring well at the point of standards application, the owner or operator may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis or statistical evaluation or natural variation in the groundwater. In making a demonstration under this subsection, the owner or operator shall do all of the following:

(a) Notify the department in writing within 7 days that the owner or operator intends to make a demonstration under this subsection.

(b) Within 90 days, submit a report to the department which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent noncompliance with the standards resulted from error in sampling, analysis or evaluation.

(c) Within 90 days, submit to the department an application to modify the license to make any appropriate changes to the compliance monitoring program at the facility.

(d) Continue to monitor in accord with the compliance monitoring program established under this section.

(10) If the owner or operator determines that the compliance monitoring program no longer satisfies the requirements of this section, the owner or operator shall, within 90 days, submit an application to modify the license to make any appropriate changes to the program.

NR 664.0100 Corrective action program. An owner or operator required to establish a corrective action program under this subchapter shall, at a minimum, do all of the following:

(1) The owner or operator shall take corrective action to ensure that regulated units are in compliance with the groundwater protection standard under s. NR 664.0092. The department shall specify the groundwater protection standard in the facility license, including all of the following:

(a) A list of the hazardous constituents identified under s. NR 664.0093.

(b) Concentration limits under s. NR 664.0094 for each of those hazardous constituents.

(c) The point of standards application under s. NR 664.0095.

(d) The compliance period under s. NR 664.0096.

(2) The owner or operator shall implement a corrective action program that prevents hazardous constituents from exceeding their respective concentration limits at the point of standards application by removing the hazardous waste constituents or treating them in place. The license shall specify the specific measures that will be taken.

(3) The owner or operator shall begin corrective action within a reasonable time period after the groundwater protection standard is exceeded. The department shall specify that time period in the facility license. If a facility license includes a corrective action program in addition to a compliance monitoring program, the license shall specify when the corrective action will begin and such a requirement shall operate in lieu of s. NR 664.0099(8)(b).

(4) In conjunction with a corrective action program, the owner or operator shall establish and implement a groundwater monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program may be based on the requirements for a compliance monitoring program under s. NR 664.0099 and shall be as effective as that program in determining compliance with the groundwater protection standard under s. NR 664.0092 and in determining the success of a corrective action program under sub. (5), where appropriate.

(5) In addition to the other requirements of this section, the owner or operator shall conduct a corrective action program to remove or treat in place any hazardous constituents under s. NR 664.0093 that exceed concentration limits under s. NR 664.0094 in groundwater at all of the following locations:

(a) Between the point of standards application under s. NR 664.0095 and the downgradient property boundary.

(b) Beyond the facility boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the department that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake that action. The owner or operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address the releases shall be determined on a case-by-case basis.

(c) Corrective action measures under this subsection shall be initiated and completed within a reasonable period of time considering the extent of contamination.

(d) Corrective action measures under this subsection may be terminated once the concentration of hazardous constituents under s. NR 664.0093 is reduced to levels below their respective concentration limits under s. NR 664.0094.

(6) The owner or operator shall continue corrective action measures during the compliance period to the extent necessary to ensure that the groundwater protection standard is not exceeded. If the owner or operator is conducting corrective action at the end of the compliance period, the owner or operator shall continue that corrective action for as long as necessary to achieve compliance with the groundwater protection standard. The owner or operator may terminate corrective action measures taken beyond the period equal to the active life of the waste management area (including the closure period) if the owner or operator can demonstrate, based on data from the groundwater monitoring program under sub. (4), that the groundwater protection standard of s. NR 664.0092 has not been exceeded for a period of 3 consecutive years.

(7) The owner or operator shall report in writing to the department on the effectiveness of the corrective action program. The owner or operator shall submit these reports semi-annually.

(8) If the owner or operator determines that the corrective action program no longer satisfies the requirements of this section, the owner or operator shall, within 90 days, submit an application to modify the license to make any appropriate changes to the program.

NR 664.0101 Corrective action for solid waste management units. (1) The owner or operator of a facility seeking a license for the treatment, storage or disposal of hazardous waste shall institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the unit.

(2) Corrective action shall be specified in the license in accordance with this section and subch. S. The license shall contain schedules of compliance for the corrective action (where the corrective action cannot be completed prior to issuance of the license) and assurances of financial responsibility for completing the corrective action.

(3) The owner or operator shall implement corrective actions beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the department that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake the actions. The owner or operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address the releases shall be determined on a case-by-case basis. Assurances of financial responsibility for the corrective action shall be provided.

(4) The requirements of this section do not apply to remediation waste management sites unless they are part of a facility subject to a license for treating, storing or disposing of hazardous wastes that are not remediation wastes.

Subchapter G —Closure and Long-Term Care

NR 664.0110 Applicability. Except as s. NR 664.0001 provides otherwise:

(1) Sections NR 664.0111 to 664.0115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities.

(2) Sections NR 664.0116 to 664.0120 (which concern long-term care) apply to the owners and operators of all of the following:

(a) All hazardous waste disposal facilities.

(b) Waste piles and surface impoundments from which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to the facilities in s. NR 664.0228 or 664.0258.

(c) Tank systems that are required under s. NR 664.0197 to meet the requirements for landfills.

(d) Containment buildings that are required under s. NR 664.1102 to meet the requirements for landfills.

(3) The department may replace all or part of the requirements of this subchapter (and the unit-specific standards referenced in s. NR 664.0111(3) applying to a regulated unit), with alternative requirements set out in an operating license or in an enforceable document (as defined in s. NR 670.001(3)(g)), where the department determines that both of the following conditions are met:

(a) The regulated unit is situated among solid waste management units (or areas of concern), a release has occurred and both the regulated unit and one or more solid waste management units (or areas of concern) are likely to have contributed to the release.

(b) It is not necessary to apply the closure requirements of this subchapter (and those referenced in this subchapter) because the alternative requirements will protect human health and the environment and will satisfy the closure performance standard of s. NR 664.0111(1) and (2).

NR 664.0111 Closure performance standard. The owner or operator shall close the facility in a manner that does all of the following:

(1) Minimizes the need for further maintenance.

(2) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.

(3) Complies with the closure requirements of this subchapter, including, but not limited to, the requirements of ss. NR 664.0178, 664.0197, 664.0228, 664.0258, 664.0310, 664.0351, 664.0601 to 664.0603 and 664.1102.

(4) Meets, in the case of a landfill or surface impoundment, applicable requirements in ch. NR 140 and applicable soil cleanup standards in ch. NR 720 or meets the applicable closure requirements of sub. (2) or (3), whichever are more stringent.

NR 664.0112 Closure plan; amendment of plan. (1) WRITTEN PLAN. (a) The owner or operator of a hazardous waste management facility shall have a written closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous waste at partial or final closure are required by ss. NR 664.0228(3)(a)1. and 664.0258(3)(a)1. to have contingent closure plans. The plan shall be submitted with the feasibility and plan of operation report, in accordance with s. NR 670.014(2)(m), and approved by the department as part of the operating license issuance procedures under subchs. L and M of ch. NR 670. In accordance with s. NR 670.032, the approved closure plan will become a condition of any hazardous waste operating license.

(b) The department's approval of the plan shall ensure that the approved closure plan is consistent with ss. NR 664.0111, this section and 664.0113 to 664.0115 and the applicable requirements of subch. F, ss. NR 664.0178, 664.0197, 664.0228, 664.0258, 664.0310, 664.0351, 664.0601 and 664.1102. Until final closure is completed and certified in accordance with s. NR 664.0115, a copy of the approved plan and all approved revisions shall be furnished to the department upon request, including requests by mail.

(2) CONTENT OF PLAN. The plan shall identify steps necessary to perform partial or final closure of the facility, or both, at any point during its active life. The closure plan shall include at least all of the following:

(a) A description of how each hazardous waste management unit at the facility will be closed in accordance with s. NR 664.0111.

(b) A description of how final closure of the facility will be conducted in accordance with s. NR 664.0111. The description shall identify the maximum extent of the operations which will be unclosed during the active life of the facility.

(c) An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial closures and final closure, including, but not limited to, methods for removing, transporting, treating, storing or disposing of all

hazardous wastes, and identification of the types of the off-site hazardous waste management units to be used, if applicable.

(d) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils and criteria for determining the extent of decontamination required to satisfy the closure performance standard.

(e) A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, groundwater monitoring, leachate collection and run-on and run-off control.

(f) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule shall include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover shall be included.)

(g) For facilities that use trust funds to establish financial assurance under s. NR 664.0143 or 664.0145 and that are expected to close prior to the expiration of the operating license, an estimate of the expected year of final closure.

(h) For facilities where the department has applied alternative requirements at a regulated unit under s. NR 664.0090(6), 664.0110(3) or 664.0140(4), either the alternative requirements applying to the regulated unit, or a reference to the enforceable document containing those alternative requirements.

(3) AMENDMENT OF PLAN. The owner or operator shall submit a written notification of or request for an operating license modification to authorize a change in operating plans, facility design or the approved closure plan in accordance with the applicable procedures in ch. NR 670. The written notification or request shall include a copy of the amended closure plan for review or approval by the department.

(a) The owner or operator may submit a written notification or request to the department for an operating license modification to amend the closure plan at any time prior to the notification of partial or final closure of the facility.

(b) The owner or operator shall submit a written notification of or request for an operating license modification to authorize a change in the approved closure plan under any of the following circumstances:

1. Changes in operating plans or facility design affect the closure plan.

2. There is a change in the expected year of closure, if applicable.

3. In conducting partial or final closure activities, unexpected events require a modification of the approved closure plan.

4. The owner or operator requests the department to apply alternative requirements to a regulated unit under s. NR 664.0090(6), 664.0110(3) or 664.0140(4).

(c) The owner or operator shall submit a written request for an operating license modification including a copy of the amended closure plan for approval at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator shall request an operating license modification no later than 30 days after the unexpected event. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to prepare a contingent closure plan under s. NR 664.0228(3)(a)1. or 664.0258(3)(a)1., shall submit an amended closure plan to the department no later than 60 days from the date that the owner or operator or department determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of s. NR 664.0310, or no later than 30 days from that date if the determination is made during partial or final closure. The

department will approve, disapprove or modify this amended plan in accordance with the procedures in ch. NR 670. In accordance with s. NR 670.032, the approved closure plan will become a condition of any hazardous waste operating license issued.

(d) The department may request modifications to the plan under the conditions described in par. (b). The owner or operator shall submit the modified plan within 60 days of the department's request, or within 30 days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the department will be approved in accordance with the procedures in ch. NR 670.

(4) NOTIFICATION OF PARTIAL CLOSURE AND FINAL CLOSURE. (a) The owner or operator shall notify the department in writing of the intent to close the facility at least 180 days prior to the partial or final closure of a hazardous waste facility.

(b) The date when the owner or operator "expects to begin closure" shall be either of the following:

1. No later than 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous wastes. If the owner or operator of a hazardous waste management unit can demonstrate to the department that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and the owner or operator has taken all steps to prevent threats to human health and the environment, including compliance with all applicable operating license requirements, the department may approve an extension to this one-year limit.

2. For units meeting the requirements of s. NR 664.0113(4), no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of non-hazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional non-hazardous wastes, no later than one year after the date on which the unit received the most recent volume of non-hazardous wastes. If the owner or operator can demonstrate to the department that the hazardous waste management unit has the capacity to receive additional non-hazardous wastes and the owner or operator has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable operating license requirements, the department may approve an extension to this one-year limit.

(c) If the facility's operating license is denied, suspended or revoked, or if the facility is otherwise ordered, by judicial decree or by the department, to cease receiving hazardous wastes or to close, then the requirements of this subsection do not apply. However, the owner or operator shall close the facility in accordance with the deadlines established in s. NR 664.0113.

(5) REMOVAL OF WASTES AND DECONTAMINATION OR DISMANTLING OF EQUIPMENT. Nothing in this section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

NR 664.0113 Closure; time allowed for closure. (1) Within 90 days after receiving the final volume of hazardous wastes, or the final volume of non-hazardous wastes if the owner or operator complies with all applicable requirements in subs. (4) and (5), at a hazardous waste management unit or facility, the owner or operator shall treat, remove from the unit or facility or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The department may approve a longer period if the owner or operator complies with all applicable requirements for requesting a modification to the operating license and demonstrates that the conditions in pars. (a) and (b) are met:

(a) Either of the following applies:

1. The activities required to comply with this subsection will, of necessity, take longer than 90 days to complete.

2. All of the following apply:

a. The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the owner or operator complies with subs. (4) and (5).

b. There is a reasonable likelihood that the owner or operator or another person will recommence operation of the hazardous waste management unit or the facility within one year.

c. Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site.

(b) The owner or operator has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable operating license requirements.

(2) The owner or operator shall complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes, or the final volume of non-hazardous wastes if the owner or operator complies with all applicable requirements in subs. (4) and (5), at the hazardous waste management unit or facility. The department may approve an extension to the closure period if the owner or operator complies with all applicable requirements for requesting a modification to the operating license and demonstrates that the conditions in pars. (a) and (b) are met:

(a) Either of the following applies:

1. The partial or final closure activities will, of necessity, take longer than 180 days to complete.

2. All of the following apply:

a. The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the owner or operator complies with subs. (4) and (5).

b. There is reasonable likelihood that the owner or operator or another person will recommence operation of the hazardous waste management unit or the facility within one year.

c. Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site.

(b) The owner or operator has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable operating license requirements.

(3) The demonstrations referred to in subs. (1)(a) and (2)(a) shall be made as follows:

(a) The demonstrations in sub. (1)(a) shall be made at least 30 days prior to the expiration of the 90-day period in sub. (1).

(b) The demonstration in sub. (2)(a) shall be made at least 30 days prior to the expiration of the 180-day period in sub. (2), unless the owner or operator is otherwise subject to the deadlines in sub. (4).

(4) The department may allow an owner or operator to receive only non-hazardous wastes in a landfill or surface impoundment unit after the final receipt of hazardous wastes at that unit if all the following conditions are met:

(a) The owner or operator requests an operating license modification in compliance with all applicable requirements in ch. NR 670 and in the license modification request demonstrates that all the following criteria are met:

1. The unit has the existing design capacity as indicated on the part A application to receive non-hazardous wastes.

2. There is a reasonable likelihood that the owner or operator or another person will receive non-hazardous wastes in the unit within one year after the final receipt of hazardous wastes.

3. The non-hazardous wastes will not be incompatible with any remaining wastes in the unit, or with the facility design and operating requirements of the unit or facility under this chapter.

4. Closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility.

5. The owner or operator is operating and will continue to operate in compliance with all applicable operating license requirements.

(b) The request to modify the operating license includes an amended waste analysis plan, groundwater monitoring and response program, human exposure assessment required under 42 USC 6939a and closure and long-term care plans, and updated cost estimates and demonstrations of financial assurance for closure and long-term care as necessary and appropriate, to reflect any changes due to the presence of hazardous constituents in the non-hazardous wastes, and changes in closure activities, including the expected year of closure if applicable under s. NR 664.0112(2)(g), as a result of the receipt of non-hazardous wastes following the final receipt of hazardous wastes.

(c) The request to modify the operating license includes revisions, as necessary and appropriate, to affected conditions of the license to account for the receipt of non-hazardous wastes following receipt of the final volume of hazardous wastes.

(d) The request to modify the operating license and the demonstrations referred to in pars. (a) and (b) are submitted to the department no later than 120 days prior to the date on which the owner or operator of the facility receives the known final volume of hazardous wastes at the unit, or no later than 90 days after the effective date of this section … [revisor inserts date], whichever is later.

(5) In addition to the requirements in sub. (4), an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in 42 USC 6924(o)(1) and 6925(j)(1) or 42 USC 6924(o)(2) or (3) or 6925(j)(2), (3), (4) or (13) shall do all of the following:

(a) Submit with the request to modify the operating license both of the following:

1. A contingent corrective measures plan, unless a corrective action plan has already been submitted under s. NR 664.0099.

2. A plan for removing hazardous wastes in compliance with par. (b).

(b) Remove all hazardous wastes from the unit by removing all hazardous liquids, and removing all hazardous sludges to the extent practicable without impairing the integrity of the liners, if any.

(c) Removal of hazardous wastes shall be completed no later than 90 days after the final receipt of hazardous wastes. The department may approve an extension to this deadline if the owner or operator demonstrates that the removal of hazardous wastes will, of necessity, take longer than the allotted period to complete and that an extension will not pose a threat to human health and the environment.

(d) If a release that is a statistically significant increase (or decrease in the case of pH) over background values for detection monitoring parameters or constituents specified in the operating license or that exceeds the facility's groundwater protection standard at the point of standards application, if applicable, is detected in accordance with the requirements in subch. F, the owner or operator of the unit:

1. Shall implement corrective measures in accordance with the approved contingent corrective measures plan required by par. (a) no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later.

2. May continue to receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action.

3. May be required by the department to implement corrective measures in less than one year or to cease the receipt of wastes until corrective measures have been implemented if necessary to protect human health and the environment.

(e) During the period of corrective action, the owner or operator shall provide semi-annual reports to the department that describe the progress of the corrective action program, compile all groundwater monitoring data and evaluate the effect of the continued receipt of non-hazardous wastes on the effectiveness of the corrective action.

(f) The department may require the owner or operator to commence closure of the unit if the owner or operator fails to implement corrective action measures in accordance with the approved contingent

corrective measures plan within one year as required in par. (d), or fails to make substantial progress in implementing corrective action and achieving the facility's groundwater protection standard or background levels if the facility has not yet established a groundwater protection standard.

(g) If the owner or operator fails to implement corrective measures as required in par. (d), or if the department determines that substantial progress has not been made pursuant to par. (f), the department shall:

1. Notify the owner or operator in writing that the owner or operator shall begin closure in accordance with the deadlines in subs. (1) and (2) and provide a detailed statement of reasons for this determination.

2. Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

3. If the department receives no written comments, the decision will become final 5 days after the close of the comment period. The department will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, shall be submitted within 15 days of the final notice and that closure shall begin in accordance with the deadlines in subs. (1) and (2).

4. If the department receives written comments on the decision, it shall make a final decision within 30 days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice, a detailed statement of reasons for the final decision. If the department determines that substantial progress has not been made, closure shall be initiated in accordance with the deadlines in subs. (1) and (2).

5. The final determinations made by the department under subds. 3. and 4. are not subject to administrative appeal.

NR 664.0114 Disposal or decontamination of equipment, structures and soils. During the partial and final closure periods, all contaminated equipment, structures and soils shall be properly disposed of or decontaminated unless otherwise specified in s. NR 664.0197, 664.0228, 664.0258 or 664.0310, or under the authority of ss. NR 664.0601 and 664.0603. By removing any hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and shall handle that waste in accordance with all applicable requirements of ch. NR 662.

NR 664.0115 Certification of closure. Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile and landfill unit, and within 60 days of the completion of final closure, the owner or operator shall submit to the department, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification shall be signed by the owner or operator and by an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification shall be furnished to the department upon request until the department releases the owner or operator from the financial assurance requirements for closure under s. NR 664.0143(11).

NR 664.0116 Survey plat. No later than the submission of the certification of closure of each hazardous waste disposal unit, the owner or operator shall submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the department, a survey plat indicating the location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat shall be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use, shall contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit according to the applicable rules of this subchapter.

NR 664.0117 Long-term care and use of property. (1)(a) Long-term care for each hazardous waste management unit subject to the requirements of this section and ss. NR 664.0118 to 664.0120 shall

begin after completion of closure of the unit and continue for a minimum of 40 years after that date and shall consist of at least both of the following:

1. Monitoring and reporting in accordance with the requirements of subchs. F, K, L, N and X.

2. Maintenance and monitoring of waste containment systems in accordance with the requirements of subchs. F, K, L, N and X.

(b) Any time preceding partial closure of a hazardous waste management unit subject to long-term care requirements or final closure, or any time during the long-term care period for a particular unit, the department may, in accordance with the operating license modification procedures in ch. NR 670 extend the long-term care period applicable to the hazardous waste management unit or facility if the department finds that the extended period is necessary to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

(2) The department may require, at partial and final closure, continuation of any of the security requirements of s. NR 664.0014 during part or all of the long-term care period under either of the following circumstances:

(a) Hazardous wastes may remain exposed after completion of partial or final closure.

(b) Access by the public or domestic livestock may pose a hazard to human health.

(3) Post-closure use of property on or in which hazardous wastes remain after partial or final closure may never be allowed to disturb the integrity of the final cover, liners or any other components of the containment system, or the function of the facility's monitoring systems, unless the department finds that either of the following applies:

(a) The disturbance is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment.

(b) The disturbance is necessary to reduce a threat to human health or the environment.

(4) All long-term care activities shall be in accordance with the provisions of the approved long-term care plan as specified in s. NR 664.0118.

NR 664.0118 Long-term care plan; amendment of plan. (1) WRITTEN PLAN. The owner or operator of a hazardous waste disposal unit shall have a written long-term care plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous wastes at partial or final closure are required by ss. NR 664.0228(3)(a)2. and 664.0258(3)(a)2. to have contingent long-term care plans. Owners or operators of surface impoundments and waste piles not otherwise required to prepare contingent long-term care plans under ss. NR 664.0228(3)(a)2. and 664.0258(3)(a)2. shall submit a long-term care plan to the department within 90 days from the date that the owner or operator or department determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of ss. NR 664.0117, this section, 664.0119 and 664.0120. The plan shall be submitted with the feasibility and plan of operation report, in accordance with s. NR 670.014(2)(m), and approved by the department as part of the operating license issuance procedures under subchs. L and M of ch. NR 670. In accordance with s. NR 670.032, the approved long-term care plan will become a condition of any hazardous waste operating license issued.

(2) CONTENT OF PLAN. For each hazardous waste management unit subject to the requirements of this section, the long-term care plan shall identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least all of the following:

(a) A description of the planned monitoring activities and frequencies at which they will be performed to comply with subchs. F, K, L, N and X during the long-term care period.

(b) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure both of the following:

1. The integrity of the cap and final cover or other containment systems in accordance with the requirements of subchs. F, K, L, N and X.

2. The function of the monitoring equipment in accordance with the requirements of subchs. F, K, L, N and X.

(c) The name, address and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the long-term care period.

(d) For facilities where the department has applied alternative requirements at a regulated unit under s. NR 664.0090(6), 664.0110(3) or 664.0140(4), either the alternative requirements that apply to the regulated unit, or a reference to the enforceable document containing those requirements.

(3) AVAILABILITY OF PLAN. Until final closure of the facility, a copy of the approved long-term care plan shall be furnished to the department upon request, including request by mail. After final closure has been certified, the person or office specified in sub. (2)(c) shall keep the approved long-term care plan during the remainder of the long-term care period.

(4) AMENDMENT OF PLAN. The owner or operator shall submit a written notification of or request for an operating license modification to authorize a change in the approved long-term care plan in accordance with the applicable requirements in ch. NR 670. The written notification or request shall include a copy of the amended long-term care plan for review or approval by the department.

(a) The owner or operator may submit a written notification or request to the department for an operating license modification to amend the long-term care plan at any time during the active life of the facility or during the long-term care period.

(b) The owner or operator shall submit a written notification of or request for an operating license modification to authorize a change in the approved long-term care plan whenever any of the following occurs:

1. Changes in operating plans or facility design affect the approved long-term care plan.

2. There is a change in the expected year of final closure, if applicable.

3. Events which occur during the active life of the facility, including partial and final closures, affect the approved long-term care plan.

4. The owner or operator requests the department to apply alternative requirements to a regulated unit under s. NR 664.0090(6), 664.0110(3) or 664.0140(4).

(c) The owner or operator shall submit a written request for an operating license modification at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the long-term care plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to submit a contingent long-term care plan under ss. NR 664.0228(3)(a)2. and 664.0258(3)(a)2. shall submit a long-term care plan to the department no later than 90 days after the date that the owner or operator or department determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of s. NR 664.0310. The department will approve, disapprove or modify this plan in accordance with the procedures in ch. NR 670. In accordance with s. NR 670.032, the approved long-term care plan will become an operating license condition.

(d) The department may request modifications to the plan under the conditions described in par. (b). The owner or operator shall submit the modified plan no later than 60 days after the department's request, or no later than 90 days if the unit is a surface impoundment or waste pile not previously required to prepare a contingent long-term care plan. Any modifications requested by the department will be approved, disapproved or modified in accordance with the procedures in ch. NR 670.

NR 664.0119 Long-term care notices. (1) No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator shall submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the department a record of the type, location and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before July 1, 1985, the owner or operator shall identify the type, location and quantity of the hazardous wastes to the best of the owner's or operator's knowledge and in accordance with any records the owner or operator has kept.

(2) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator shall do both of the following:

(a) Record, in accordance with ch. 706, Stats., a notation on the deed to the facility property, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the property of all of the following:

1. The land has been used to manage hazardous wastes.

2. Its use is restricted under this subchapter.

3. The survey plat and record of the type, location and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by s. NR 664.0116 and sub. (1) have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the department.

(b) Submit a certification, signed by the owner or operator, that the owner or operator has recorded the notation specified in par. (a), including a copy of the document in which the notation has been placed, to the department.

(3) If the owner or operator or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, the owner or operator shall request a modification to the long-term care license in accordance with the applicable requirements in ch. NR 670. The owner or operator shall demonstrate that the removal of hazardous wastes will satisfy the criteria of s. NR 664.0117(3). By removing hazardous waste, the owner or operator may become a generator of hazardous waste and shall manage it in accordance with all applicable requirements of chs. NR 660 to 673. If the owner or operator is granted a license modification or otherwise granted approval to conduct the removal activities, the owner or operator may request that the department approve either of the following:

(a) The removal of the notation on the deed to the facility property or other instrument normally examined during title search.

(b) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

NR 664.0120 Certification of completion of long-term care. No later than 60 days after completion of the established long-term care period for each hazardous waste disposal unit, the owner or operator shall submit to the department, by registered mail, a certification that the long-term care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved long-term care plan. The owner or operator and an independent registered professional engineer shall sign the certification. Documentation supporting the independent registered professional engineer's certification shall be furnished to the department upon request until the department releases the owner or operator from the financial assurance requirements for long-term care under s. NR 664.0145(11).

Subchapter H —Financial Requirements

NR 664.0140 Applicability. (1) The requirements of ss. NR 664.0142, 664.0143 and 664.0147 to 664.0151 apply to owners and operators of all hazardous waste facilities, except as provided otherwise in this section or in s. NR 664.0001.

(2) The requirements of ss. NR 664.0144 and 664.0145 apply only to owners and operators of one or more of the following:

(a) Disposal facilities.

(b) Piles and surface impoundments from which the owner or operator intends to remove the wastes at closure, to the extent that these sections are made applicable to the facilities in ss. NR 664.0228 and 664.0258.

(c) Tank systems that are required under s. NR 664.0197 to meet the requirements for landfills.

(d) Containment buildings that are required under s. NR 664.1102 to meet the requirements for landfills.

(3) States and the federal government are exempt from the requirements of s. NR 664.0147.

(4) The department may replace all or part of the requirements of this subchapter applying to a regulated unit with alternative requirements for financial assurance set out in the license or in an enforceable document (as defined in s. NR 670.001(3)(g)), where the department does all of the following:

(a) Prescribes alternative requirements for the regulated unit under s. NR 664.0090(6) or 664.0110(3) or both.

(b) Determines that it is not necessary to apply the requirements of this subchapter because the alternative financial assurance requirements will protect human health and the environment.

NR 664.0141 Definitions. When used in this subchapter, the following terms have the meanings given below.

(1) "Captive insurance company" means a closely-held company owned by one or more organizations, parents, whose original purpose was and may continue to be, to insure some or all of the risks of shareholders or affiliated organizations.

(2) "Closure plan" means the plan for closure prepared in accordance with the requirements of s. NR 664.0112.

(3) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with s. NR 664.0142 (1) to (3).

(4) "Current long-term care cost estimate" means the most recent of the estimates prepared in accordance with s. NR 664.0144 (1) to (3).

(5) "Parent corporation" means a corporation which directly owns at least 50% of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.

(6) "Long-term care plan" means the plan for long-term care prepared in accordance with the requirements of ss. NR 664.0117 to 664.0120.

(7) The following terms are used in the specifications for the financial tests for liability coverage. The definitions are intended to assist in the understanding of this chapter and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

(a) "Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

(b) "Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

(c) "Current liabilities" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

(d) "Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with ch. NR 815.

(e) "Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

(f) "Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

(g) "Net working capital" means current assets minus current liabilities.

(h) "Net worth" has the meaning given in s. 289.41(1)(c), Stats.

(i) "Tangible net worth" means the tangible assets that remain after deducting liabilities. The assets would not include intangibles such as goodwill and rights to patents or royalties.

(8) In the liability insurance requirements the terms ”bodily injury” and ”property damage” shall have the meanings given these terms by applicable state law. However, these terms do not include those liabilities which, consistent with standard industry practices, are excluded from coverage in liability policies for bodily injury and property damage. The department intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of this chapter and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

(a) ”Accidental occurrence” means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

(b) ”Legal defense costs” means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

(c) ”Nonsudden accidental occurrence” means an occurrence which takes place over time and involves continuous or repeated exposure.

(d) ”Sudden accidental occurrence” means an occurrence which is not continuous or repeated in nature.

(9) ”Substantial business relationship” means the extent of a business relationship necessary under applicable state law to make a guarantee contract issued incident to that relationship valid and enforceable. A substantial business relationship shall arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the department.

NR 664.0142 Cost estimate for closure. (1) The owner or operator shall have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in ss. NR 664.0111 to 664.0115 and applicable closure requirements in ss. NR 664.0178, 664.0197, 664.0228, 664.0258, 664.0310, 664.0351, 664.0601 to 664.0603 and 664.1102.

(a) The estimate shall equal the cost of final closure at the point in the facility’s active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see s. NR 664.0112(2)).

(b) The closure cost estimate shall be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent corporation nor a subsidiary of the owner or operator. The owner or operator may use costs for on-site disposal if the owner or operator can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(c) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or non-hazardous wastes if applicable under s. NR 664.0113(4), facility structures or equipment, land or other assets associated with the facility at the time of partial or final closure.

(d) The owner or operator may not incorporate a zero cost for hazardous wastes, or non-hazardous wastes if applicable under s. NR 664.0113(4), that might have economic value.

(2) During the active life of the facility, the owner or operator shall adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with s. NR 664.0143. For owners and operators of disposal facilities using the net worth test, the closure cost estimate shall be updated for inflation as specified in s. 289.41(5)(d), Stats. The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent implicit price deflator for gross domestic product published by the U.S. department of commerce in its *Survey of Current Business,* as specified in pars. (a) and (b). The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

(a) The first adjustment shall be made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(b) Subsequent adjustments shall be made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(3) During the active life of the facility, the owner or operator shall revise the closure cost estimate no later than 30 days after the department has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate shall be adjusted for inflation as specified in sub. (2).

(4) The owner or operator shall keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with subs. (1) and (3) and, when this estimate has been adjusted in accordance with sub. (2), the latest adjusted closure cost estimate.

NR 664.0143 Financial assurance for closure. An owner or operator of each facility shall establish financial assurance for closure of the facility. The owner or operator shall choose from the options as specified in subs. (1) to (8).

(1) CLOSURE TRUST FUND. (a) An owner or operator may satisfy the requirements of this section by establishing a closure trust fund which conforms to the requirements of this subsection and submitting an originally signed duplicate of the trust agreement to the department. An owner or operator of a new facility shall submit the originally signed duplicate of the trust agreement to the department at least 60 days before the date on which hazardous waste is first received for treatment, storage or disposal. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(b) The wording of the trust agreement shall be identical to the wording on the department form specified in s. NR 664.0151(1)(a) and the trust agreement shall be accompanied by a formal certification of acknowledgment as specified in s. NR 664.0151(1)(b). Schedule A of the trust agreement shall be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

(c) Payments into the trust fund shall be made annually by the owner or operator over the term of the initial license or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter. For the purposes of this section, this period is referred to as the ”pay-in period.” The payments into the closure trust fund shall be made as follows:

1. For a new facility, the first payment shall be made before the initial receipt of hazardous waste for treatment, storage or disposal. A receipt from the trustee for this payment shall be submitted by the owner or operator to the department before this initial receipt of hazardous waste. The first payment shall be at least equal to the current closure cost estimate, except as provided in sub. (9), divided by the number of years in the pay-in period. Subsequent payments shall be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund and Y is the number of years remaining in the pay-in period.

2. If an owner or operator establishes a trust fund as specified in this subsection, and the value of that trust fund is less than the current closure cost estimate when a license is awarded for the facility, the amount of the current closure cost estimate still to be paid into the trust fund shall be paid in over the pay-in period as defined in par. (c)(intro). Payments shall continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to ch. NR 665. The amount of each payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund and Y is the number of years remaining in the pay-in period.

(d) The owner or operator may accelerate payments into the trust fund or may deposit the full amount of the current closure cost estimate at the time the fund is established. However, the owner or operator shall maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in par. (c).

(e) If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this section or in s. NR 665.0143, the first payment shall be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this subsection and s. NR 665.0143(1), as applicable.

(f) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(g) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the department for release of the amount in excess of the current closure cost estimate.

(h) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, the owner or operator may submit a written request to the department for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(i) Within 60 days after receiving a request from the owner or operator for release of funds as specified in par. (g) or (h), the department will instruct the trustee to release to the owner or operator funds as the department specifies in writing.

(j) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the department. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for partial or final closure activities, the department will instruct the trustee to make reimbursements in those amounts as the department specifies in writing, if the department determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the department has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, the department may withhold reimbursements of amounts as the department deems prudent until the department determines, in accordance with sub. (11) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the department does not instruct the trustee to make the reimbursements, the department will provide the owner or operator with a detailed written statement of reasons.

(k) The department will agree to termination of the trust when one of the following applies:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (11).

(2) SURETY BOND GUARANTEEING PAYMENT INTO A CLOSURE TRUST FUND . (a) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this subsection and submitting the bond to the department. An owner or operator of a new facility shall submit the bond to the department at least 60 days before the date on which hazardous waste is first received for treatment, storage or disposal. The bond shall be effective before this initial receipt of

hazardous waste. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. department of the treasury.

(b) The wording of the surety bond shall be identical to the wording on the department form specified in s. NR 664.0151(2).

(c) The owner or operator who uses a surety bond to satisfy the requirements of this section shall also establish a standby trust fund. Under the terms of the bond, all payments made shall be deposited by the surety directly into the standby trust fund in accordance with instructions from the department. This standby trust fund must meet the requirements specified in sub. (1) except for all of the following:

1. An originally signed duplicate of the trust agreement must be submitted to the department with the surety bond.

2. Until the standby trust fund is funded pursuant to the requirements of this section, all of the following are not required:

a. Payments into the trust fund as specified in sub. (1).

b. Updating of Schedule A of the trust agreement (see Form 4430-022) to show current closure cost estimates.

c. Annual valuations as required by the trust agreement.

d. Notices of nonpayment as required by the trust agreement.

(d) The bond must guarantee that the owner or operator shall do any of the following:

1. Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility.

2. Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the department becomes final or within 15 days after an order to begin final closure is issued.

3. Provide alternate financial assurance as specified in this section, and obtain the department's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the department of a notice of cancellation of the bond from the surety.

(e) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(f) The penal sum of the bond shall be in an amount at least equal to the current closure cost estimate, except as provided in sub. (9).

(g) Whenever the current closure cost estimate increases to an amount greater then the penal sum, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the department.

(h) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the department, as evidence by the return receipts. Not less than 30 days prior to the expiration of the 120 day notice period, the owner shall deliver to the department a replacement bond or other proof of financial responsibility under this section, in the absence of which all storage, treatment or disposal operations shall immediately cease and the bond shall remain in effect as long as any obligation of the owner remains for closure.

(i) The owner or operator may cancel the bond if the department has given prior written consent based on the department's receipt of evidence of alternate financial assurance as specified in this section.

(3) SURETY BOND GUARANTEEING PERFORMANCE OF CLOSURE. (a) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this subsection and submitting the bond to the department. An owner or operator of a new facility shall

submit the bond to the department at least 60 days before the date on which hazardous waste is first received for treatment, storage or disposal. The bond shall be effective before this initial receipt of hazardous waste. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. department of the treasury.

(b) The wording of the surety bond shall be identical to the wording on the department form specified in s. NR 664.0151(3).

(d) The bond shall guarantee that the owner or operator will do one of the following:

1. Perform final closure in accordance with the closure plan and other requirements of the license for the facility whenever required to do so.

2. Provide alternate financial assurance as specified in this section, and obtain the department's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the department of a notice of cancellation of the bond from the surety.

(e) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a determination by the department that the owner or operator has failed to perform final closure in accordance with the approved closure plan and other license requirements when required to do so, under the terms of the bond the surety will perform final closure as guaranteed by the bond or shall pay the penal sum of the bond to the department.

(f) The penal sum of the bond shall be in an amount at least equal to the current closure cost estimate.

(g) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the department.

(h) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the department, as evidenced by the return receipts. Not less than 30 days prior to the expiration of the 120-day notice period, the owner shall deliver to the department a replacement bond or other proof of financial responsibility under this section, in the absence of which all storage, treatment or disposal operations shall immediately cease and the bond shall remain in effect as long as any obligation of the owner remains for closure.

(i) The owner or operator may cancel the bond if the department has given prior written consent. The department will provide written consent when any of the following apply:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (11).

(j) The surety will not be liable for deficiencies in the performance of closure by the owner or operator after the department releases the owner or operator from the requirements of this section in accordance with sub. (11).

(4) CLOSURE LETTER OF CREDIT. (a) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable letter of credit which conforms to the requirements of this subsection and submitting the letter to the department. An owner or operator of a new facility shall submit the letter of credit to the department at least 60 days before the date on which hazardous waste is first received for treatment, storage or disposal. The letter of credit shall be effective before this initial receipt of hazardous waste. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

(b) The wording of the letter of credit shall be identical to the wording on the department form specified in s. NR 664.0151(4).

(d) The letter of credit shall be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution and date, and providing the following information: the EPA identification number, name and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(e) The letter of credit shall be irrevocable and issued for a period of at least one year. The letter of credit shall provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the department by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the department have received the notice, as evidenced by the return receipts.

(f) The letter of credit shall be issued in an amount at least equal to the current closure cost estimate, except as provided in sub. (9).

(g) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, shall either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the department.

(h) Following a determination by the department that the owner or operator has failed to perform final closure in accordance with the closure plan and other license requirements when required to do so, the department may draw on the letter of credit.

(i) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of the alternate assurance from the department within 90 days after receipt by both the owner or operator and the department of a notice from issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the department will draw on the letter of credit. The department may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any extension the department will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of the assurance from the department.

(j) The department will authorize the release of the letter of credit when any of the following apply:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (11).

(5) CLOSURE INSURANCE. (a) An owner or operator may satisfy the requirements of this section by obtaining closure insurance which conforms to the requirements of this subsection and submitting a certificate of the insurance to the department. An owner or operator of a new facility shall submit the certificate of insurance to the department at least 60 days before the date on which hazardous waste is first received for treatment, storage or disposal. The insurance shall be effective before this initial receipt of hazardous waste. At a minimum, the insurer shall be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states. The department, after conferring with the Wisconsin insurance commissioner, shall determine the acceptability of a surplus lines or captive insurance company to provide coverage for proof of financial responsibility. The department shall ask the insurance commissioner to provide a financial analysis of the insurer including a recommendation as to the insurer's ability to provide the required coverage. The department may require a periodic review of the acceptability of a surplus lines or captive insurance company.

(b) The wording of the certificate of insurance shall be identical to the wording on the department form specified in s. NR 664.0151(5).

(c) The closure insurance policy shall be issued for a face amount at least equal to the current closure cost estimate, except as provided in sub. (9). The term "face amount" means the total amount the insurer

is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(d) The closure insurance policy shall guarantee that funds will be available to close the facility whenever final closure occurs. The policy shall also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the department, to the party or parties as the department specifies.

(e) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the department. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the department will instruct the insurer to make reimbursements in the amounts as the department specifies in writing, if the department determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the department has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, the department may withhold reimbursements of the amounts as the department deems prudent until the department determines, in accordance with sub. (11), that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the department does not instruct the insurer to make the reimbursements, the department will provide the owner or operator with a detailed written statement of reasons.

(f) The owner or operator shall maintain the policy in full force and effect until the department consents to termination of the policy by the owner or operator as specified in par. (j). Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of this chapter, warranting a remedy as the department deems necessary. The violation will be deemed to begin upon receipt by the department of a notice of future cancellation, termination or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(g) Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. The assignment may be conditional upon consent of the insurer, provided the consent is not unreasonably refused.

(h) The policy shall provide that the insurer may not cancel, terminate or fail to renew the policy unless a replacement insurance policy or other proof of financial responsibility under this section is provided to the department by the owner or operator. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If the insurer elects to cancel, terminate or fail to renew the policy, the insurer shall provide notice by certified mail to the owner or operator and the department not less than 120 days prior to the proposed cancellation date. Cancellation, termination or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the department and the owner or operator, as evidenced by the return receipts. Cancellation, termination or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration any of the following apply:

1. The department deems the facility abandoned.

2. The license is denied, suspended or revoked or a new license is denied.

3. Closure is ordered by the department or a U.S. district court or other court of competent jurisdiction.

4. The owner or operator is named as debtor in a voluntary or involuntary bankruptcy proceeding under 11 USC.

5. The premium due is paid.

(i) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, shall either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the department.

(j) The department will give written consent to the owner or operator that the owner or operator may terminate the insurance policy when any of the following apply:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (11).

(6) NET WORTH TEST FOR CLOSURE. (a) An owner or operator of a disposal facility may use the net worth test to provide financial responsibility if all of the following are met:

1. Only a company that meets the definition in s. 289.41 (1) (b), Stats., may use the net worth method of providing proof of financial responsibility.

2. The owner or operator shall comply with the net worth test requirements of s. 289.41(4), (6) and (7), Stats., and the minimum security requirements of s. 289.41(9), Stats., whichever are applicable.

(b). For companies with more than one facility, the total cost of compliance for all facilities shall be used to determine the net worth to closure and long-term care cost ratio.

(7) CLOSURE DEPOSIT WITH THE DEPARTMENT. An owner may deposit cash, certificates of deposit or U.S. government securities with the department. The deposit must be accompanied by a signed duplicate original of Form 4430-028 as specified in s. NR 664.0151(14). The amount of the deposit shall be determined according to s. NR 664.0142. Cash deposits placed with the department shall be segregated and invested in an interest bearing account. All interest payments shall be accumulated in the account. The department shall have the right to use part or all of the funds to carry out the closure requirements of the approved closure plan or the applicable requirements in s. NR 664.0112 if the owner fails to do so.

(8) CLOSURE ESCROW ACCOUNT. (a) An owner or operator may satisfy the requirements of this section by establishing a closure escrow account which conforms to the requirements of this subsection and submitting an originally signed duplicate of the escrow agreement to the department. An owner or operator of a new facility shall submit the originally signed duplicate of the escrow agreement to the department at least 60 days before the date on which hazardous waste is first received for treatment, storage or disposal. The escrow agent shall be an entity which has the authority to act as an escrow agent, and the escrow account shall be established with a bank or financial institution which is examined and regulated by the state or a federal agency.

(b) The wording of the escrow agreement shall be identical to the wording on the department form specified in s. NR 664.0151(6)(a), and the escrow agreement shall be accompanied by a formal certification of acknowledgment as specified in s. NR 664.0151(6)(b). Schedule A of the escrow agreement shall be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

(c) Payments into the escrow account shall be made annually by the owner or operator over the term of the initial license or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter. For the purposes of this section, this period is referred to as the ”pay-in period.” The payments into the closure escrow account shall be made as follows:

1. For a new facility, the first payment shall be made before the initial receipt of hazardous waste for treatment, storage or disposal. A receipt from the escrow agent for this payment shall be submitted by the owner or operator to the department before this initial receipt of hazardous waste. The first payment shall be at least equal to the current closure cost estimate, except as provided in sub. (9), divided by the number of years in the pay-in period. Subsequent payments shall be made no later than 30 days after each

anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the escrow account and Y is the number of years remaining in the pay-in period.

2. If an owner or operator establishes a escrow account as specified in this subsection, and the value of that escrow account is less than the current closure cost estimate when a license is awarded for the facility, the amount of the current closure cost estimate still to be paid into the escrow account shall be paid in over the pay-in period as defined in the introduction to this paragraph. Payments shall continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to ch. NR 665. The amount of each payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the escrow account and Y is the number of years remaining in the pay-in period.

(d) The owner or operator may accelerate payments into the escrow account or may deposit the full amount of the current closure cost estimate at the time the account is established. However, the owner or operator shall maintain the value of the account at no less than the value that the account would have if annual payments were made as specified in par. (c).

(e) If the owner or operator establishes a closure escrow account after having used one or more alternate mechanisms specified in this section or in s. NR 665.0143, the first payment shall be in at least the amount that the account would contain if the escrow account were established initially and annual payments were made according to the specifications of this subsection and s. NR 665.0143(7), as applicable.

(f) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator shall compare the new estimate with the escrow agent's most recent annual valuation of the escrow account. If the value of the account is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the account so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(g) If the value of the escrow account is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the department for release of the amount in excess of the current closure cost estimate.

(h) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the escrow account, the owner or operator may submit a written request to the department for release of the amount in excess of the current closure cost estimate covered by the escrow account.

(i) Within 60 days after receiving a request from the owner or operator for release of funds as specified in par. (g) or (h), the department will instruct the escrow agent to release to the owner or operator funds as the department specifies in writing.

(j) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the department. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the escrow account to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for partial or final closure activities, the department will instruct the escrow agent to make reimbursements in those amounts as the department specifies in writing, if the department determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the

department has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the escrow account, the department may withhold reimbursements of amounts as the department deems prudent until the department determines, in accordance with sub. (11) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the department does not instruct the escrow agent to make the reimbursements, the department will provide the owner or operator with a detailed written statement of reasons.

(k) The department will agree to termination of the escrow account when one of the following applies:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (11).

(9) USE OF MULTIPLE FINANCIAL MECHANISMS. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, deposits with the department, surety bonds guaranteeing payment, escrow accounts, letters of credit and insurance. The mechanisms shall be as specified in subs. (1), (2), (4), (5), (7) and (8), except that it is the combination of mechanisms, rather than the single mechanism, which shall provide financial assurance for an amount at least equal to the current closure cost estimate. The department may use any or all of the mechanisms to provide for closure of the facility.

(10) USE OF A FINANCIAL MECHANISM FOR MULTIPLE FACILITIES. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the department shall include a list showing, for each facility, the EPA identification number, name, address and the amount of funds for closure assured by the mechanism. If the facilities covered by the mechanism are in more than one state, identical evidence of financial assurance shall be submitted to and maintained with the state agency regulating hazardous waste or with the appropriate U.S. EPA regional administrator if the facility is located in unauthorized states. The amount of funds available through the mechanism shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the department may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(11) RELEASE OF THE OWNER OR OPERATOR FROM THE REQUIREMENTS OF THIS SECTION. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the department will notify the owner or operator in writing that the owner or operator is no longer required by this section to maintain financial assurance for final closure of the facility, unless the department has reason to believe that final closure has not been in accordance with the approved closure plan. The department shall provide the owner or operator a detailed written statement of any reason to believe that closure has not been in accordance with the approved closure plan.

Note: The department may consider other financial commitments as allowed by s. 289.41(3)(a)5., Stats.

NR 664.0144 Cost estimate for long-term care. (1) The owner or operator of a disposal surface impoundment, disposal miscellaneous unit or landfill unit, or of a surface impoundment or waste pile required under ss. NR 664.0228 and 664.0258 to prepare a contingent closure and long-term care plan, shall have a detailed written estimate, in current dollars, of the annual cost of long-term care monitoring and maintenance of the facility according to the applicable long-term care rules in ss. NR 664.0117 to 664.0120, 664.0228, 664.0258, 664.0310 and 664.0603.

(a) The long-term care cost estimate shall be based on the costs to the owner or operator of hiring a third party to conduct long-term care activities. A third party is a party who is neither a parent corporation nor a subsidiary of the owner or operator.

(b) The long-term care cost estimate is calculated by multiplying the annual long-term care cost estimate by the number of years of long-term care required under s. NR 664.0117.

(2) During the active life of the facility, the owner or operator shall adjust the long-term care cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument or instruments used to comply with s. NR 664.0145. For owners or operators of disposal facilities using the net worth test, the long-term care cost estimate shall be updated for inflation as specified in s. 289.41(5)(d), Stats. The adjustment may be made by recalculating the long-term care cost estimate in current dollars or by using an inflation factor derived from the most recent implicit price deflator for gross domestic product published by the U.S. department of commerce in its *Survey of Current Business* as specified in s. NR 664.0145(2)(a) and (b). The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

(a) The first adjustment is made by multiplying the long-term care cost estimate by the inflation factor. The result is the adjusted long-term care cost estimate.

(b) Subsequent adjustments are made by multiplying the latest adjusted long-term care cost estimate by the latest inflation factor.

(3) During the active life of the facility, the owner or operator shall revise the long-term care cost estimate within 30 days after the department has approved the request to modify the long-term care plan, if the change in the long-term care plan increases the cost of long-term care. The revised long-term care cost estimate shall be adjusted for inflation as specified in sub. (2).

(4) The owner or operator shall keep the following at the facility during the operating life of the facility: The latest long-term care cost estimate prepared in accordance with subs. (1) and (3) and, when this estimate has been adjusted in accordance with sub. (2), the latest adjusted long-term care cost estimate.

NR 664.0145 Financial assurance for long-term care. The owner or operator of a hazardous waste management unit subject to s. NR 664.0144 shall establish financial assurance for long-term care according to the approved long-term care plan for the facility 60 days prior to the initial receipt of hazardous waste or the effective date of the rule, whichever is later. The owner or operator shall choose from the following options:

(1) LONG-TERM CARE TRUST FUND. (a) An owner or operator may satisfy the requirements of this section by establishing a long-term care trust fund which conforms to the requirements of this subsection and submitting an originally signed duplicate of the trust agreement to the department. An owner or operator of a new facility shall submit the originally signed duplicate of the trust agreement to the department at least 60 days before the date on which hazardous waste is first received for disposal. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(b) The wording of the trust agreement shall be identical to the wording on the department form specified in s. NR 664.0151(1)(a) and the trust agreement shall be accompanied by a formal certification of acknowledgment as specified in s. NR 664.0151(1)(b). Schedule A of the trust agreement shall be updated within 60 days after a change in the amount of the current long-term care cost estimate covered by the agreement.

(c) Payments into the trust fund shall be made annually by the owner or operator over the term of the initial license or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter. For the purposes of this section, this period is referred to as the ”pay-in period.” The payments into the long-term care trust fund shall be made as follows:

1. For a new facility, the first payment shall be made before the initial receipt of hazardous waste for disposal. A receipt from the trustee for this payment shall be submitted by the owner or operator to the

department before this initial receipt of hazardous waste. The first payment shall be at least equal to the current long-term care cost estimate, except as provided in sub. (9), divided by the number of years in the pay-in period. Subsequent payments shall be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current long-term care cost estimate, CV is the current value of the trust fund and Y is the number of years remaining in the pay-in period.

2. If an owner or operator establishes a trust fund as specified in this subsection, and the value of that trust fund is less than the current long-term care cost estimate when a license is awarded for the facility, the amount of the current long-term care cost estimate still to be paid into the fund shall be paid in over the pay-in period as defined in par. (c) (intro). Payments shall continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to ch. NR 665. The amount of each payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current long-term care cost estimate, CV is the current value of the trust fund and Y is the number of years remaining in the pay-in period.

(d) The owner or operator may accelerate payments into the trust fund or may deposit the full amount of the current long-term care cost estimate at the time the fund is established. However, the owner or operator shall maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in par. (c).

(e) If the owner or operator establishes a long-term care trust fund after having used one or more alternate mechanisms specified in this section or in s. NR 665.0145, the first payment shall be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this subsection and s. NR 665.0145(1), as applicable.

(f) After the pay-in period is completed, whenever the current long-term care cost estimate changes during the operating life of the facility, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current long-term care cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(g) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current long-term care cost estimate, the owner or operator may submit a written request to the department for release of the amount in excess of the current long-term care cost estimate.

(h) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, the owner or operator may submit a written request to the department for release of the amount in excess of the current long-term care cost estimate covered by the trust fund.

(i) Within 60 days after receiving a request from the owner or operator for release of funds as specified in par. (g) or (h), the department will instruct the trustee to release to the owner or operator funds as the department specifies in writing.

(j) During the period of long-term care, the department may approve a release of funds if the owner or operator demonstrates to the department that the value of the trust fund exceeds the remaining cost of long-term care.

(k) An owner or operator or any other person authorized to conduct long-term care may request reimbursements for long-term care expenditures by submitting itemized bills to the department. Within 60 days after receiving bills for long-term care activities, the department will instruct the trustee to make

reimbursements in those amounts as the department specifies in writing, if the department determines that the long-term care expenditures are in accordance with the approved long-term care plan or otherwise justified. If the department does not instruct the trustee to make the reimbursements, the department will provide the owner or operator with a detailed written statement of reasons.

(L) The department will agree to termination of the trust when one of the following applies:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (11).

(2) SURETY BOND GUARANTEEING PAYMENT INTO A LONG-TERM CARE TRUST FUND. (a) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this subsection and submitting the bond to the department. An owner or operator of a new facility shall submit the bond to the department at least 60 days before the date on which hazardous waste is first received for disposal. The bond shall be effective before this initial receipt of hazardous waste. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. department of the treasury.

(b) The wording of the surety bond shall be identical to the wording on the department form specified in s. NR 664.0151(2).

(c) The owner or operator who uses a surety bond to satisfy the requirements of this section shall also establish a standby trust fund. Under the terms of the bond, all payments made shall be deposited by the surety directly into the standby trust fund in accordance with instructions from the department. This standby trust fund must meet the requirements specified in sub. (1), except for all of the following:

1. An originally signed duplicate of the trust agreement must be submitted to the department with the surety bond.

2. Until the standby trust fund is funded pursuant to the requirements of this section, all of the following are not required:

a. Payments into the trust fund as specified in sub. (1).

b. Updating of Schedule A of the trust agreement (see Form 4430-022) to show current post-closure cost estimates.

c. Annual valuations as required by the trust agreement.

d. Notices of nonpayment as required by the trust agreement.

(d) The bond must guarantee that the owner or operator shall do any of the following:

1. Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility.

2. Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the department becomes final or within 15 days after an order to begin final closure is issued.

3. Provide alternate financial assurance as specified in this section, and obtain the department's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the department of a notice of cancellation of the bond from the surety.

(e) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(f) The penal sum of the bond shall be in an amount at least equal to the current long-term care cost estimate, except as provided in sub. (9).

(g) Whenever the current long-term care cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current long-term care cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current long-term care cost estimate decreases, the penal sum may be reduced to the amount of the current long-term care cost estimate following written approval by the department.

(h) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the department, as evidenced by the return receipts. Not less than 30 days prior to the expiration of the 120 day notice period, the owner shall deliver to the department a replacement bond or other proof of financial responsibility under this section, in the absence of which all storage, treatment or disposal operations shall immediately cease and the bond shall remain in effect as long as any obligation of the owner remains for long-term care.

(i) The owner or operator may cancel the bond if the department has given prior written consent based on the receipt of evidence of alternate financial assurance as specified in this section.

(3) SURETY BOND GUARANTEEING PERFORMANCE OF LONG-TERM CARE. (a) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this subsection and submitting the bond to the department. An owner or operator of a new facility shall submit the bond to the department at least 60 days before the date on which hazardous waste is first received for disposal. The bond shall be effective before this initial receipt of hazardous waste. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. department of the treasury.

(b) The wording of the surety bond shall be identical to the wording on the department form specified in s. NR 664.0151(3).

(d) The bond shall guarantee that the owner or operator will do one of the following:

1. Perform long-term care in accordance with the long-term care plan and other requirements of the license for the facility.

2. Provide alternate financial assurance as specified in this section, and obtain the department's written approval of the assurance provided, within 90 days of receipt by both the owner or operator and the department of a notice of cancellation of the bond from the surety.

(e) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a determination by the department that the owner or operator has failed to perform long-term care in accordance with the approved long-term care plan and other license requirements, under the terms of the bond the surety will perform long-term care in accordance with the long-term care plan and other license requirements or shall pay the penal sum of the bond to the department.

(f) The penal sum of the bond shall be in an amount at least equal to the current long-term care cost estimate.

(g) Whenever the current long-term care cost estimate increases to an amount greater than the penal sum during the operating life of the facility, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current long-term care cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section. Whenever the current long-term care cost estimate decreases during the operating life of the facility, the penal sum may be reduced to the amount of the current long-term care cost estimate following written approval by the department.

(h) During the period of long-term care, the department may approve a decrease in the penal sum if the owner or operator demonstrates to the department that the amount exceeds the remaining cost of long-term care.

(i) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the department, as evidenced by the return receipts. Not less than 30 days prior to the expiration of the 120 day notice period, the owner shall deliver to the department a replacement bond or other proof of financial responsibility under this section, in the absence of which all storage, treatment or

disposal operations shall immediately cease and the bond shall remain in effect as long as any obligation of the owner remains for long-term care.

(j) The owner or operator may cancel the bond if the department has given prior written consent. The department will provide written consent when any of the following apply:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (11).

(k) The surety will not be liable for deficiencies in the performance of long-term care by the owner or operator after the department releases the owner or operator from the requirements of this section in accordance with sub. (11).

(4) LONG-TERM CARE LETTER OF CREDIT. (a) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable letter of credit which conforms to the requirements of this subsection and submitting the letter to the department. An owner or operator of a new facility shall submit the letter of credit to the department at least 60 days before the date on which hazardous waste is first received for disposal. The letter of credit shall be effective before this initial receipt of hazardous waste. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

(b) The wording of the letter of credit shall be identical to the wording on the department form specified in s. NR 664.0151(4).

(d) The letter of credit shall be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution and date, and providing the following information: the EPA identification number, name and address of the facility, and the amount of funds assured for long-term care of the facility by the letter of credit.

(e) The letter of credit shall be irrevocable and issued for a period of at least one year. The letter of credit shall provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the department by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the department have received the notice, as evidenced by the return receipts.

(f) The letter of credit shall be issued in an amount at least equal to the current long-term care cost estimate, except as provided in sub. (9).

(g) Whenever the current long-term care cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, shall either cause the amount of the credit to be increased so that it at least equals the current long-term care cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current long-term care cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current long-term care cost estimate following written approval by the department.

(h) During the period of post-closure care, the department may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the department that the amount exceeds the remaining cost of long-term care.

(i) Following a determination by the department that the owner or operator has failed to perform long-term care in accordance with the approved long-term care plan and other license requirements, the department may draw on the letter of credit.

(j) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of the alternate assurance from the department within 90 days after receipt by both the owner or operator and the department of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the department will draw on the letter of credit. The department may delay the drawing if the issuing institution grants an extension of the term

of the credit. During the last 30 days of any extension the department will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of the assurance from the department.

(k) The department will authorize the release of the letter of credit when any of the following apply:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (11).

(5) LONG-TERM CARE INSURANCE. (a) An owner or operator may satisfy the requirements of this section by obtaining long-term care insurance which conforms to the requirements of this subsection and submitting a certificate of the insurance to the department. An owner or operator of a new facility shall submit the certificate of insurance to the department at least 60 days before the date on which hazardous waste is first received for disposal. The insurance shall be effective before this initial receipt of hazardous waste. At a minimum, the insurer shall be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states. The department, after conferring with the Wisconsin insurance commissioner, shall determine the acceptability of a surplus lines or captive insurance company to provide coverage for proof of financial responsibility. The department shall ask the insurance commissioner to provide a financial analysis of the insurer including a recommendation as to the insurer's ability to provide the required coverage. The department may require a periodic review of the acceptability of a surplus lines or captive insurance company.

(b) The wording of the certificate of insurance shall be identical to the wording on the department form specified in s. NR 664.0151(5).

(c) The long-term care insurance policy shall be issued for a face amount at least equal to the current long-term care cost estimate, except as provided sub. (9). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(d) The long-term care insurance policy shall guarantee that funds will be available to provide long-term care of the facility whenever the long-term care period begins. The policy shall also guarantee that once long-term care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the department, to the party or parties as the department specifies.

(e) An owner or operator or any other person authorized to conduct long-term care may request reimbursements for long-term care expenditures by submitting itemized bills to the department. Within 60 days after receiving bills for long-term care activities, the department will instruct the insurer to make reimbursements in those amounts as the department specifies in writing, if the department determines that the long-term care expenditures are in accordance with the approved long-term care plan or otherwise justified. If the department does not instruct the insurer to make the reimbursements, the department will provide the owner or operator with a detailed written statement of reasons.

(f) The owner or operator shall maintain the policy in full force and effect until the department consents to termination of the policy by the owner or operator as specified in par. (k). Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of this chapter, warranting a remedy as the department deems necessary. The violation will be deemed to begin upon receipt by the department of a notice of future cancellation, termination or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(g) Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. The assignment may be conditional upon consent of the insurer, provided the consent is not unreasonably refused.

(h) The policy shall provide that the insurer may not cancel, terminate or fail to renew the policy unless a replacement insurance policy or other proof of financial responsibility under this section is

provided to the department by the owner or operator. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If the insurer elects to cancel, terminate or fail to renew the policy, the insurer shall provide notice by certified mail to the owner or operator and the department not less than 120 days prior to the proposed cancellation date. Cancellation, termination or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the department and the owner or operator, as evidenced by the return receipts. Cancellation, termination or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration any of the following apply:

1. The department deems the facility abandoned.

2. The license is denied, suspended or revoked or a new license is denied.

3. Closure is ordered by the department or a U.S. district court or other court of competent jurisdiction.

4. The owner or operator is named as debtor in a voluntary or involuntary bankruptcy proceeding under 11 USC.

5. The premium due is paid.

(i) Whenever the current long-term care cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, shall either cause the face amount to be increased to an amount at least equal to the current long-term care cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current long-term care cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current long-term care cost estimate following written approval by the department.

(j) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. The increase shall be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85% of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. treasury for 26-week treasury securities.

(k) The department will give written consent to the owner or operator that the owner or operator may terminate the insurance policy when any of the following apply:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (11).

(6) NET WORTH TEST FOR LONG-TERM CARE. (a) An owner or operator of a disposal facility may use the net worth test to provide financial responsibility if all of the following are met:

1. Only a company that meets the definition in s. 289.41 (1)(b), Stats., may use the net worth method of providing proof of financial responsibility.

2. The owner shall comply with the net worth test requirements of s. 289.41(4), (6) and (7), Stats., and the minimum security requirements of s. 289.41 (9), Stats., whichever are applicable.

(b) For companies with more than one facility, the total cost of compliance for all facilities shall be used to determine the net worth to closure and long-term care cost ratio.

(7) LONG TERM CARE DEPOSIT WITH THE DEPARTMENT. An owner may deposit cash, certificates of deposit or U.S. government securities with the department. The deposit must be accompanied by a signed duplicate original of Form 4430-028 as specified in s. NR 664.0151(14). The amount of the deposit shall be determined according to s. NR 664.0144 and shall be submitted as part of an interim license application or the feasibility and plan of operation report. Cash deposits placed with the department shall be segregated and invested in an interest bearing account. All interest payments shall be accumulated in the account. The department shall have the right to use part or all of the funds to carry out the long-term

care requirements of the approved closure plan or the applicable requirements in this section if the owner fails to do so.

(8) LONG TERM CARE ESCROW ACCOUNT. (a) An owner or operator may satisfy the requirements of this section by establishing a long-term care escrow account which conforms to the requirements of this subsection and submitting an originally signed duplicate of the escrow agreement to the department. An owner or operator of a new facility shall submit the originally signed duplicate of the escrow agreement to the department at least 60 days before the date on which hazardous waste is first received for disposal. The escrow agent shall be an entity which has the authority to act as an escrow agent and the escrow account shall be established with a bank or financial institution which is regulated and examined by a federal or state agency.

(b) The wording of the escrow agreement shall be identical to the wording on the department form specified in s. NR 664.0151(6)(a), and the escrow agreement shall be accompanied by a formal certification of acknowledgment as specified in s. NR 664.0151(6)(b). Schedule A of the escrow agreement shall be updated within 60 days after a change in the amount of the current long-term care cost estimate covered by the agreement.

(c) Payments into the escrow account shall be made annually by the owner or operator over the term of the initial license or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter. For the purposes of this section, this period is referred to as the ”pay-in period.” The payments into the long-term care escrow account shall be made as follows:

1. For a new facility, the first payment shall be made before the initial receipt of hazardous waste for disposal. A receipt from the escrow agent for this payment shall be submitted by the owner or operator to the department before this initial receipt of hazardous waste. The first payment shall be at least equal to the current long-term care cost estimate, except as provided in sub. (9), divided by the number of years in the pay-in period. Subsequent payments shall be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current long-term care cost estimate, CV is the current value of the escrow account and Y is the number of years remaining in the pay-in period.

2. If an owner or operator establishes a escrow account as specified in this subsection, and the value of that escrow account is less than the current long-term care cost estimate when a license is awarded for the facility, the amount of the current long-term care cost estimate still to be paid into the account shall be paid in over the pay-in period as defined in the introduction to this paragraph. Payments shall continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to ch. NR 665. The amount of each payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current long-term care cost estimate, CV is the current value of the escrow account and Y is the number of years remaining in the pay-in period.

(d) The owner or operator may accelerate payments into the escrow account or may deposit the full amount of the current long-term care cost estimate at the time the account is established. However, the owner or operator shall maintain the value of the account at no less than the value that the account would have if annual payments were made as specified in par. (c).

(e) If the owner or operator establishes a long-term care escrow account after having used one or more alternate mechanisms specified in this section or in s. NR 665.0145, the first payment shall be in at least the amount that the account would contain if the escrow account were established initially and annual payments made according to specifications of this subsection and s. NR 665.0145(7), as applicable.

(f) After the pay-in period is completed, whenever the current long-term care cost estimate changes during the operating life of the facility, the owner or operator shall compare the new estimate with the escrow agent's most recent annual valuation of the escrow account. If the value of the account is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the account so that its value after this deposit at least equals the amount of the current long-term care cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(g) During the operating life of the facility, if the value of the escrow account is greater than the total amount of the current long-term care cost estimate, the owner or operator may submit a written request to the department for release of the amount in excess of the current long-term care cost estimate.

(h) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the escrow account, the owner or operator may submit a written request to the department for release of the amount in excess of the current long-term care cost estimate covered by the escrow account.

(i) Within 60 days after receiving a request from the owner or operator for release of funds as specified in par. (g) or (h), the department will instruct the escrow agent to release to the owner or operator funds as the department specifies in writing.

(j) During the period of long-term care, the department may approve a release of funds if the owner or operator demonstrates to the department that the value of the escrow account exceeds the remaining cost of long-term care.

(k) An owner or operator or any other person authorized to conduct long-term care may request reimbursements for long-term care expenditures by submitting itemized bills to the department. Within 60 days after receiving bills for long-term care activities, the department will instruct the escrow agent to make reimbursements in those amounts as the department specifies in writing, if the department determines that the long-term care expenditures are in accordance with the approved long-term care plan or otherwise justified. If the department does not instruct the escrow agent to make the reimbursements, the department will provide the owner or operator with a detailed written statement of reasons.

(L) The department will agree to termination of the escrow account when one of the following applies:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (11).

(9) USE OF MULTIPLE FINANCIAL MECHANISMS. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment, deposits with the department, escrow accounts, letters of credit and insurance. The mechanisms shall be as specified in subs. (1), (2), (4), (5), (7) and (8) except that it is the combination of mechanisms, rather than the single mechanism, which shall provide financial assurance for an amount at least equal to the current long-term care cost estimate. The department may use any or all of the mechanisms to provide for long-term care of the facility.

(10) USE OF A FINANCIAL MECHANISM FOR MULTIPLE FACILITIES. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the department shall include a list showing, for each facility, the EPA identification number, name, address and the amount of funds for long-term care assured by the mechanism. If the facilities covered by the mechanism are in more than one state, identical evidence of financial assurance shall be submitted to and maintained with the state agency regulating hazardous waste or with the appropriate EPA regional administrator if the facility is located in unauthorized states. The amount of funds available through the mechanism shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for long-term care of any of the facilities

covered by the mechanism, the department may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(11) RELEASE OF THE OWNER OR OPERATOR FROM THE REQUIREMENTS OF THIS SECTION. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that the long-term care period has been completed for a hazardous waste disposal unit in accordance with the approved plan, the department will notify the owner or operator that the owner or operator is no longer required to maintain financial assurance for long-term care of that unit, unless the department has reason to believe that long-term care has not been in accordance with the approved long-term care plan. The department shall provide the owner or operator with a detailed written statement of any reason to believe that long-term care has not been in accordance with the approved long-term care plan.

Note: The department may consider other financial commitments as allowed by s. 289.41(3)(a)5., Stats.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0146 Use of a mechanism for financial assurance of both closure and long-term care.** An owner or operator may satisfy the requirements for financial assurance for both closure and long-term care for one or more facilities by using an irrevocable trust fund, surety payment or performance bond, deposit with the department, escrow account, letter of credit, insurance or net worth test that meets the specifications for the mechanism in both ss. NR 664.0143 and 664.0145. The amount of funds available through the mechanism shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of long-term care.

NR 664.0147 Liability requirements. (1) COVERAGE FOR SUDDEN ACCIDENTAL OCCURRENCES. An owner or operator of a hazardous waste treatment, storage or disposal facility, or a group of facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain liability coverage for sudden accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in par. (a), (b), (c), (d), (e) or (f):

(a) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this subsection.

1. Each insurance policy shall be amended by attachment of the hazardous waste facility liability endorsement or evidenced by a certificate of liability insurance. The wording of the endorsement shall be identical to the wording specified in s. NR 664.0151(9). The wording of the certificate of insurance shall be identical to the wording specified in s. NR 664.0151(10). The owner or operator shall submit a signed duplicate original of the endorsement or the certificate of insurance to the department and the state agency regulating hazardous waste or with the appropriate EPA regional administrators if the facilities are located in unauthorized states. If requested by the department, the owner or operator shall provide a signed duplicate original of the insurance policy. An owner or operator of a new facility shall submit the signed duplicate original of the hazardous waste facility liability endorsement or the certificate of liability insurance to the department at least 60 days before the date on which hazardous waste is first received for treatment, storage or disposal. The insurance shall be effective before this initial receipt of hazardous waste.

2. Each insurance policy shall be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

3. The department, after conferring with the Wisconsin insurance commissioner, shall determine the acceptability of a surplus lines or captive insurance company to provide coverage for proof of financial

responsibility. The department shall ask the insurance commissioner to provide a financial analysis of the insurer including a recommendation as to the insurer's ability to provide the required coverage. The department may require a periodic review of the acceptability of a surplus lines or captive insurance company.

(b) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in subs. (6) and (7).

(c) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in sub. (8).

(d) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in sub. (9).

(e) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in sub. (10).

(f) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated shall total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this subsection, the owner or operator shall specify at least one assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(g) An owner or operator shall notify the department in writing within 30 days whenever any of the following occur:

1. A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in pars. (a) to (f).

2. A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under pars. (a) to (f).

3. A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under pars. (a) to (f).

(2) COVERAGE FOR NONSUDDEN ACCIDENTAL OCCURRENCES. An owner or operator of a surface impoundment, landfill, or disposal miscellaneous unit that is used to manage hazardous waste, or a group of facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs. An owner or operator who shall meet the requirements of this section may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences shall maintain liability coverage in the amount of at least $4 million per occurrence and $8 million annual aggregate. This liability coverage may be demonstrated as specified in par. (a), (b), (c), (d), (e) or (f):

(a) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this subsection.

1. Each insurance policy shall be amended by attachment of the hazardous waste facility liability endorsement or evidenced by a certificate of liability insurance. The wording of the endorsement shall be identical to the wording specified in s. NR 664.0151(9). The wording of the certificate of insurance shall be identical to the wording specified in s. NR 664.0151(10). The owner or operator shall submit a signed duplicate original of the endorsement or the certificate of insurance to the department and the state agency regulating hazardous waste or with the EPA regional administrators if the facilities are located in unauthorized states. If requested by the department, the owner or operator shall provide a signed duplicate original of the insurance policy. An owner or operator of a new facility shall submit the signed duplicate original of the hazardous waste facility liability endorsement or the certificate of liability insurance to the department at least 60 days before the date on which hazardous waste is first received for treatment, storage or disposal. The insurance shall be effective before this initial receipt of hazardous waste.

2. Each insurance policy shall be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

3. The department, after conferring with the Wisconsin insurance commissioner, shall determine the acceptability of a surplus lines or captive insurance company to provide coverage for proof of financial responsibility. The department shall ask the insurance commissioner to provide a financial analysis of the insurer including a recommendation as to the insurer's ability to provide the required coverage. The department may require a periodic review of the acceptability of a surplus lines or captive insurance company.

(b) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in subs. (6) and (7).

(c) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in sub. (8).

(d) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in sub. (9).

(e) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in sub. (10).

(f) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated shall total at least the minimum amount required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this subsection, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(g) An owner or operator shall notify the department in writing within 30 days whenever any of the following occur:

1. A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in pars. (a) to (f).

2. A certification of valid claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under pars. (a) to (f).

3. A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under pars. (a) to (f).

(3) REQUEST FOR VARIANCE. If an owner or operator can demonstrate to the satisfaction of the department that the levels of financial responsibility required by sub. (1) or (2) are not consistent with the degree and duration of risk associated with treatment, storage or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the department. The request for a variance shall be submitted to the department as part of the application under s. NR 670.014 for a facility that does not have a license, or pursuant to the procedures for license modification under s. NR 670.405 for a facility that has a license. If granted, the variance will take the form of an adjusted level of required liability coverage, the level to be based on the department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The department may require an owner or operator who requests a variance to provide the technical and engineering information as is deemed necessary by the department to determine a level of financial responsibility other than that required by sub. (1) or (2). Any request for a variance for a licensed facility will be treated as a request for a license modification under ss. NR 670.041(1)(e) and 670. 405.

(4) ADJUSTMENTS BY THE DEPARTMENT. If the department determines that the levels of financial responsibility required by sub. (1) or (2) are not consistent with the degree and duration of risk associated with treatment, storage or disposal at the facility or group of facilities, the department may adjust the level of financial responsibility required under sub. (1) or (2) as may be necessary to protect human health and the environment. This adjusted level will be based on the department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the department determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment or landfill , the department may require that an owner or operator of the facility comply with sub. (2). An owner or operator shall furnish to the department, within a reasonable time, any information which the department requests to determine whether cause exists for adjustments of level or type of coverage. Any adjustment of the level or type of coverage for a facility that has a license will be treated as a license modification unders s. NR 670.041(1)(e) and 670.405.

(5) PERIOD OF COVERAGE. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the department will notify the owner or operator in writing that the owner or operator is no longer required to maintain liability coverage for that facility, unless the department has reason to believe that closure has not been in accordance with the approved closure plan.

(6) FINANCIAL TEST FOR LIABILITY COVERAGE. (a) An owner or operator may satisfy the requirements of this section by demonstrating that the owner or operator passes a financial test as specified in this subsection. To pass this test the owner or operator shall meet the criteria of subd. 1. or 2.:

1. The owner or operator shall have all of the following:

a. Net working capital and tangible net worth each at least 6 times the amount of liability coverage to be demonstrated by this test.

b. Tangible net worth of at least $10 million.

c. Assets in the United States amounting to either:

1) At least 90% of the owner or operator's total assets.

2) At least 6 times the amount of liability coverage to be demonstrated by this test.

2. The owner or operator shall have all of the following:

a. A current rating for the owner or operator's most recent bond issuance of AAA, AA, A or BBB as issued by Standard and Poor's, or Aaa, Aa, A or Baa as issued by Moody's.

b. Tangible net worth of at least $10 million.

c. Tangible net worth at least 6 times the amount of liability coverage to be demonstrated by this test.

d. Assets in the United States amounting to either:

1) At least 90% of the owner or operator's total assets.

2) At least 6 times the amount of liability coverage to be demonstrated by this test.

(b) The phrase ”amount of liability coverage” as used in par. (a) refers to the annual aggregate amounts for which coverage is required under subs. (1) and (2).

(c) To demonstrate that the owner or operator meets this test, the owner or operator shall submit the following 3 items to the department:

1. A letter signed by the owner’s or operator’s chief financial officer and worded as specified in s. NR 664.0151(7).

2. A copy of the independent certified public accountant’s report on examination of the owner’s or operator’s financial statements for the latest completed fiscal year.

3. A special report from the owner’s or operator’s independent certified public accountant to the owner or operator stating all of the following:

a. The independent certified public accountant has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in the financial statements.

b. In connection with that procedure, no matters came to the attention of the independent certified public accountant which would provide cause to believe that the specified data should be adjusted.

(d) An owner or operator of a new facility shall submit the items specified in par. (c) to the department at least 60 days before the date on which hazardous waste is first received for treatment, storage or disposal.

(e) After the initial submission of items specified in par. (c), the owner or operator shall send updated information to the department within 90 days after the close of each succeeding fiscal year. This information shall consist of all 3 items specified in par. (c).

(f) If the owner or operator no longer meets the requirements of par. (a), the owner or operator shall obtain insurance, a letter of credit, a surety bond, a trust fund or a guarantee for the entire amount of required liability coverage as specified in this section. Evidence of liability coverage shall be submitted to the department within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(g) The department may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in the accountant’s report on examination of the owner’s or operator’s financial statements (see par. (c)2.). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The department will evaluate other qualifications on an individual basis. The owner or operator shall provide evidence of insurance for the entire amount of required liability coverage as specified in this section within 30 days after notification of disallowance.

(7) GUARANTEE FOR LIABILITY COVERAGE. (a) Subject to par. (b), an owner or operator may meet the requirements of this section by obtaining a written guarantee, referred to as ”guarantee.” The guarantor shall be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a substantial business relationship with the owner or operator. The guarantor shall meet the requirements for owners or operators in subs. (6)(a) to (f). The wording of the guarantee shall be identical to the wording specified in s. NR 664.0151(8). A certified copy of the guarantee shall accompany the items sent to the department as specified in sub. (6)(c). One of these items shall be the letter from the guarantor’s chief financial officer. If the guarantor’s parent corporation is also the parent corporation of the owner or operator, this letter shall describe the value received in consideration of the guarantee. If the guarantor is a firm with a substantial business relationship with the owner or operator, this letter shall describe this substantial business relationship and the value received in consideration of the guarantee. If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from the injury or damage, the guarantor will do so up to the limits of coverage. The guarantee shall remain in force unless the guarantor sends notice of

cancellation by certified mail to the owner or operator and to the department. This guarantee may not be terminated unless and until the department approves alternate liability coverage complying with this section.

(b)1. In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this section only if the attorneys general or insurance commissioners of the following states have submitted a written statement to the department that a guarantee executed as described in this section and s. NR 664.0151(8), 40 CFR 264.151(h)(2) or other state requirements that are equivalent to 40 CFR 264.151(h)(2) is a legally valid and enforceable obligation in that state:

a. The state in which the guarantor is incorporated.

b. Each state in which a facility covered by the guarantee is located.

2. In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this section only if all of the following conditions are met:

a. The non-U.S. corporation has identified a registered agent for service of process in each state in which a facility covered by the guarantee is located and in the state in which it has its principal place of business.

b. The attorney general or insurance commissioner of each state in which a facility covered by the guarantee is located and the state in which the guarantor corporation has its principal place of business, has submitted a written statement to the department that a guarantee executed as described in this section and s. NR 664.0151(8), 40 CFR 264.151(h)(2) or other state requirements that are equivalent to 40 CFR 264.151(h)(2) is a legally valid and enforceable obligation in that state.

(8) LETTER OF CREDIT FOR LIABILITY COVERAGE. (a) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable letter of credit that conforms to the requirements of this subsection and submitting a copy of the letter of credit to the department.

(b) The financial institution issuing the letter of credit shall be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

(c) The wording of the letter of credit shall be identical to the wording specified in s. NR 664.0151(11).

(9) SURETY BOND FOR LIABILITY COVERAGE. (a) An owner or operator may satisfy the requirements of this section by obtaining a surety bond that conforms to the requirements of this subsection and submitting a copy of the bond to the department.

(b) The surety company issuing the bond shall be among those listed as acceptable sureties on federal bonds in the most recent circular 570 of the U.S. department of the treasury.

(c) The wording of the surety bond shall be identical to the wording specified in s. NR 664.0151(12).

(d) A surety bond may be used to satisfy the requirements of this section only if the attorneys general or insurance commissioners of the following states have submitted a written statement to the department that a surety bond executed as described in this section and s. NR 664.0151(12), 40 CFR 264.151(1) or other state requirements that are equivalent to 40 CFR 264.151(l) is a legally valid and enforceable obligation in that state:

1. The state in which the surety is incorporated.

2. Each state in which a facility covered by the surety bond is located.

(10) TRUST FUND FOR LIABILITY COVERAGE. (a) An owner or operator may satisfy the requirements of this section by establishing a trust fund that conforms to the requirements of this subsection and submitting an originally signed duplicate of the trust agreement to the department.

(b) The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(c) The trust fund for liability coverage shall be funded for the full amount of the liability coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full

amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the fund, shall either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this section to cover the difference. For purposes of this subsection, ”the full amount of the liability coverage to be provided” means the amount of coverage for sudden or nonsudden occurrences, or both, required to be provided by the owner or operator by this section, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator.

(d) The wording of the trust fund shall be identical to the wording specified in s. NR 664.0151(13).

NR 664.0148 Incapacity of owners or operators, guarantors or financial institutions. (1) An owner or operator shall notify the department by certified mail of the commencement of a voluntary or involuntary bankruptcy proceeding under 11 USC, naming the owner or operator as debtor, within 10 days after commencement of the proceeding.

(2) An owner or operator who fulfills the requirements of s. NR 664.0143, 664.0145 or 664.0147 by obtaining a trust fund, surety bond, letter of credit or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit or insurance policy to issue the instruments. The owner or operator shall establish other financial assurance or liability coverage within 60 days after such an event.

NR 664.0151 Wording of the instruments. (1)(a) A trust agreement for a trust fund, as specified in s. NR 664.0143(1), 664.0145(1), 665.0143(1) or 665.0145(1), must be identical to the wording of Form 4430-022 Trust Agreement.

Note: Form 4430-022 may be obtained from: www.dnr.state.wi.us/org/aw/wm/hazard/FN_Responsibility/4430-022HW.pdf**,** or by E-mail: waste.management@dnr.state.wi.us waste.management@dnr.state.wi.us, phone (608) 266-2111 or Fax (608) 267-2768.

(b) The following is an example of the certification of acknowledgment which must accompany the trust agreement for a trust fund as specified in s. NR 664.0143(1), 664.0145(1), 665.0143(1) or 665.0145(1).

State of _____
County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

_____
[Signature of Notary Public]

(2) A surety bond guaranteeing payment into a trust fund, as specified in s. NR 664.0143(2), 664.0145(2), 665.0143(2) or 665.0145(2), must be identical to the wording of Form 4430-023 Financial Guarantee Bond.

Note: Form 4430-023 may be obtained from:

www.dnr.state.wi.us/org/aw/wm/hazard/FN_Responsibility/4430-023HW.pdf**,** or by E-mail: waste.management@dnr.state.wi.us phone (608) 266-2111 or Fax (608) 267-2768.

(3) A surety bond guaranteeing performance of closure or long-term care or both, as specified in s. NR 664.0143(3) or 664.0145(3), must be worded identical to the wording of Form 4430-024 Performance Bond.

Note: Form 4430-024 may be obtained from: www.dnr.state.wi.us/org/aw/wm/hazard/FN_Responsibility/4430-024HW.pdf**,** or by E- mail at waste.management@dnr.state.wi.us waste.management@dnr.state.wi.us, phone (608) 266-2111 or Fax (608) 267-2768.

(4) A letter of credit, as specified in s. NR 664.0143(4), 664.0145(4), 665.0143(3) or 665.0145(3), must be worded identical to the wording of Form 4430-025 Irrevocable Letter of Credit.

Note: Form 4430-025 may be obtained from: www.dnr.state.wi.us/org/aw/wm/hazard/FN_Responsibility/4430-025HW.pdf**,** or by E-mail: waste.management@dnr.state.wi.us, phone (608) 266-2111 or Fax (608) 267-2768.

(5) A certificate of insurance, as specified in s. NR 664.0143(5), 664.0145(5), 665.0143(4) or 665.0145(4), must be identical to the wording of Form 4430-026 Certificate of Insurance for Closure and Long-Term Care.

Note: Form 4430-026 may be obtained from: www.dnr.state.wi.us/org/aw/wm/hazard/FN_Responsibility/4430-026HW.pdf**,** or by E-mail: waste.management@dnr.state.wi.us, phone (608) 266-2111 or Fax (608) 267-2768.

(6)(a) An escrow agreement, as specified in s. NR 664.0143(8), 664.0145(8), 665.0143(7) or 665.0145(7), must be identical to the wording of Form 4430-027 Escrow Agreement.

Note: Form 4430-027 may be obtained from: http://www.dnr.state.wi.us/org/aw/wm/hazard/FN_Responsibility/4430-027HW.pdf, or by E-mail: waste.management@dnr.state.wi.us, phone (608) 266-2111 or Fax (608) 267-2768.

(b) The following is an example of the certification of acknowledgment which must accompany the escrow account specified in s. NR 664.0143(8), 664.0145(8), 665.0143(7) or 665.0145(7),
State of _____
County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

_____
[Signature of Notary Public]

(7) A letter from the chief financial officer, as specified in s. NR 664.0147(6) or 665.0147(6), must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

WA-10-05

Letter from Chief Financial Officer

[For facilities demonstrating financial responsibility through the financial test, address to Wisconsin Department of Natural Resources, the state agency of other affected authorized states and the administrator of affected EPA regions if the facilities are in unauthorized states.]

I am the chief financial officer of [firm's name and address]. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage as specified in subch. H. of chs. 664 and 665, Wis. Adm. Code.

[Fill out the following paragraphs regarding facilities and liability coverage. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number, name and address].

The firm identified above is the owner or operator of the following facilities for which liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences is being demonstrated through the financial test specified in subch. H. of chs. NR 664 and 665, Wis. Adm. Code:____

The firm identified above guarantees, through the guarantee specified in subch. H. of chs. NR 664 and 665, Wis. Adm. Code, liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences at the following facilities owned or operated by the following: ____. The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee ____; or (3) engaged in the following substantial business relationship with the owner or operator ____, and receiving the following value in consideration of this guarantee ____]. [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter.]

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

Part A. Liability Coverage for Accidental Occurrences

[Fill in Alternative I if the criteria of s. NR 664.0147(6)(a)1. or 665.0147(6)(a)1., Wis. Adm. Code, are used. Fill in Alternative II if the criteria of s. NR 664.0147(6)(a)2. or 665.0147(6)(a)2., Wis. Adm. Code, are used.]

ALTERNATIVE I

1. Amount of annual aggregate liability coverage to be demonstrated $ ____.
*2. Current assets $ ____.
*3. Current liabilities $ ____.
4. Net working capital (line 2 minus line 3) $ ____.
*5. Tangible net worth $ ____.
*6. If less than 90% of assets are located in the U.S., give total U.S. assets $ ____.
7. Is line 5 at least $10 million? (Yes/No) ____.
8. Is line 4 at least 6 times line 1? (Yes/No) ____.
9. Is line 5 at least 6 times line 1? (Yes/No) ____.
*10. Are at least 90% of assets located in the U.S.? (Yes/No) ____. If not, complete line 11.
11. Is line 6 at least 6 times line 1? (Yes/No) ____.

ALTERNATIVE II

1. Amount of annual aggregate liability coverage to be demonstrated $ ____.
2. Current bond rating of most recent issuance and name of rating service ____ ____.
3. Date of issuance of bond ____ ____.
4. Date of maturity of bond ____ ____.
*5. Tangible net worth $ ____.
*6. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.) $ ____.
7. Is line 5 at least $10 million? (Yes/No) ____.
8. Is line 5 at least 6 times line 1? ____.
9. Are at least 90% of assets located in the U.S.? If not, complete line 10. (Yes/No) ____.
10. Is line 6 at least 6 times line 1? ____.

(8) A guarantee, as specified in s. NR 664.0147(7) or 665.0147(7), must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Guarantee for Liability Coverage

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of [if incorporated within the United States insert ”the State of ____” and insert name of State; if incorporated outside the United States insert the name of the country in which incorporated, the principal place of business within the United States, and the name and address of the registered agent in the State of the principal place of business], herein referred to as guarantor. This guarantee is made on behalf of [owner or operator] of [business address], which is one of the following: ”our subsidiary;” ”a subsidiary of [name and address of common parent corporation], of which guarantor is a subsidiary;” or ”an entity with which guarantor has a substantial business relationship, as defined in s. NR 664.0141(8) or 665.0141(8), Wis. Adm. Code”, to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee.

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in ss. NR 664.0147(7) and 665.0147(7), Wis. Adm. Code.

2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA identification number, name and address; and if guarantor is incorporated outside the United States list the name and address of the guarantor’s registered agent in each State.] This corporate guarantee satisfies RCRA third-party liability requirements for [insert ”sudden” or ”nonsudden” or ”both sudden and nonsudden”] accidental occurrences in above-named owner or operator facilities for coverage in the amount of [insert dollar amount] for each occurrence and [insert dollar amount] annual aggregate.

3. For value received from [owner or operator], guarantor guarantees to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operations of the facility(ies) covered by this guarantee that in the event that [owner or operator] fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by [sudden and/or nonsudden] accidental occurrences, arising from the operation of the above-named facilities, or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from the injury or damage, the guarantor will satisfy the judgment(s), award(s) or settlement agreement(s) up to the limits of coverage identified above.

4. The obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert owner or operator] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert owner or operator]. This exclusion applies:

(A) Whether [insert owner or operator] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented or occupied by [insert owner or operator];

(2) Premises that are sold, given away or abandoned by [insert owner or operator] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert owner or operator];

(4) Personal property in the care, custody or control of [insert owner or operator];

(5) That particular part of real property on which [insert owner or operator] or any contractors or subcontractors working directly or indirectly on behalf of [insert owner or operator] are performing operations, if the property damage arises out of these operations.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor must send within 90 days, by certified mail, notice to the Department, and if the facilities covered by this guarantee are in more than one state, to each state agency regulating hazardous waste or the EPA regional administrator if the facility is located in an unauthorized state, and to [owner or operator] that he intends to provide alternate liability coverage as specified in ss. NR 664.0147 and 665.0147, Wis. Adm. Code, or 40 CFR 264.147 and 265.147 or other state requirements that are equivalent to 40 CFR 264.147 and 265.147, as applicable, in the name of [owner or operator]. Within 120 days after the end of the fiscal year, the guarantor shall establish the liability coverage unless [owner or operator] has done so.

6. The guarantor agrees to notify the Department by certified mail of a voluntary or involuntary proceeding under title 11 (bankruptcy), U.S. code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by the Department of a determination that guarantor no longer meets the financial test criteria or that the guarantor is disallowed from continuing as a guarantor, the guarantor shall establish alternate liability coverage as specified in s. NR 664.0147 or 665.0147, Wis. Adm. Code, in the name of [owner or operator], unless [owner or operator] has done so.

8. Guarantor reserves the right to modify this agreement to take into account amendment or modification of the liability requirements set by ss. NR 664.0147 and 665.0147, Wis. Adm. Code, provided that the modification must become effective only if the Department does not disapprove the modification within 30 days of receipt of notification of the modification.

9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] shall comply with the applicable requirements of ss. NR 664.0147 and 665.0147, Wis. Adm. Code, for the above-listed facility(ies), except as provided in paragraph 10 of this agreement.

10. [Insert the following language if the guarantor is (a) a direct or higher-tier corporate parent, or (b) a firm whose parent corporation is also the parent corporation of the owner or operator]:

Guarantor may terminate this guarantee by sending notice by certified mail to the Department, and if the facilities covered by this guarantee are in more than one state, to each state agency regulating hazardous waste or the EPA regional administrator if the facility is located in an unauthorized state and to [owner or operator], provided that this guarantee may not be terminated unless and until [the owner or operator] obtains Department approval, and the approval from the state agency regulating hazardous waste or the EPA Regional Administrator approval if the facility is operating in unauthorized states of alternate liability coverage complying with ss. NR 664.0147 and 665.0147, Wis. Adm. Code, 40 CFR 264.147 or 265.147 or other state requirements that are equivalent to 40 CFR 264.147 or 265.147.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its ”substantial business relationship” with the owner or operator]:

Guarantor may terminate this guarantee 120 days following receipt of notification, through certified mail, by the Department, and if the facilities covered by this guarantee are in more than one state, by each state agency regulating hazardous waste or the EPA regional administrator if the facility is located in an unauthorized state and by [the owner or operator].

11. Guarantor hereby expressly waives notice of acceptance of this guarantee by any party.

12. Guarantor agrees that this guarantee is in addition to and does not affect any other responsibility or liability of the guarantor with respect to the covered facilities.

13. The Guarantor must satisfy a third-party liability claim only on receipt of one of the following documents:

(a) Certification from the Principal and the third-party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Valid Claim

The undersigned, as parties [insert Principal] and [insert name and address of third-party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Principal’s] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $_____.

[Signatures]_____
Principal_____
(Notary) Date_____
[Signatures]_____
Claimant(s)_____
(Notary) Date_____

(b) A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal’s facility or group of facilities.

14. In the event of combination of this guarantee with another mechanism to meet liability requirements, this guarantee will be considered [insert ”primary” or ”excess”] coverage.

I hereby certify that the wording of the guarantee is identical to the wording specified in s. NR 664.0151(8), Wis. Adm. Code, as the rules were constituted on the date shown immediately below.

Effective date:_____
[Name of guarantor]_____
[Authorized signature for guarantor]_____
[Name of person signing]_____
[Title of person signing]_____
Signature of witness of notary:_____

(9) A hazardous waste facility liability endorsement as required in s. NR 664.0147 or 665.0147 must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Hazardous Waste Facility Liability Endorsement

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under s. NR 664.0147 or 665.0147, Wis. Adm. Code. The coverage applies at [list EPA Identification Number, name and address for each facility] for [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs.

2. The insurance afforded with respect to the occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e):

(a) Bankruptcy or insolvency of the insured may not relieve the Insurer of its obligations under the policy to which this endorsement is attached.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in s. NR 664.0147(6) or 665.0147(6), Wis. Adm. Code.

(c) Whenever requested by the Wisconsin Department of Natural Resources, the Insurer agrees to furnish to the Department a signed duplicate original of the policy and all endorsements.

(d) Cancellation of this endorsement, whether by the Insurer, the insured, a parent corporation providing insurance coverage for its subsidiary or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of the written notice is received by the Department, and if the facilities covered by this endorsement are in more than one state, each state agency regulating hazardous waste or the EPA Regional Administrator if the facility is located in an unauthorized state.

(e) Any other termination of this endorsement will be effective only upon written notice and only after the expiration of 30 days after a copy of the written notice is received by the Department, and if the facilities covered by this endorsement are in more than one state, each state agency regulating hazardous waste or the EPA Regional Administrator if the facility is located in an unauthorized state.

Attached to and forming part of policy No. ___ issued by [name of Insurer], herein called the Insurer, of [address of Insurer] to [name of insured] of [address] this __ day of ___, 20_. The effective date of said policy is __ day of ___, 20_.

I hereby certify that the wording of this endorsement is identical to the wording specified in s. NR 664.0151(9), Wis. Adm. Code, as the rules were constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of Authorized Representative of Insurer]
[Type name]
[Title], Authorized Representative of [name of Insurer]
[Address of Representative]

(10) A certificate of liability insurance as required in s. NR 664.0147 or 665.0147 must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Hazardous Waste Facility Certificate of Liability Insurance

1. [Name of Insurer], (the ”Insurer”), of [address of Insurer] hereby certifies that it has issued liability insurance covering bodily injury and property damage to [name of insured], (the ”insured”), of [address of insured] in connection with the insured’s obligation to demonstrate financial responsibility under s. NR 664.0147 or 665.0147, Wis. Adm. Code. The coverage applies at [list EPA Identification Number, name and address for each facility] for [insert ”sudden accidental occurrences,” ”nonsudden accidental occurrences,” or ”sudden and nonsudden accidental occurrences”; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences and which are insured for both]. The limits of liability are [insert the dollar amount of the ”each occurrence” and ”annual aggregate” limits of the Insurer’s liability], exclusive of legal defense costs. The coverage is provided under policy number ___, issued on [date]. The effective date of said policy is [date].

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the insured may not relieve the Insurer of its obligations under the policy.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in s. NR 664.0147(6) or 665.0147(6), Wis. Adm. Code.

(c) Whenever requested by the Wisconsin Department of Natural Resources, the Insurer agrees to furnish to the Department a signed duplicate original of the policy and all endorsements.

(d) Cancellation of the insurance, whether by the insurer, the insured, a parent corporation providing insurance coverage for its subsidiary or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of the written notice is received by the Department, and if the facilities covered by this insurance are in more than one state, each state agency regulating hazardous waste or the EPA Regional Administrator if the facility is located in an unauthorized state.

(e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of 30 days after a copy of the written notice is received by the Department, and if the facilities covered by this insurance are in more than one state, each state agency regulating hazardous waste or the EPA Regional Administrator if the facility is located in an unauthorized state. I hereby certify that the wording of this instrument is identical to the wording specified in s. NR 664.0151(10), Wis. Adm. Code, as the rules were constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of authorized representative of Insurer]
[Type name]
[Title], Authorized Representative of [name of Insurer]
[Address of Representative]

(11) A letter of credit, as specified in s. NR 664.0147(8) or 665.0147(8), must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

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Irrevocable Letter of Credit

Name and Address of Issuing Institution_____
Secretary_____
Wisconsin Department of Natural Resources

Dear Sir or Madam: We hereby establish our Irrevocable Letter of Credit No. _____ in the favor of [”any and all third-party liability claimants”], at the request and for the account of [owner or operator’s name and address] for third-party liability awards or settlements up to [in words] U.S. dollars $_____ per occurrence and the annual aggregate amount of [in words] U.S. dollars $_____, for sudden accidental occurrences and/or for third-party liability awards or settlements up to the amount of [in words] U.S. dollars $_____ per occurrence, and the annual aggregate amount of [in words] U.S. dollars $_____, for nonsudden accidental occurrences available upon presentation of a sight draft bearing reference to this letter of credit No. _____, and [insert the following language if the letter of credit is being used without a trust fund:] ”(1) a signed certificate reading as follows:

Certificate of Valid Claim

The undersigned, as parties [insert principal] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operations of [principal’s] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ]. We hereby certify that the claim does not apply to any of the following:

(a) Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert principal] under a workers’ compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal].

This exclusion applies:

(A) Whether [insert principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert principal];

(2) Premises that are sold, given away or abandoned by [insert principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert principal];

(4) Personal property in the care, custody or control of [insert principal];

(5) That particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

[Signatures]_____
Grantor_____

[Signatures]_____
Claimant(s)_____

or (2) a valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

This letter of credit is effective as of [date] and shall expire on [date at least one year later], but the expiration date shall be automatically extended for a period of [at least one year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify you, the Wisconsin Department of Natural Resources, and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor the draft upon presentation to us.

[Insert the following language if a trust fund is not being used: "In the event that this letter of credit is used in combination with another mechanism for liability coverage, this letter of credit shall be considered [insert "primary" or "excess" coverage]."]

We certify that the wording of this letter of credit is identical to the wording specified in NR 664.151(11) Wis. Adm. Code, as the rules were constituted on the date shown immediately below. [Signature(s) and title(s) of official(s) of issuing institution] [Date].

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce," or "the Uniform Commercial Code"].

(12) A surety bond, as specified in s. NR 664.0147(9) or 665.0147(9), must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Payment Bond

Surety Bond No. [Insert number]

Parties [Insert name and address of owner or operator], Principal, incorporated in [Insert State of incorporation] of [Insert city and State of principal place of business] and [Insert name and address of surety company(ies)], Surety Company(ies), of [Insert surety(ies) place of business].

EPA Identification Number, name and address for each facility guaranteed by this bond: ____

	Sudden accidental occurrences	Nonsudden acci-dental occurrences

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Penal Sum Per Occurrence. Annual	[insert amount]	[insert amount]

Aggregate	[insert amount]	[insert amount]

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Purpose: This is an agreement between the Surety(ies) and the Principal under which the Surety(ies), its(their) successors and assignees, agree to be responsible for the payment of claims against the Principal for bodily injury and/or property damage to third parties caused by [”sudden” and/or ”nonsudden”] accidental occurrences arising from operations of the facility or group of facilities in the sums prescribed herein; subject to the governing provisions and the following conditions.

Governing Provisions:

(1) Rules of the Wisconsin Department of Natural Resources, particularly s. NR [664.0147 or 665.0147], Wis. Adm. Code.

(2) Title 42 of the United States Code, section 6924.

Conditions:

(1) The Principal is subject to the applicable governing provisions that require the Principal to have and maintain liability coverage for bodily injury and property damage to third parties caused by [”sudden” and/or ”nonsudden”] accidental occurrences arising from operations of the facility or group of facilities. The obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert principal] under a workers’ compensation, disability benefits or unemployment compensation law or similar law.

(c) Bodily injury to:

(1) An employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal]. This exclusion applies:

(A) Whether [insert principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who shall pay damages because of the injury to persons identified in pars. (c)(1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented or occupied by [insert principal];

(2) Premises that are sold, given away or abandoned by [insert principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert principal];

(4) Personal property in the care, custody or control of [insert principal];

(5) That particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

(2) This bond assures that the Principal will satisfy valid third party liability claims, as described in condition 1.

(3) If the Principal fails to satisfy a valid third party liability claim, as described above, the Surety(ies) becomes liable on this bond obligation.

(4) The Surety(ies) shall satisfy a third party liability claim only upon the receipt of one of the following documents:

(a) Certification from the Principal and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

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Certification of Valid Claim

The undersigned, as parties [insert name of Principal] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Principal's] hazardous waste treatment, storage or disposal facility should be paid in the amount of $[ ].

[Signature]
Principal
[Notary] Date
[Signature(s)]
Claimant(s)
[Notary] Date

or (b) A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

(5) In the event of combination of this bond with another mechanism for liability coverage, this bond will be considered [insert "primary" or "excess"] coverage.

(6) The liability of the Surety(ies) may not be discharged by any payment or succession of payments hereunder, unless and until the payment or payments shall amount in the aggregate to the penal sum of the bond. In no event shall the obligation of the Surety(ies) hereunder exceed the amount of said annual aggregate penal sum, provided that the Surety(ies) furnish(es) notice to the Department forthwith of all claims filed and payments made by the Surety(ies) under this bond.

(7) The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and the Department, provided, however, that cancellation may not occur during the 120 days beginning on the date of receipt of the notice of cancellation by the Principal and the Department, as evidenced by the return receipt.

(8) The Principal may terminate this bond by sending written notice to the Surety(ies) and to the Department, and if the facilities covered by this bond are in more than one state, each agency regulating hazardous waste or the EPA Regional Administrator if the facility is located in an unauthorized state.

(9) The Surety(ies) hereby waive(s) notification of amendments to applicable laws, statutes, rules and regulations and agree(s) that no amendment shall in any way alleviate its (their) obligation on this bond.

(10) This bond is effective from [insert date] (12:01 a.m., standard time, at the address of the Principal as stated herein) and shall continue in force until terminated as described above.

In Witness Whereof, the Principal and Surety(ies) have executed this Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in s. NR 664.0151(12), Wis. Adm. Code, as the rules were constituted on the date this bond was executed.

PRINCIPAL

[Signature(s)]
[Name(s)]
[Title(s)]
[Corporate Seal]

CORPORATE SURETY[IES]

[Name and address]

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State of incorporation:_____
Liability Limit: $_____
[Signature(s)]
[Name(s) and title(s)]
[Corporate seal]

[For every co-surety, provide signature(s), corporate seal and other information in the same manner as for Surety above.]

Bond premium: $_____

(13)(a) A trust agreement, as specified in s. NR 664.0147(10) or 665.0147(10), must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Trust Agreement

Trust Agreement, the ”Agreement,” entered into as of [date] by and between [name of the owner or operator] a [name of State] [insert ”corporation,” ”partnership,” ”association,” or ”proprietorship”], the ”Grantor,” and [name of corporate trustee], [insert, ”incorporated in the State of ____” or ”a national bank”], the ”trustee.”

Whereas the Wisconsin Department of Natural Resources has established certain rules applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility or group of facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental and/or nonsudden accidental occurrences arising from operations of the facility or group of facilities.

Whereas, the Grantor has elected to establish a trust to assure all or part of the financial responsibility for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term ”Grantor” means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term ”Trustee” means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities. This agreement pertains to the facilities identified on attached schedule A [on schedule A, for each facility list the EPA Identification Number, name and address of the facility(ies) and the amount of liability coverage, or portions thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, hereinafter the ”Fund,” for the benefit of any and all third parties injured or damaged by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee, in the amounts of _____ [up to $1 million] per occurrence and _____ [up to $2 million] annual aggregate for sudden accidental occurrences and _____ [up to $3 million] per occurrence and _____ [up to $6 million] annual aggregate for nonsudden occurrences, except that the Fund is not established for the benefit of third parties for the following:

(a) Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Grantor] under a workers’ compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert Grantor] arising from, and in the course of, employment by [insert Grantor]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Grantor].

This exclusion applies:

(A) Whether [insert Grantor] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented or occupied by [insert Grantor];

(2) Premises that are sold, given away or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert Grantor];

(4) Personal property in the care, custody or control of [insert Grantor];

(5) That particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the fund shall be considered [insert ”primary” or ”excess”] coverage.

The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. The property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee may not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Department.

Section 4. Payment for Bodily Injury or Property Damage. The Trustee shall satisfy a third party liability claim by making payments from the Fund only upon receipt of one of the following documents;

(a) Certification from the Grantor and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Valid Claim

The undersigned, as parties [insert Grantor] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Grantor’s] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ].

[Signatures]
Grantor
[Signatures]
Claimant(s)

(b) A valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor’s facility or group of facilities.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling and managing the Fund, the Trustee shall discharge the Trustee's duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence and diligence under the circumstance then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 USC 80a-2.(a), may not be acquired or held unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common commingled, or collective trust fund created by the Trustee in which the fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 USC 81a-1 et seq., including one which may be created, managed, underwritten or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote the shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any sale or other disposition;

(b) To make, execute, acknowledge and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing the securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of the securities in a qualified central depositary even though, when so deposited, the securities may be merged and held in bulk in the name of the nominee of the depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all the securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees

for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuations. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Department a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Department shall constitute a conclusively binding assent by the Grantor barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but the resignation or replacement may not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Department and the present Trustee by certified mail 10 days before the change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by persons as are designated in the attached Exhibit A or other designees as the Grantor may designate by amendments to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests and instructions. All orders, requests and instructions by the Department to the Trustee shall be in writing, signed by the Secretary of the Department, or the designees, and the Trustee shall act and shall be fully protected in acting in accordance with the orders, requests and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or EPA hereunder has occurred. The Trustee shall have no duty to act in the absence of the orders, requests and instructions from the Grantor and/or the Department, except as provided for herein.

Section 15. Notice of Nonpayment. If a payment for bodily injury or property damage is made under Section 4 of this trust, the Trustee shall notify the Grantor of the payment and the amount(s) thereof within 5 working days. The Grantor shall, on or before the anniversary date of the establishment of the Fund following the notice, either make payments to the Trustee in amounts sufficient to cause the trust to return to its value immediately prior to the payment of claims under Section 4, or shall provide written proof to the Trustee that other financial assurance for liability coverage has been obtained equaling the amount necessary to return the trust to its value prior to the payment of claims. If the Grantor does not either make payments to the Trustee or provide the Trustee with proof, the Trustee shall within 10 working days after the anniversary date of the establishment of the Fund provide a written notice of nonpayment to the Department.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee and the Department, or by the Trustee and the Department if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee and the Department, or by the Trustee and the Department, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

The Department will agree to termination of the Trust when the owner or operator substitutes alternate financial assurance as specified in this section.

Section 18. Immunity and Indemnification. The Trustee may not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide the defense.

Section 19. Choice of Law. This Agreement shall be administered, construed and enforced according to the laws of the State of Wisconsin.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement may not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in s. NR 664.0151(13), Wis. Adm. Code, as the rules were constituted on the date first above written.

_____
[Signature of Grantor]
[Title]
Attest:
[Title]
[Seal] _____
[Signature of Trustee]
Attest:
[Title]
[Seal]

(b) The following is an example of the certification of acknowledgment which must accompany the trust agreement for a trust fund as specified in s. NR 664.0147(10) or 665.0147(10).

State of_____
County of_____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to the instrument is the corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

_____
[Signature of Notary Public]

(14) A deposit with the department, as specified in s. NR 664.0143(7), 664.0145(7), 665.0143(6) or 665.0145(6), must be accompanied by Form 4430-028 Deposit with the Department.

Note: Form 4430-028 may be obtained from: www.dnr.state.wi.us/org/aw/wm/hazard/FN_Responsibility/4430-028HW.pdf**,** or by E-mail: waste.management@dnr.state.wi.us waste.management@dnr.state.wi.us, phone (608) 266-2111 or Fax (608) 267-2768.

Subchapter I —Containers

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0170 Applicability.** This subchapter applies to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as s. NR 664.0001 provides otherwise.

Note: Under ss. NR 661.07 and 661.33(3), if a hazardous waste is emptied from a container the residue remaining in the container is not regulated as hazardous waste if the container is ”empty” as defined in s. NR 661.07. In that event, management of the container is exempt from the requirements of this subchapter.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0171 Condition of containers.** If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the owner or operator shall transfer the hazardous waste from this container to a container that is in good condition or manage the waste in some other way that complies with the requirements of this chapter.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0172 Compatibility of waste with containers.** The owner or operator shall use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0173 Management of containers. (1)** A container holding hazardous waste shall always be closed during storage, except when it is necessary to add or remove waste.

(2) A container holding hazardous waste may not be opened, handled or stored in a manner which may rupture the container or cause it to leak.

Note: Reuse of containers in transportation is governed by U.S. department of transportation regulations including those set forth in 49 CFR 173.28.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0174 Inspections.** At least weekly, the owner or operator shall inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors.

Note: See ss. NR 664.0015(3) and 664.0171 for remedial action required if deterioration or leaks are detected.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0175 Containment. (1)** Container storage

areas shall have a containment system that is designed and operated in accordance with sub. (2), except as otherwise provided by sub. (3).

(2) A containment system shall be designed and operated to meet all of the following requirements:

(a) A base shall underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills and accumulated precipitation until the collected material is detected and removed.

(b) The base shall be sloped or the containment system shall be otherwise designed and operated to drain and remove liquids resulting from leaks, spills or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids.

(c) The containment system shall have sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination.

(d) Run-on into the containment system shall be prevented unless the collection system has sufficient excess capacity in addition to that required in par. (c) to contain any run-on which might enter the system.

(e) Spilled or leaked waste and accumulated precipitation shall be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

Note: If the collected material is a hazardous waste under ch. NR 661, it shall be managed as a hazardous waste in accordance with all applicable requirements of chs. NR 662 to 666. If the collected material is discharged through a point source to waters of the state, it is subject to the requirements of ss. 283.31 and 283.33, Stats.

(3) Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system defined by sub. (2), except as provided by sub. (4), provided that either of the following conditions is met:

(a) The storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation.

(b) The containers are elevated or are otherwise protected from contact with accumulated liquid.

(4) Storage areas that store containers holding F020, F021, F022, F023, F026 or F027 wastes that do not contain free liquids shall have a containment system defined by sub. (2).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0176 Special requirements for ignitable or reactive waste.** Containers holding ignitable or reactive waste shall be located at least 15 meters (50 feet) from the facility's property line.

Note: See s. NR 664.0017(1) for additional requirements.

NR 664.0177 Special requirements for incompatible wastes. (1) Incompatible wastes, or incompatible wastes and materials (see Appendix V for examples) may not be placed in the same container, unless s. NR 664.0017(2) is complied with.

(2) Hazardous waste may not be placed in an unwashed container that previously held an incompatible waste or material.

Note: As required by s. NR 664.0013, the waste analysis plan shall include analyses needed to comply with this section. Also, s. NR 664.0017(3) requires wastes analyses, trial tests or other documentation to assure compliance with s. NR 664.0017(2). As required by s. NR 664.0073, the owner or operator shall place the results of each waste analysis and trial test, and any documented information, in the operating record of the facility.

(3) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks or surface impoundments shall be separated from the other materials or protected from them by means of a dike, berm, wall or other device.

Note: The purpose of this section is to prevent fires, explosions, gaseous emission, leaching or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.

NR 664.0178 Closure. At closure, all hazardous waste and hazardous waste residues shall be removed from the containment system. Remaining containers, liners, bases and soil containing or contaminated with hazardous waste or hazardous waste residues shall be decontaminated or removed.

Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with s. NR 661.03(4) that the solid waste removed from the containment system is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it in accordance with all applicable requirements of chs. NR 662 to 666.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0179 Air emission standards.** The owner or operator shall manage all hazardous waste placed in a container in accordance with the applicable requirements of subchs. AA, BB and CC.

Subchapter J —Tank Systems

NR 664.0190 Applicability. The requirements of this subchapter apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in subs. (1) to (3) or in s. NR 664.0001.

(1) Tank systems that are used to store or treat hazardous waste which contains no free liquids and are situated inside a building with an impermeable floor are exempted from the requirements in s. NR 664.0193. To demonstrate the absence or presence of free liquids in the stored or treated waste, method 9095 (paint filter liquids test) as described in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11 shall be used.

(2) Tank systems, including sumps, as defined in s. NR 660.10, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in s. NR 664.0193(1).

(3) Tanks, sumps and other collection devices or systems used in conjunction with drip pads, as defined in s. NR 660.10 and regulated under subch. W, shall meet the requirements of this subchapter.

NR 664.0191 Assessment of existing tank system’s integrity. (1) For each existing tank system that does not have secondary containment meeting the requirements of s. NR 664.0193, the owner or operator shall determine that the tank system is not leaking or is unfit for use. Except as provided in sub. (3), the owner or operator shall obtain and keep on file at the facility a written assessment reviewed and certified by an independent, qualified registered professional engineer, in accordance with s. NR 670.011(4), that attests to the tank system’s integrity by March 1, 1992.

(2) This assessment shall determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the wastes to be stored or treated, to ensure that it will not collapse, rupture or fail. At a minimum, this assessment shall consider all of the following:

(a) Design standards, if available, according to which the tank and ancillary equipment were constructed.

(b) Hazardous characteristics of the wastes that have been and will be handled.

(c) Existing corrosion protection measures.

(d) Documented age of the tank system, if available (otherwise, an estimate of the age).

(e) Results of a leak test, internal inspection or other tank integrity examination such that:

1. For non-enterable underground tanks, the assessment shall include a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets and high water table effects.

2. For other than non-enterable underground tanks and for ancillary equipment, this assessment shall include either a leak test, as described in subd. 1., or other integrity examination, that is certified by an independent, qualified, registered professional engineer in accordance with s. NR 670.011(4), that addresses cracks, leaks, corrosion and erosion.

Note: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric and Low-Pressure Storage Tanks", 4th edition, 1981, may be used, where applicable, as guidelines in conducting other than a leak test.

(3) Tank systems that store or treat materials that become hazardous wastes subsequent to March 1, 1991, shall conduct this assessment within 12 months after the date that the waste becomes a hazardous waste.

(4) If, as a result of the assessment conducted in accordance with sub. (1), a tank system is found to be leaking or unfit for use, the owner or operator shall comply with the requirements of s. NR 664.0196.

NR 664.0192 Design and installation of new tank systems or components. (1) Owners or operators of new tank systems or components shall obtain and submit to the department, at time of submittal of the feasibility and plan of operation report, a written assessment, reviewed and certified by an independent, qualified registered professional engineer, in accordance with s. NR 670.011(4), attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. The assessment shall show that the foundation, structural support, seams, connections and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the wastes to be stored or treated and corrosion protection to ensure that it will not collapse, rupture or fail. This assessment, which will be used by the department to review and approve or disapprove the acceptability of the tank system design, shall include, at a minimum, all of the following information:

(a) Design standards according to which the tanks and ancillary equipment are constructed.

(b) Hazardous characteristics of the wastes to be handled.

(c) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, a determination by a corrosion expert of all of the following:

1. Factors affecting the potential for corrosion, including but not limited to, all of the following:

a. Soil moisture content.

b. Soil pH.

c. Soil sulfides level.

d. Soil resistivity.

e. Structure to soil potential.

f. Influence of nearby underground metal structures (e.g., piping).

g. Existence of stray electric current.

h. Existing corrosion-protection measures (e.g., coating, cathodic protection).

2. The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:

a. Corrosion-resistant materials of construction such as special alloys, fiberglass reinforced plastic, etc.

b. Corrosion-resistant coating (such as epoxy, fiberglass, etc.) with cathodic protection (e.g., impressed current or sacrificial anodes).

c. Electrical isolation devices such as insulating joints, flanges, etc.

Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, ”Recommended Practice (RP-02-85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems”, and the American Petroleum Institute (API) Publication 1632, ”Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems”, may be used, where applicable, as guidelines in providing corrosion protection for tank systems.

(d) For underground tank system components that are likely to be adversely affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage.

(e) Design considerations to ensure all of the following:

1. Tank foundations will maintain the load of a full tank.

2. Tank systems will be anchored to prevent flotation or dislodgment where the tank system is placed in a saturated zone.

3. Tank systems will withstand the effects of frost heave.

(2) The owner or operator of a new tank system shall ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing or placing a new tank system or component in use, an independent, qualified installation inspector or an independent, qualified, registered professional engineer, either of whom is trained and experienced in the proper installation of tank systems or components, shall inspect the system for the presence of any of the following items:

(a) Weld breaks.

(b) Punctures.

(c) Scrapes of protective coatings.

(d) Cracks.

(e) Corrosion.

(f) Other structural damage or inadequate construction or installation.

All discrepancies shall be remedied before the tank system is covered, enclosed or placed in use.

(3) New tank systems or components that are placed underground and that are backfilled shall be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

(4) All new tanks and ancillary equipment shall be tested for tightness prior to being covered, enclosed or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leaks in the system shall be performed prior to the tank system being covered, enclosed or placed into use.

(5) Ancillary equipment shall be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion or contraction.

Note: The piping system installation procedures described in American Petroleum Institute (API) Publication 1615 (November 1979), ”Installation of Underground Petroleum Storage Systems”, or ANSI Standard B31.3, ”Petroleum Refinery Piping”, and ANSI Standard B31.4 ”Liquid Petroleum Transportation Piping System”, may be used, where applicable, as guidelines for proper installation of piping systems.

(6) The owner or operator shall provide the type and degree of corrosion protection recommended by an independent corrosion expert, based on the information provided under sub. (1)(c), or other corrosion protection if the department believes other corrosion protection is necessary to ensure the integrity of the tank system during use of the tank system. An independent corrosion expert shall supervise the installation of a corrosion protection system that is field fabricated, to ensure proper installation.

(7) The owner or operator shall obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of subs. (2) to (6), that attest that the tank system was properly

designed and installed and that repairs, pursuant to subs. (2) and (4), were performed. These written statements shall also include the certification statement as required in s. NR 670.011(4).

NR 664.0193 Containment and detection of releases. (1) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section shall be provided (except as provided in subs. (6) and (7)):

(a) For all new tank systems or components, prior to their being put into service.

(b) For all existing tank systems used to store or treat EPA hazardous waste numbers F020, F021, F022, F023, F026 and F027, within 2 years after March 1, 1991.

(c) For those existing tank systems of known and documented age, within 2 years after March 1, 1991 or when the tank system has reached 15 years of age, whichever comes later.

(d) For those existing tank systems for which the age cannot be documented, within 8 years of March 1, 1991; but if the age of the facility is greater than 7 years, secondary containment shall be provided by the time the facility reaches 15 years of age, or within 2 years of March 1, 1991, whichever comes later.

(e) For tank systems that store or treat materials that become hazardous wastes subsequent to March 1, 1991, within the time intervals required in pars. (a) to (d), except that the date that a material becomes a hazardous waste shall be used in place of March 1, 1991.

(2) Secondary containment systems shall be all of the following:

(a) Designed, installed and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, groundwater or surface water at any time during the use of the tank system.

(b) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(3) To meet the requirements of sub. (2), secondary containment systems shall be at a minimum all of the following:

(a) Constructed of or lined with materials that are compatible with the wastes to be placed in the tank system and shall have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic conditions and the stress of daily operation (including stresses from nearby vehicular traffic).

(b) Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system and capable of preventing failure due to settlement, compression or uplift.

(c) Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the owner or operator can demonstrate to the department that existing detection technologies or site conditions will not allow detection of a release within 24 hours.

(d) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills or precipitation. Spilled or leaked waste and accumulated precipitation shall be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health and the environment, if the owner or operator can demonstrate to the department that removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

Note: If the collected material is a hazardous waste under ch. NR 661, it is subject to management as a hazardous waste according to all applicable requirements of chs. NR 662, 663, this chapter and 665. If the collected material is discharged through a point source to waters of the state, it is subject to ss. 283.31 and 283.33, Stats. If discharged to a publicly owned treatment works (POTW), it is subject to s. 283.21(2), Stats. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR part 302 and the requirements of s. 292.11, Stats., and chs. NR 706 to 726.

(4) Secondary containment for tanks shall include one or more of the following devices:

(a) A liner (external to the tank).

(b) A vault.

(c) A double-walled tank.

(d) An equivalent device as approved by the department.

(5) In addition to the requirements of subs. (2) to (4), secondary containment systems shall satisfy the following requirements:

(a) External liner systems shall be all of the following:

1. Designed or operated to contain 100% of the capacity of the largest tank within its boundary.

2. Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. The additional capacity shall be sufficient to contain precipitation from a 25-year, 24-hour rainfall event.

3. Free of cracks or gaps.

4. Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank (i.e., capable of preventing lateral as well as vertical migration of the waste).

(b) Vault systems shall be all of the following:

1. Designed or operated to contain 100% of the capacity of the largest tank within its boundary.

2. Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. The additional capacity shall be sufficient to contain precipitation from a 25-year, 24-hour rainfall event.

3. Constructed with chemical-resistant water stops in place at all joints (if any).

4. Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete.

5. Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated meets any of the following:

a. The definition of ignitable waste under s. NR 661.21.

b. The definition of reactive waste under s. NR 661.23, and may form an ignitable or explosive vapor.

6. Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(c) Double-walled tanks shall be all of the following:

1. Designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that the outer shell contains any release from the inner tank.

2. Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell.

3. Provided with a built-in continuous leak detection system capable of detecting a release within 24 hours, or at the earliest practicable time, if the owner or operator can demonstrate to the department, and the department concludes, that the existing detection technology or site conditions would not allow detection of a release within 24 hours.

Note: The provisions outlined in the Steel Tank Institute's (STI) "Standard for Dual Wall Underground Steel Storage Tanks" may be used as guidelines for aspects of the design of underground steel double-walled tanks.

(6) Ancillary equipment shall be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of subs. (2) and (3) except for all of the following:

(a) Aboveground piping (exclusive of flanges, joints, valves and other connections) that is visually inspected for leaks on a daily basis.

(b) Welded flanges, welded joints and welded connections, that are visually inspected for leaks on a daily basis.

(c) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis.

(d) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

(7) The owner or operator may obtain a variance from the requirements of this section if the department finds, as a result of a demonstration by the owner or operator that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous waste or hazardous constituents into the groundwater or surface water at least as effectively as secondary containment during the active life of the tank system; or, that in the event of a release that does migrate to groundwater or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with par. (b), be exempted from the secondary containment requirements of this section.

(a) In deciding whether to grant a variance based on a demonstration of equivalent protection of groundwater and surface water, the department will consider all of the following:

1. The nature and quantity of the wastes.

2. The proposed alternate design and operation.

3. The hydrogeologic setting of the facility, including the thickness of soils present between the tank system and groundwater.

4. All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to groundwater or surface water.

(b) In deciding whether to grant a variance based on a demonstration of no substantial present or potential hazard, the department will consider all of the following:

1. The potential adverse effects on groundwater, surface water and land quality taking into account all of the following:

a. The physical and chemical characteristics of the waste in the tank system, including its potential for migration.

b. The hydrogeological characteristics of the facility and surrounding land.

c. The potential for health risks caused by human exposure to waste constituents.

d. The potential for damage to wildlife, crops, vegetation and physical structures caused by exposure to waste constituents.

e. The persistence and permanence of the potential adverse effects.

2. The potential adverse effects of a release on groundwater quality, taking into account all of the following:

a. The quantity and quality of groundwater and the direction of groundwater flow.

b. The proximity and withdrawal rates of groundwater users.

c. The current and future uses of groundwater in the area.

d. The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality.

3. The potential adverse effects of a release on surface water quality, taking into account all of the following:

a. The quantity and quality of groundwater and the direction of groundwater flow.

b. The patterns of rainfall in the region.

c. The proximity of the tank system to surface waters.

d. The current and future uses of surface waters in the area and any water quality standards established for those surface waters.

e. The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality.

4. The potential adverse effects of a release on the land surrounding the tank system, taking into account all of the following:

a. The patterns of rainfall in the region.

b. The current and future uses of the surrounding land.

(c) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of par. (a), at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), shall do all of the following:

1. Comply with the requirements of s. NR 664.0196, except sub. (4).

2. Decontaminate or remove contaminated soil to the extent necessary to do all of the following:

a. Enable the tank system for which the variance was granted to resume operation with the capability for the detection of releases at least equivalent to the capability it had prior to the release.

b. Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water.

3. If contaminated soil cannot be removed or decontaminated in accordance with subd. 2., comply with the requirement of s. NR 664.0197(2).

(d) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of par. (a), at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), shall do all of the following:

1. Comply with the requirements of s. NR 664.0196(1) to (4).

2. Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed or if groundwater has been contaminated, the owner or operator shall comply with the requirements of s. NR 664.0197(2).

3. If repairing, replacing or reinstalling the tank system, provide secondary containment in accordance with the requirements of subs. (1) to (6) or reapply for a variance from secondary containment and meet the requirements for new tank systems in s. NR 664.0192 if the tank system is replaced. The owner or operator shall comply with these requirements even if contaminated soil can be decontaminated or removed and groundwater or surface water has not been contaminated.

(8) All of the following procedures shall be followed in order to request a variance from secondary containment:

(a) The department shall be notified in writing by the owner or operator that the owner or operator intends to conduct and submit a demonstration for a variance from secondary containment as allowed in sub. (7) according to the following schedule:

1. For existing tank systems, at least 24 months prior to the date that secondary containment must be provided in accordance with sub. (1).

2. For new tank systems, at least 30 days prior to entering into a contract for installation.

(b) As part of the notification, the owner or operator shall also submit to the department a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration shall address each of the factors listed in sub. (7)(a) or (b).

(c) The demonstration for a variance shall be completed within 180 days after notifying the department of an intent to conduct the demonstration.

(d) If a variance is granted under this subsection, the department will require the licensee to construct and operate the tank system in the manner that was demonstrated to meet the requirements for the variance.

(9) All tank systems, until the time that secondary containment that meets the requirements of this section is provided, shall comply with the following:

(a) For non-enterable underground tanks, a leak test that meets the requirements of s. NR 664.0191(2)(e) or other tank integrity method, as approved or required by the department, shall be conducted at least annually.

(b) For other than non-enterable underground tanks, the owner or operator shall either conduct a leak test as in par. (a) or develop a schedule and procedure for an assessment of the overall condition of the tank system by an independent, qualified registered professional engineer. The schedule and procedure shall be adequate to detect obvious cracks, leaks and corrosion or erosion that may lead to cracks and leaks. The owner or operator shall remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed. The frequency of these assessments shall be based on the material of construction of the tank and its ancillary equipment, the age of the system, the type of corrosion or erosion protection used, the rate of corrosion or erosion observed during the previous inspection and the characteristics of the waste being stored or treated.

(c) For ancillary equipment, a leak test or other integrity assessment as approved by the department shall be conducted at least annually.

Note: The practices described in the American Petroleum Institute (API) Publication Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric and Low-Pressure Storage Tanks", 4th edition, 1981, may be used, where applicable, as guidelines for assessing the overall condition of the tank system.

(d) The owner or operator shall maintain on file at the facility a record of the results of the assessments conducted in accordance with pars. (a) to (c).

(e) If a tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment in pars. (a) to (c), the owner or operator shall comply with the requirements of s. NR 664.0196.

NR 664.0194 General operating requirements. (1) Hazardous wastes or treatment reagents may not be placed in a tank system if they could cause the tank, its ancillary equipment or the containment system to rupture, leak, corrode or otherwise fail.

(2) The owner or operator shall use appropriate controls and practices to prevent spills and overflows from tank or containment systems. These include at a minimum all of the following:

(a) Spill prevention controls (e.g., check valves, dry disconnect couplings).

(b) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff or bypass to a standby tank).

(c) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(3) The owner or operator shall comply with the requirements of s. NR 664.0196 if a leak or spill occurs in the tank system.

NR 664.0195 Inspections. (1) The owner or operator shall develop and follow a schedule and procedure for inspecting overfill controls.

(2) The owner or operator shall inspect at least once each operating day all of the following:

(a) Aboveground portions of the tank system, if any, to detect corrosion or releases of waste.

(b) Data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design.

(c) The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).

Note: Section NR 664.0015(3) requires the owner or operator to remedy any deterioration or malfunction found. Section NR 664.0196 requires the owner or operator to notify the department within 24 hours of confirming a leak. Also, if a hazardous substance is released to the environment, 40 CFR part 302 may require the owner or

operator to notify the national response center and s. 292.11, Stats., and ch. NR 706 may require the owner or operator to notify the department.

(3) The owner or operator shall inspect cathodic protection systems, if present, according to, at a minimum, all of the following requirements to ensure that they are functioning properly:

(a) The proper operation of the cathodic protection system shall be confirmed within 6 months after initial installation and annually thereafter.

(b) All sources of impressed current shall be inspected or tested, or both, as appropriate, at least bimonthly (i.e., every other month).

Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, ”Recommended Practice (RP-02-85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems” and the American Petroleum Institute (API) Publication 1632, ”Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems”, may be used, where applicable, as guidelines in maintaining and inspecting cathodic protection systems.

(4) The owner or operator shall document in the operating record of the facility an inspection of those items in subs. (1) to (3).

NR 664.0196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems. A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, shall be removed from service immediately, and the owner or operator shall satisfy the following requirements:

(1) CESSATION OF USE; PREVENT FLOW OR ADDITION OF WASTES. The owner or operator shall immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(2) REMOVAL OF WASTE FROM TANK SYSTEM OR SECONDARY CONTAINMENT SYSTEM. (a) If the release was from the tank system, the owner or operator shall, within 24 hours after detection of the leak or, if the owner or operator demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(b) If the material released was to a secondary containment system, all released materials shall be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

(3) CONTAINMENT OF VISIBLE RELEASES TO THE ENVIRONMENT. The owner or operator shall immediately conduct a visual inspection of the release and, based upon that inspection, do all of the following:

(a) Prevent further migration of the leak or spill to soils or surface water.

(b) Remove, and properly dispose of, any visible contamination of the soil or surface water.

(4) NOTIFICATIONS, REPORTS. (a) Any release to the environment, except as provided in par. (b), shall be reported to the department within 24 hours of its detection. If the release has been reported pursuant to ch. NR 706, that report will satisfy this requirement.

(b) A leak or spill of hazardous waste is exempted from the requirements of this subsection if it is all of the following:

1. Less than or equal to a quantity of one pound.

2. Immediately contained and cleaned up.

(c) Within 30 days of detection of a release to the environment, a report containing all of the following information shall be submitted to the department:

1. Likely route of migration of the release.

2. Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate).

3. Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data shall be submitted to the department as soon as they become available.

4. Proximity to downgradient drinking water, surface water and populated areas.

5. Description of response actions taken or planned.

(5) PROVISION OF SECONDARY CONTAINMENT, REPAIR OR CLOSURE. (a) Unless the owner or operator satisfies the requirements of pars. (b) to (d), the tank system shall be closed in accordance with s. NR 664.0197.

(b) If the cause of the release was a spill that has not damaged the integrity of the system, the owner or operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

(c) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system shall be repaired prior to returning the tank system to service.

(d) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner or operator shall provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of s. NR 664.0193 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system that can be inspected visually. If the source is an aboveground component that can be inspected visually, the component shall be repaired and may be returned to service without secondary containment as long as the requirements of sub. (6) are satisfied. If a component is replaced to comply with the requirements of this paragraph, that component shall satisfy the requirements for new tank systems or components in ss. NR 664.0192 and 664.0193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component shall be provided with secondary containment in accordance with s. NR 664.0193 prior to being returned to use.

(6) CERTIFICATION OF MAJOR REPAIRS. If the owner or operator has repaired a tank system in accordance with sub. (5), and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system may not be returned to service unless the owner or operator has obtained a certification by an independent, qualified, registered, professional engineer in accordance with s. NR 670.011(4) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification shall be submitted to the department within 7 days after returning the tank system to use.

Note: The department may, on the basis of any information received that there is or has been a release of hazardous waste or hazardous constituents into the environment, issue an order under s. 291.37 or 291.85, Stats., requiring corrective action or other response as deemed necessary to protect human health or the environment.

Note: See s. NR 664.0015(3) for the requirements necessary to remedy a failure. Also, if a hazardous substance is released to the environment, 40 CFR part 302 may require the owner or operator to notify the national response center and s. 292.11, Stats., and ch. NR 706 may require the owner or operator to notify the department.

NR 664.0197 Closure and long-term care. (1) At closure of a tank system, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless s. NR 661.03(4) applies. The closure plan, closure activities, cost estimates for closure and financial responsibility for tank systems shall meet all of the requirements specified in subchs. G and H.

(2) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in sub. (1), then the owner or operator shall close the tank system and perform long-term care in accordance with the closure and long-term care requirements that apply to landfills (s. NR 664.0310). In addition, for the purposes of closure, long-term care and financial

responsibility, such a tank system is then considered to be a landfill, and the owner or operator shall meet all of the requirements for landfills specified in subchs. G and H.

(3) If an owner or operator has a tank system that does not have secondary containment that meets the requirements of s. NR 664.0193(2) to (6) and has not been granted a variance from the secondary containment requirements in accordance with s. NR 664.0193(7), then:

(a) The closure plan for the tank system shall include both a plan for complying with sub. (1) and a contingent plan for complying with sub. (2).

(b) A contingent long-term care plan for complying with sub. (2) shall be prepared and submitted as part of the feasibility and plan of operation report.

(c) The cost estimates calculated for closure and long-term care shall reflect the costs of complying with the contingent closure plan and the contingent long-term care plan, if those costs are greater than the costs of complying with the closure plan prepared for the expected closure under sub. (1).

(d) Financial assurance shall be based on the cost estimates in par. (c).

(e) For the purposes of the contingent closure and long-term care plans, such a tank system is considered to be a landfill, and the contingent plans shall meet all of the closure, long-term care and financial responsibility requirements for landfills under subchs. G and H.

NR 664.0198 Special requirements for ignitable or reactive wastes. (1) Ignitable or reactive waste may not be placed in tank systems, unless par. (a), (b) or (c) applies:

(a) The waste is treated, rendered or mixed before or immediately after placement in the tank system so that all of the following apply:

1. The resulting waste, mixture or dissolved material no longer meets the definition of ignitable or reactive waste under s. NR 661.21 or 661.23.

2. Section NR 664.0017(2) is complied with.

(b) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react.

(c) The tank system is used solely for emergencies.

(2) The owner or operator of a facility where ignitable or reactive waste is stored or treated in a tank shall comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys or an adjoining property line that can be built upon as required in Tables 2-1 to 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1977 or 1981), incorporated by reference in s. NR 660.11.

NR 664.0199 Special requirements for incompatible wastes. (1) Incompatible wastes, or incompatible wastes and materials (see Appendix V for examples), may not be placed in the same tank system, unless s. NR 664.0017(2) is complied with.

(2) Hazardous waste may not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless s. NR 664.0017(2) is complied with.

NR 664.0200 Air emission standards. The owner or operator shall manage all hazardous waste placed in a tank in accordance with the applicable requirements of subchs. AA, BB and CC.

Subchapter K —Surface Impoundments

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0220 Applicability.** This subchapter applies to owners and operators of facilities that use surface impoundments to treat, store or dispose of hazardous waste except as s. NR 664.0001 provides otherwise.

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http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0221 Design and operating requirements. (1)** Any surface impoundment that is not covered by sub. (3) or s. NR 665.0221 shall have a liner for all portions of the impoundment (except for existing portions of the impoundment). The liner shall be designed, constructed and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the impoundment. The liner may be constructed of materials that may allow wastes to migrate into the liner (but not into the adjacent subsurface soil or groundwater or surface water) during the active life of the facility, provided that the impoundment is closed in accordance with s. NR 664.0228(1)(a). For impoundments that will be closed in accordance with s. NR 664.0228(1)(b), the liner shall be constructed of materials that can prevent wastes from migrating into the liner during the active life of the facility. The liner shall be all of the following:

(a) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation and the stress of daily operation.

(b) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift.

(c) Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(2) The owner or operator will be exempted from the requirements of sub. (1) if the department finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see s. NR 664.0093) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the department will consider all of the following:

(a) The nature and quantity of the wastes.

(b) The proposed alternate design and operation.

(c) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the impoundment and groundwater or surface water.

(d) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(3) The owner or operator of each new surface impoundment unit on which construction commences after June 1, 1995, each lateral expansion of a surface impoundment unit on which construction commences after June 1, 1995 and each replacement of an existing surface impoundment unit that is to commence reuse after June 1, 1995 shall install 2 or more liners and a leachate collection and removal system between the liners. ”Construction commences” is as defined in s. NR 660.10 under ”existing facility”.

(a)1. The liner system shall include both of the following:

a. A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into the liner during the active life and long-term care period.

b. A composite bottom liner, consisting of at least 2 components. The upper component shall be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and long-term care period. The lower component shall be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component shall be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec.

2. The liners shall comply with sub. (1)(a), (b) and (c).

(b) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection

system. This leak detection system shall be capable of detecting, collecting and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and long-term care period. The requirements for a leak detection system in this subsection are satisfied by installation of a system that is, at a minimum, all of the following:

1. Constructed with a bottom slope of 1% or more.

2. Constructed of granular drainage materials with a hydraulic conductivity of $1x10^{-1}$ cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of $3x10^{-4}$ m^2/sec or more.

3. Constructed of materials that are chemically resistant to the waste managed in the surface impoundment and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes and any waste cover materials or equipment used at the surface impoundment.

4. Designed and operated to minimize clogging during the active life and long-term care period.

5. Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit shall have its own sump. The design of each sump and removal system shall provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(c) The owner or operator shall collect and remove pumpable liquids in the sumps to minimize the head on the bottom liner.

(d) The owner or operator of a leak detection system that is not located completely above the seasonal high water table shall demonstrate that the operation of the leak detection system will not be adversely affected by the presence of groundwater.

(4) The department may approve alternative design or operating practices to those specified in sub. (3) if the owner or operator demonstrates to the department that the design and operating practices, together with location characteristics, will do both of the following:

(a) Prevent the migration of any hazardous constituent into the groundwater or surface water at least as effectively as the liners and leachate collection and removal system specified in sub. (3).

(b) Allow detection of leaks of hazardous constituents through the top liner at least as effectively.

(5) The double liner requirement in sub. (3) may be waived by the department for any monofill, if the requirements of pars. (a) and (b)1. or 2. are met:

(a) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and the wastes do not contain constituents which would render the wastes hazardous for reasons other than the toxicity characteristic in s. NR 661.24.

(b)1. All of the following:

a. The monofill has at least one liner for which there is no evidence that the liner is leaking. For the purposes of this subsection, the term ”liner” means a liner designed, constructed, installed and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, groundwater or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of sub. (3) on the basis of a liner designed, constructed, installed and operated to prevent hazardous waste from passing beyond the liner, at the closure of the impoundment, the owner or operator shall remove or decontaminate all waste residues, all contaminated liner material and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of the impoundment will comply with appropriate long-term care requirements, including but not limited to groundwater monitoring and corrective action.

b. The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in 40 CFR 144.3).

c. The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with operating licenses under s. 291.25, Stats.

2. The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(6) The owner or operator of any replacement surface impoundment unit is exempt from sub. (3) if both of the following apply:

(a) The existing unit was constructed in compliance with the design standards of 42 USC 6924(o)(1)(A)(i) and (5).

(b) There is no reason to believe that the liner is not functioning as designed.

(7) A surface impoundment shall be designed, constructed, maintained and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave action; rainfall; run-on; malfunctions of level controllers, alarms and other equipment and human error.

(8) A surface impoundment shall have dikes that are designed, constructed and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, it may not be presumed that the liner system will function without leakage during the active life of the unit.

(9) The department shall specify in the operating license all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0222 Action leakage rate. (1)** The department shall approve an action leakage rate for surface impoundment units subject to s. NR 664.0221(3) or (4). The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system and proposed response actions (e.g., the action leakage rate shall consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(2) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly or monthly flow rate from the monitoring data obtained under s. NR 664.0226(4) to an average daily flow rate (gallons per acre per day) for each sump. Unless the department approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period, and if the unit is closed in accordance with s. NR 664.0228(2), monthly during the long-term care period when monthly monitoring is required under s. NR 664.0226(4).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0223 Response actions. (1)** The owner or operator of surface impoundment units subject to s. NR 664.0221(3) or (4) shall have an approved response action plan before receipt of waste. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in sub. (2).

(2) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall do all of the following:

(a) Notify the department in writing of the exceedence within 7 days of the determination.

(b) Submit a preliminary written assessment to the department within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size and cause of any leaks and short-term actions taken and planned.

(c) Determine to the extent practicable the location, size and cause of any leak.

(d) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs or controls and whether or not the unit should be closed.

(e) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks.

(f) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the department the results of the analyses specified in pars. (c), (d) and (e), the results of actions taken and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the department a report summarizing the results of any remedial actions taken and actions planned.

(3) To make the leak and remediation determinations in sub. (2)(c), (d) and (e), the owner or operator shall comply with par. (a) or (b):

(a) Do all of the following:

1. Assess the source of liquids and amounts of liquids by source.

2. Conduct a fingerprint, hazardous constituent or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid.

3. Assess the seriousness of any leaks in terms of potential for escaping into the environment.

(b) Document why the assessments are not needed.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**N R 664.0226 Monitoring and inspection. (1)** During construction and installation, liners (except in the case of existing portions of surface impoundments exempt from s. NR 664.0221(1)) and cover systems (e.g., membranes, sheets or coatings) shall be inspected for uniformity, damage and imperfections (e.g., holes, cracks, thin spots or foreign materials). Both of the following inspections are required immediately after construction or installation:

(a) Synthetic liners and covers shall be inspected, to ensure tight seams and joints and the absence of tears, punctures or blisters.

(b) Soil-based and admixed liners and covers shall be inspected for imperfections including lenses, cracks, channels, root holes or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(2) While a surface impoundment is in operation, it shall be inspected weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunctions or improper operation of overtopping control systems.

(b) Sudden drops in the level of the impoundment's contents.

(c) Severe erosion or other signs of deterioration in dikes or other containment devices.

(3) Prior to the issuance of an operating license, and after any extended period of time (at least 6 months) during which the impoundment was not in service, the owner or operator shall obtain a certification from a qualified engineer that the impoundment's dike, including that portion of any dike which provides freeboard, has structural integrity. The certification shall establish, in particular, that the dike will do both of the following:

(a) Withstand the stress of the pressure exerted by the types and amounts of wastes to be placed in the impoundment.

(b) Not fail due to scouring or piping, without dependence on any liner system included in the surface impoundment construction.

(4)(a) An owner or operator required to have a leak detection system under s. NR 664.0221(3) or (4) shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(b) After the final cover is installed, the amount of liquids removed from each leak detection system sump shall be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for 2 consecutive months, the amount of liquids in the sumps shall be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for 2 consecutive quarters, the amount of liquids in the sumps shall be recorded at least semi-annually. If at any time during the long-term care period the pump operating level is exceeded at units on quarterly or semi- annual recording schedules, the owner or operator shall return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for 2 consecutive months.

(c) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the department based on pump activation level, sump dimensions and level that avoids backup into the drainage layer and minimizes head in the sump.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0227 Emergency repairs; contingency plans. (1)** A surface impoundment shall be removed from service in accordance with sub. (2) when either of the following occurs:

(a) The level of liquids in the impoundment suddenly drops and the drop is not known to be caused by changes in the flows into or out of the impoundment.

(b) The dike leaks.

(2) When a surface impoundment must be removed from service as required by sub. (1), the owner or operator shall do all of the following:

(a) Immediately shut off the flow or stop the addition of wastes into the impoundment.

(b) Immediately contain any surface leakage which has occurred or is occurring.

(c) Immediately stop the leak.

(d) Take any other necessary steps to stop or prevent catastrophic failure.

(e) If a leak cannot be stopped by any other means, empty the impoundment.

(f) Notify the department of the problem in writing within 7 days after detecting the problem.

(3) As part of the contingency plan required in subch. D, the owner or operator shall specify a procedure for complying with the requirements of sub. (2).

(4) No surface impoundment that has been removed from service in accordance with the requirements of this section may be restored to service unless the portion of the impoundment which was failing is repaired and the following steps are taken:

(a) If the impoundment was removed from service as the result of actual or imminent dike failure, the dike's structural integrity shall be recertified in accordance with s. NR 664.0226(3).

(b) If the impoundment was removed from service as the result of a sudden drop in the liquid level, then both of the following apply:

1. For any existing portion of the impoundment, a liner shall be installed in compliance with s. NR 664.0221(1).

2. For any other portion of the impoundment, the repaired liner system shall be certified by a qualified engineer as meeting the design specifications approved in the operating license.

(5) A surface impoundment that has been removed from service in accordance with the requirements of this section and that is not being repaired shall be closed in accordance with the provisions of s. NR 664.0228.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0228 Closure and long-term care. (1)** At closure, the owner or operator shall comply with either par. (a) or (b):

(a) Remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless s. NR 661.03(4) applies.

(b) Do all of the following:

1. Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues.

2. Stabilize remaining wastes to a bearing capacity sufficient to support final cover.

3. Cover the surface impoundment with a final cover designed and constructed to do all of the following:

a. Provide long-term minimization of the migration of liquids through the closed impoundment.

b. Function with minimum maintenance.

c. Promote drainage and minimize erosion or abrasion of the final cover.

d. Accommodate settling and subsidence so that the cover's integrity is maintained.

e. Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(2) If some waste residues or contaminated materials are left in place at final closure, the owner or operator shall comply with all long-term care requirements contained in ss. NR 664.0117 to 664.0120, including maintenance and monitoring throughout the long-term care period (specified in the operating license under s. NR 664.0117). The owner or operator shall do all of the following:

(a) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion or other events.

(b) Maintain and monitor the leak detection system in accordance with ss. NR 664.0221(3)(b)4. and (c) and 664.0226(4), and comply with all other applicable leak detection system requirements of this chapter.

(c) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of subch. F.

(d) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

(3)(a) If an owner or operator plans to close a surface impoundment in accordance with sub. (1)(a), and the impoundment does not comply with the liner requirements of s. NR 664.0221(1) and is not exempt from them in accordance with s. NR 664.0221(2), then both of the following apply:

1. The closure plan for the impoundment under s. NR 664.0112 shall include both a plan for complying with sub. (1)(a) and a contingent plan for complying with sub. (1)(b) in case not all contaminated subsoils can be practicably removed at closure.

2. The owner or operator shall prepare a contingent long-term care plan under s. NR 664.0118 for complying with sub. (2) in case not all contaminated subsoils can be practicably removed at closure.

(b) The cost estimates calculated under ss. NR 664.0142 and 664.0144 for closure and long-term care of an impoundment subject to this subsection shall include the cost of complying with the contingent closure plan and the contingent long-term care plan, but are not required to include the cost of expected closure under sub. (1)(a).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0229 Special requirements for ignitable or reactive waste.** Ignitable or reactive waste may not be placed in a surface impoundment, unless the waste and impoundment satisfy all applicable requirements of ch. NR 668, and sub. (1), (2) or (3):

(1) The waste is treated, rendered or mixed before or immediately after placement in the impoundment so that both of the following apply:

(a) The resulting waste, mixture or dissolution of material no longer meets the definition of ignitable or reactive waste under s. NR 661.21 or 661.23.

(b) Section NR 664.0017(2) is complied with.

(2) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

(3) The surface impoundment is used solely for emergencies.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0230 Special requirements for incompatible wastes.** Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) may not be placed in the same surface impoundment, unless s. NR 664.0017(2) is complied with.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0231 Special requirements for hazardous wastes F020, F021, F022, F023, F026 and F027. (1)** Hazardous wastes F020, F021, F022, F023, F026 and F027 may not be placed in a surface impoundment unless the owner or operator operates the surface impoundment in accordance with a management plan for these wastes that is approved by the department pursuant to the standards set out in this subsection, and in accord with all other applicable requirements of this chapter. All of the following factors shall be considered:

(a) The volume and physical and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere.

(b) The attenuative properties of underlying and surrounding soils or other materials.

(c) The mobilizing properties of other materials co-disposed with these wastes.

(d) The effectiveness of additional treatment, design or monitoring techniques.

(2) The department may determine that additional design, operating and monitoring requirements are necessary for surface impoundments managing hazardous wastes F020, F021, F022, F023, F026 and F027 in order to reduce the possibility of migration of these wastes to groundwater, surface water or air so as to protect human health and the environment.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0232 Air emission standards.** The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the applicable requirements of subchs. BB and CC.

Subchapter L —Waste Piles

NR 664.0250 Applicability. (1) This subchapter applies to owners and operators of facilities that store or treat hazardous waste in piles, except as s. NR 664.0001 provides otherwise.

(2) This subchapter does not apply to owners or operators of waste piles that are closed with wastes left in place. Those waste piles are regulated under subch. N (landfills).

(3) The owner or operator of any waste pile that is inside or under a structure that provides protection from precipitation so that neither run-off nor leachate is generated is not regulated under s. NR 664.0251 or under subch. F, if all of the following are met:

(a) Liquids or materials containing free liquids are not placed in the pile.

(b) The pile is protected from surface water run-on by the structure or in some other manner.

(c) The pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting.

(d) The pile will not generate leachate through decomposition or other reactions.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0251 Design and operating requirements. (1)** A waste pile (except for an existing portion of a waste pile) shall have both of the following:

(a) A liner that is designed, constructed and installed to prevent any migration of wastes out of the pile into the adjacent subsurface soil or groundwater or surface water at any time during the active life

(including the closure period) of the waste pile. The liner may be constructed of materials that may allow waste to migrate into the liner itself (but not into the adjacent subsurface soil or groundwater or surface water) during the active life of the facility. The liner shall be all of the following:

1. Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation and the stress of daily operation.

2. Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift.

3. Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(b) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained and operated to collect and remove leachate from the pile. The department shall specify design and operating conditions in the operating license to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system shall be both of the following:

1. Constructed of materials that are both of the following:

a. Chemically resistant to the waste managed in the pile and the leachate expected to be generated.

b. Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying wastes, waste cover materials and any equipment used at the pile.

2. Designed and operated to function without clogging through the scheduled closure of the waste pile.

(2) The owner or operator will be exempted from the requirements of sub. (1), if the department finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see s. NR 664.0093) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the department will consider all of the following:

(a) The nature and quantity of the wastes.

(b) The proposed alternate design and operation.

(c) The hydrogeologic setting of the facility, including attenuative capacity and thickness of the liners and soils present between the pile and groundwater or surface water.

(d) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(3) The owner or operator of each new waste pile unit on which construction commences after June 1, 1995, each lateral expansion of a waste pile unit on which construction commences after June 1, 1995 and each replacement of an existing waste pile unit that is to commence reuse after June 1, 1995 shall install 2 or more liners and a leachate collection and removal system above and between the liners. ”Construction commences” is as defined in s. NR 660.10 under ”existing facility”.

(a)1. The liner system shall include both of the following:

a. A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into the liner during the active life and long-term care period.

b. A composite bottom liner, consisting of at least 2 components. The upper component shall be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and long-term care period. The lower component shall be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component shall be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.

2. The liners shall comply with sub. (1)(a)1., 2. and 3.

(b) The leachate collection and removal system immediately above the top liner shall be designed, constructed, operated and maintained to collect and remove leachate from the waste pile during the active life and long-term care period. The department will specify design and operating conditions in the operating license to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system shall comply with par. (c)3. and 4.

(c) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system shall be capable of detecting, collecting and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and long-term care period. The requirements for a leak detection system in this subsection are satisfied by installation of a system that is, at a minimum, all of the following:

1. Constructed with a bottom slope of 1% or more.

2. Constructed of granular drainage materials with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m^2/sec or more.

3. Constructed of materials that are chemically resistant to the waste managed in the waste pile and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials and equipment used at the waste pile.

4. Designed and operated to minimize clogging during the active life and long-term care period.

5. Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit shall have its own sump. The design of each sump and removal system shall provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(d) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.

(e) The owner or operator of a leak detection system that is not located completely above the seasonal high water table shall demonstrate that the operation of the leak detection system will not be adversely affected by the presence of groundwater.

(4) The department may approve alternative design or operating practices to those specified in sub. (3) if the owner or operator demonstrates to the department that the design and operating practices, together with location characteristics, will do both of the following:

(a) Prevent the migration of any hazardous constituent into the groundwater or surface water at least as effectively as the liners and leachate collection and removal systems specified in sub. (3).

(b) Allow detection of leaks of hazardous constituents through the top liner at least as effectively.

(5) Subsection (3) does not apply to monofills that are granted a waiver by the department in accordance with s. NR 664.0221(5).

(6) The owner or operator of any replacement waste pile unit is exempt from sub. (3) if both of the following apply:

(a) The existing unit was constructed in compliance with the design standards of 42 USC 6924(o)(1)(A)(i) and (5).

(b) There is no reason to believe that the liner is not functioning as designed.

(7) The owner or operator shall design, construct, operate and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm.

(8) The owner or operator shall design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(9) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(10) If the pile contains any particulate matter which may be subject to wind dispersal, the owner or operator shall cover or otherwise manage the pile to control wind dispersal.

(11) The department shall specify in the operating license all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0252 Action leakage rate. (1)** The department shall approve an action leakage rate for waste pile units subject to s. NR 664.0251(3) or (4). The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system and proposed response actions (e.g., the action leakage rate shall consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(2) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly flow rate from the monitoring data obtained under s. NR 664.0254(3), to an average daily flow rate (gallons per acre per day) for each sump. Unless the department approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0253 Response actions. (1)** The owner or operator of waste pile units subject to s. NR 664.0251(3) or (4) shall have an approved response action plan before receipt of waste. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in sub. (2).

(2) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall do all of the following:

(a) Notify the department in writing of the exceedance within 7 days of the determination.

(b) Submit a preliminary written assessment to the department within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size and cause of any leaks and short-term actions taken and planned.

(c) Determine to the extent practicable the location, size and cause of any leak.

(d) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs or controls and whether or not the unit should be closed.

(e) Determine any other short-term and long-term actions to be taken to mitigate or stop any leaks.

(f) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the department the results of the analyses specified in pars. (c), (d) and (e), the results of actions taken and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the department a report summarizing the results of any remedial actions taken and actions planned.

(3) To make the leak and remediation determinations in sub. (2)(c), (d) and (e), the owner or operator shall comply with par. (a) or (b):

(a) Do all of the following:

1. Assess the source of liquids and amounts of liquids by source.

2. Conduct a fingerprint, hazardous constituent or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid.

3. Assess the seriousness of any leaks in terms of potential for escaping into the environment.

(b) Document why the assessments are not needed.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0254 Monitoring and inspection. (1)** During construction or installation, liners (except in the case of existing portions of piles exempt from s. NR 664.0251(1)) and cover systems (e.g., membranes, sheets or coatings) shall be inspected for uniformity, damage and imperfections (e.g., holes, cracks, thin spots or foreign materials). Both of the following inspections are required immediately after construction or installation:

(a) Synthetic liners and covers shall be inspected to ensure tight seams and joints and the absence of tears, punctures or blisters.

(b) Soil-based and admixed liners and covers shall be inspected for imperfections including lenses, cracks, channels, root holes or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(2) While a waste pile is in operation, it shall be inspected weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunctions or improper operation of run-on and run-off control systems.

(b) Proper functioning of wind dispersal control systems, where present.

(c) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(3) An owner or operator required to have a leak detection system under s. NR 664.0251(3) shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0256 Special requirements for ignitable or reactive waste.** Ignitable or reactive waste may not be placed in a waste pile unless the waste and waste pile satisfy all applicable requirements of ch. NR 668 and sub. (1) or (2):

(1) The waste is treated, rendered or mixed before or immediately after placement in the pile so that both of the following apply:

(a) The resulting waste, mixture or dissolution of material no longer meets the definition of ignitable or reactive waste under s. NR 661.21 or 661.23.

(b) Section NR 664.0017(2) is complied with.

(2) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0257 Special requirements for incompatible wastes. (1)** Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) may not be placed in the same pile, unless s. NR 664.0017(2) is complied with.

(2) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in containers, other piles, open tanks or surface impoundments shall be separated from the other materials, or protected from them by means of a dike, berm, wall or other device.

(3) Hazardous waste may not be piled on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to ensure compliance with s. NR 664.0017(2).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0258 Closure and long-term care. (1)** At closure, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless s. NR 661.03(4) applies.

(2) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures and equipment as required in sub. (1), the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, the owner or operator shall close the facility and perform long-term care in accordance with the closure and long-term care requirements that apply to landfills (s. NR 664.0310).

(3)(a) The owner or operator of a waste pile that does not comply with the liner requirements of s. NR 664.0251(1)(a) and is not exempt from them in accordance with s. NR 664.0250(3) or 664.0251(2), shall do both of the following:

1. Include in the closure plan for the pile under s. NR 664.0112 both a plan for complying with sub. (1) and a contingent plan for complying with sub. (2) in case not all contaminated subsoils can be practicably removed at closure.

2. Prepare a contingent long-term care plan under s. NR 664.0118 for complying with sub. (2) in case not all contaminated subsoils can be practicably removed at closure.

(b) The cost estimates calculated under ss. NR 664.0142 and 664.0144 for closure and long-term care of a pile subject to this subsection shall include the cost of complying with the contingent closure plan and the contingent long-term care plan, but are not required to include the cost of expected closure under sub. (1).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0259 Special requirements for hazardous wastes F020, F021, F022, F023, F026 and F027. (1**) Hazardous wastes F020, F021, F022, F023, F026 and F027 may not be placed in waste piles that are not enclosed (as defined in s. NR 664.0250(3)) unless the owner or operator operates the waste pile in accordance with a management plan for these wastes that is approved by the department pursuant to the standards set out in this subsection, and in accord with all other applicable requirements of this chapter. All of the following factors shall be considered:

(a) The volume and physical and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere.

(b) The attenuative properties of underlying and surrounding soils or other materials.

(c) The mobilizing properties of other materials co-disposed with these wastes.

(d) The effectiveness of additional treatment, design or monitoring techniques.

(2) The department may determine that additional design, operating and monitoring requirements are necessary for piles managing hazardous wastes F020, F021, F022, F023, F026 and F027 in order to reduce the possibility of migration of these wastes to groundwater, surface water or air so as to protect human health and the environment.

Subchapter M —Land Treatment

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0270 Applicability.** Land treatment of

any hazardous waste is prohibited. The department may not grant a variance under s. 291.31, Stats., to allow land treatment of any hazardous waste, as identified or listed in ch. NR 661.

Subchapter N —Landfills

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0300 Applicability**. This subchapter applies to owners and operators of facilities that dispose of hazardous waste in landfills, except as s. NR 664.0001 provides otherwise.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0301 Design and operating requirements. (1)** Any landfill that is not covered by sub. (3) or s. NR 665.0301(1) shall have a liner system for all portions of the landfill (except for existing portions of the landfill). The liner system shall have both of the following:

(a) A liner that is designed, constructed and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the landfill. The liner shall be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The liner shall be all of the following:

1. Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation and the stress of daily operation.

2. Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift.

3. Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(b) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained and operated to collect and remove leachate from the landfill. The department shall specify design and operating conditions in the operating license to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system shall be both of the following:

1. Constructed of materials that are both of the following:

a. Chemically resistant to the waste managed in the landfill and the leachate expected to be generated.

b. Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials and any equipment used at the landfill.

2. Designed and operated to function without clogging through the scheduled closure of the landfill.

(2) The owner or operator will be exempted from the requirements of sub. (1) if the department finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see s. NR 664.0093) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the department will consider all of the following:

(a) The nature and quantity of the wastes.

(b) The proposed alternate design and operation.

(c) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and groundwater or surface water.

(d) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(3) The owner or operator of each new landfill unit on which construction commences after June 1, 1995, each lateral expansion of a landfill unit on which construction commences after June 1, 1995, and each replacement of an existing landfill unit that is to commence reuse after June 1, 1995 shall install 2 or more liners and a leachate collection and removal system above and between the liners. ”Construction commences” is as defined in s. NR 660.10 under ”existing facility”.

(a)1. The liner system shall include both of the following:

a. A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into the liner during the active life and long-term care period.

b. A composite bottom liner, consisting of at least 2 components. The upper component shall be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and long-term care period. The lower component shall be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component shall be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.

2. The liners shall comply with sub. (1)(a)1., 2. and 3.

(b) The leachate collection and removal system immediately above the top liner shall be designed, constructed, operated and maintained to collect and remove leachate from the landfill during the active life and long-term care period. The department will specify design and operating conditions in the operating license to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system shall comply with par. (c)3. and 4.

(c) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system shall be capable of detecting, collecting and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and long-term care period. The requirements for a leak detection system in this subsection are satisfied by installation of a system that is, at a minimum, all of the following:

1. Constructed with a bottom slope of 1% or more.

2. Constructed of granular drainage materials with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m^2/sec or more.

3. Constructed of materials that are chemically resistant to the waste managed in the landfill and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials and equipment used at the landfill.

4. Designed and operated to minimize clogging during the active life and long-term care period.

5. Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit shall have its own sump. The design of each sump and removal system shall provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(d) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.

(e) The owner or operator of a leak detection system that is not located completely above the seasonal high water table shall demonstrate that the operation of the leak detection system will not be adversely affected by the presence of groundwater.

(4) The department may approve alternative design or operating practices to those specified in sub. (3) if the owner or operator demonstrates to the department that the design and operating practices, together with location characteristics, will do both of the following:

(a) Prevent the migration of any hazardous constituent into the groundwater or surface water at least as effectively as the liners and leachate collection and removal systems specified in sub. (3).

(b) Allow detection of leaks of hazardous constituents through the top liner at least as effectively.

(5) The double liner requirement in sub. (3) may be waived by the department for any monofill, if pars. (a) and (b)1. or 2. apply:

(a) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and the wastes do not contain constituents which would render the wastes hazardous for reasons other than the toxicity characteristic in s. NR 661.24, with EPA hazardous waste numbers D004 to D017.

(b)1. All of the following conditions are met:

a. The monofill has at least one liner for which there is no evidence that the liner is leaking.

b. The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in 40 CFR 144.3).

c. The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with operating licenses under s. 291.25, Stats.

2. The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(6) The owner or operator of any replacement landfill unit is exempt from sub. (3) if both of the following apply:

(a) The existing unit was constructed in compliance with the design standards of 42 USC 6924(o)(1)(A)(i) and (5).

(b) There is no reason to believe that the liner is not functioning as designed.

(7) The owner or operator shall design, construct, operate and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.

(8) The owner or operator shall design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(9) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(10) If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator shall cover or otherwise manage the landfill to control wind dispersal.

(11) The department shall specify in the operating license all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0302 Action leakage rate. (1)** The department shall approve an action leakage rate for landfill units subject to s. NR 664.0301(3) or (4). The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system and proposed response actions (e.g., the action leakage rate shall consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(2) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly or monthly flow rate from the monitoring data obtained under s. NR 664.0303(3), to an average daily flow rate (gallons per acre per day) for each sump. Unless the department approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and

closure period, and monthly during the long-term care period when monthly monitoring is required under s. NR 664.0303(3).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0303 Monitoring and inspection. (1)** During construction or installation, liners (except in the case of existing portions of landfills exempt from s. NR 664.0301(1)) and cover systems (e.g., membranes, sheets or coatings) shall be inspected for uniformity, damage and imperfections (e.g., holes, cracks, thin spots or foreign materials). Both of the following inspections are required immediately after construction or installation:

(a) Synthetic liners and covers shall be inspected to ensure tight seams and joints and the absence of tears, punctures or blisters.

(b) Soil-based and admixed liners and covers shall be inspected for imperfections including lenses, cracks, channels, root holes or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(2) While a landfill is in operation, it shall be inspected weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunctions or improper operation of run-on and run-off control systems.

(b) Proper functioning of wind dispersal control systems, where present.

(c) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(3)(a) An owner or operator required to have a leak detection system under s. NR 664.0301(3) or (4) shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(b) After the final cover is installed, the amount of liquids removed from each leak detection system sump shall be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for 2 consecutive months, the amount of liquids in the sumps shall be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for 2 consecutive quarters, the amount of liquids in the sumps shall be recorded at least semi-annually. If at any time during the long-term care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator shall return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for 2 consecutive months.

(c) ”Pump operating level” is a liquid level proposed by the owner or operator and approved by the department based on pump activation level, sump dimensions and level that avoids backup into the drainage layer and minimizes head in the sump.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0304 Response actions. (1)** The owner or operator of landfill units subject to s. NR 664.0301(3) or (4) shall have an approved response action plan before receipt of waste. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in sub. (2).

(2) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall do all of the following:

(a) Notify the department in writing of the exceedence within 7 days of the determination.

(b) Submit a preliminary written assessment to the department within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size and cause of any leaks and short-term actions taken and planned.

(c) Determine to the extent practicable the location, size and cause of any leak.

(d) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs or controls and whether or not the unit should be closed.

(e) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks.

(f) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the department the results of the analyses specified pars. (c), (d) and (e), the results of actions taken and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the department a report summarizing the results of any remedial actions taken and actions planned.

(3) To make the leak and remediation determinations in sub. (2)(c), (d) and (e), the owner or operator shall comply with par. (a) or (b):

(a) Do all of the following:

1. Assess the source of liquids and amounts of liquids by source.

2. Conduct a fingerprint, hazardous constituent or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid.

3. Assess the seriousness of any leaks in terms of potential for escaping into the environment.

(b) Document why the assessments are not needed.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0309 Surveying and recordkeeping.** The owner or operator of a landfill shall maintain both of the following items in the operating record required under s. NR 664.0073:

(1) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks.

(2) The contents of each cell and the approximate location of each hazardous waste type within each cell.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0310 Closure and long-term care. (1)** At final closure of the landfill or upon closure of any cell, the owner or operator shall cover the landfill or cell with a final cover designed and constructed to do all of the following:

(a) Provide long-term minimization of migration of liquids through the closed landfill.

(b) Function with minimum maintenance.

(c) Promote drainage and minimize erosion or abrasion of the cover.

(d) Accommodate settling and subsidence so that the cover's integrity is maintained.

(e) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(2) After final closure, the owner or operator shall comply with all long-term care requirements contained in ss. NR 664.0117 to 664.0120, including maintenance and monitoring throughout the long-term care period (specified in the operating license under s. NR 664.0117). The owner or operator shall do all of the following:

(a) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion or other events.

(b) Continue to operate the leachate collection and removal system until leachate is no longer detected.

(c) Maintain and monitor the leak detection system in accordance with ss. NR 664.0301(3)(c)4. and (d) and 664.0303(3), and comply with all other applicable leak detection system requirements of this chapter.

(d) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of subch. F.

(e) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

(f) Protect and maintain surveyed benchmarks used in complying with s. NR 664.0309.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0312 Special requirements for ignitable or reactive waste. (1)** Except as provided in sub. (2), and in s. NR 664.0316, ignitable or reactive waste may not be placed in a landfill, unless the waste and landfill meet all applicable requirements of ch. NR 668 and both of the following:

(a) The resulting waste, mixture or dissolution of material no longer meets the definition of ignitable or reactive waste under s. NR 661.21 or 661.23.

(b) Section NR 664.0017(2) is complied with.

(2) Except for prohibited wastes which remain subject to treatment standards in subch. D of ch. NR 668, ignitable wastes in containers may be landfilled without meeting the requirements of sub. (1), provided that the wastes are disposed of in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes shall be disposed of in non-leaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture or any other condition that might cause ignition of the wastes; shall be covered daily with soil or other non-combustible material to minimize the potential for ignition of the wastes and may not be disposed of in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0313 Special requirements for incompatible wastes**. Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) may not be placed in the same landfill cell, unless s. NR 664.0017(2) is complied with.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0314 Special requirements for bulk and containerized liquids. (1)** Bulk or non-containerized liquid waste or waste containing free liquids may be placed in a landfill prior to April 1, 1988 only if either of the following is met:

(a) The landfill has a liner and leachate collection and removal system that meet the requirements of s. NR 664.0301(1).

(b) Before disposal, the liquid waste or waste containing free liquids is treated or stabilized, chemically or physically (e.g., by mixing with a sorbent solid), so that free liquids are no longer present.

(2) Effective April 1, 1988, the placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited.

(3) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test shall be used: Method 9095 (paint filter liquids test) as described in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11.

(4) Containers holding free liquids may not be placed in a landfill unless par. (a), (b), (c) or (d) applies:

(a) All free-standing liquid is handled in one of the following ways:

1. It has been removed by decanting, or other methods.
2. It has been mixed with sorbent or solidified so that free-standing liquid is no longer observed.
3. It has been otherwise eliminated.

(b) The container is very small, such as an ampule.

(c) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor.

(d) The container is a lab pack as defined in s. NR 664.0316 and is disposed of in accordance with s. NR 664.0316.

(5) Sorbents used to treat free liquids to be disposed of in landfills shall be nonbiodegradable. Nonbiodegradable sorbents are materials listed or described in par. (a); materials that pass one of the tests in par. (b) or materials that are determined by EPA to be nonbiodegradable through the 40 CFR part 260 petition process.

(a) Nonbiodegradable sorbents are any of the following:

1. Inorganic minerals, other inorganic materials and elemental carbon (e.g., aluminosilicates, clays, smectites, Fuller's earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas (illite), vermiculites, zeolites; calcium carbonate (organic free limestone); oxides or hydroxides, alumina, lime, silica (sand), diatomaceous earth; perlite (volcanic glass); expanded volcanic rock; volcanic ash; cement kiln dust; fly ash; rice hull ash; activated charcoal or activated carbon).

2. High molecular weight synthetic polymers (e.g., polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorborene, polyisobutylene, ground synthetic rubber, cross-linked allylstyrene and tertiary butyl copolymers). This does not include polymers derived from biological material or polymers specifically designed to be degradable.

3. Mixtures of these nonbiodegradable materials.

(b) The sorbent material may be determined to be nonbiodegradable using any of the following tests:

1. ASTM Method G21-70 (1984a)—Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi, incorporated by reference in s. NR 660.11.

2. ASTM Method G22-76 (1984b)—Standard Practice for Determining Resistance of Plastics to Bacteria, incorporated by reference in s. NR 660.11.

3. OECD test 301B [CO_2 Evolution (Modified Sturm Test)], incorporated by reference in s. NR 660.11.

(6) Effective March 1, 1991, the placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of the landfill demonstrates to the department, or the department determines, that both of the following apply:

(a) The only reasonably available alternative to the placement in the landfill is placement in a landfill or unlined surface impoundment, whether or not operating under an operating license or interim license, which contains, or may reasonably be anticipated to contain, hazardous waste.

(b) Placement in the owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in 40 CFR 144.3).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0315 Special requirements for containers.** Unless they are very small, such as an ampule, containers shall be either of the following:

(1) At least 90% full when placed in the landfill.

(2) Crushed, shredded or similarly reduced in volume to the maximum practical extent before burial in the landfill.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0316 Disposal of small containers of hazardous waste in overpacked drums (lab packs).** Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if all of the following requirements are met:

(1) Hazardous waste shall be packaged in non-leaking inside containers. The inside containers shall be of a design and constructed of a material that will not react dangerously with, be decomposed by or be

ignited by the contained waste. Inside containers shall be tightly and securely sealed. The inside containers shall be of the size and type specified in the U.S. department of transportation (DOT) hazardous materials regulations (49 CFR parts 173, 178 and 179), if those regulations specify a particular inside container for the waste.

(2) The inside containers shall be overpacked in an open head DOT-specification metal shipping container (49 CFR parts 178 and 179) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of sorbent material, determined to be nonbiodegradable in accordance with s. NR 664.0314(5), to completely sorb all of the liquid contents of the inside containers. The metal outer container shall be full after it has been packed with inside containers and sorbent material.

(3) The sorbent material used may not be capable of reacting dangerously with, being decomposed by or being ignited by the contents of the inside containers, in accordance with s. NR 664.0017(2).

(4) Incompatible wastes, as defined in s. NR 660.10, may not be placed in the same outside container.

(5) Reactive wastes, other than cyanide- or sulfide-bearing waste as defined in s. NR 661.23(1)(e), shall be treated or rendered non-reactive prior to packaging in accordance with subs. (1) to (4). Cyanide- and sulfide-bearing reactive waste may be packed in accordance with subs. (1) to (4) without first being treated or rendered non-reactive.

(6) The disposal is in compliance with the requirements of ch. NR 668. Persons who incinerate lab packs according to the requirements in s. NR 668.42(3)(a) may use fiber drums in place of metal outer containers. The fiber drums shall meet the DOT specifications in 49 CFR 173.12 and be overpacked according to the requirements in sub. (2).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0317 Special requirements for hazardous wastes F020, F021, F022, F023, F026 and F027. (1)** Hazardous wastes F020, F021, F022, F023, F026 and F027 may not be placed in a landfill unless the owner or operator operates the landfill in accord with a management plan for these wastes that is approved by the department pursuant to the standards set out in this subsection, and in accord with all other applicable requirements of this chapter. All of the following factors shall be considered:

(a) The volume and physical and chemical characteristics of the wastes, including their potential to migrate through the soil or to volatilize or escape into the atmosphere.

(b) The attenuative properties of underlying and surrounding soils or other materials.

(c) The mobilizing properties of other materials co-disposed with these wastes.

(d) The effectiveness of additional treatment, design or monitoring requirements.

(2) The department may determine that additional design, operating and monitoring requirements are necessary for landfills managing hazardous wastes F020, F021, F022, F023, F026 and F027 in order to reduce the possibility of migration of these wastes to groundwater, surface water or air so as to protect human health and the environment.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1

Subchapter O —Incinerators

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000264&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 664.0340 Applicability. (1)** This subchapter applies to owners and operators of hazardous waste incinerators (as defined in s. NR 660.10), except as s. NR 664.0001 provides otherwise.

(2)(a) Except as provided by pars. (b), (c) and (d), this chapter no longer applies when an owner or operator demonstrates compliance with the maximum achievable control technology (MACT)

requirements of 40 CFR part 63, subpart EEE, by conducting a comprehensive performance test and submitting a notification of compliance to the EPA administrator under 40 CFR 63.1207(j) and 63.1210(b) documenting compliance with 40 CFR part 63, subpart EEE. Nevertheless, even after this demonstration of compliance with the MACT standards, hazardous waste license conditions that were based on the standards of this chapter will continue to be in effect until the department removes them from the license or denies, suspends or revokes the license, unless the license expressly provides otherwise.

(b) The MACT standards do not replace the closure requirements of s. NR 664.0351 or the applicable requirements of subchs. A to H, BB and CC.

(c) The particulate matter standard of s. NR 664.0343(3) remains in effect for incinerators that elect to comply with the alternative to the particulate matter standard of 40 CFR 63.1206(b)(14).

(d) All of the following requirements remain in effect for startup, shutdown and malfunction events if the owner or operator elects to comply with s. NR 670.235(1)(a)1. to minimize emissions of toxic compounds from these events:

1. Section NR 664.0345(1) requiring that an incinerator operate according to operating requirements specified in the license.

2. Section NR 664.0345(3) requiring compliance with the emission standards and operating requirements during startup and shutdown if hazardous waste is in the combustion chamber, except for particular hazardous wastes.

(3) After consideration of the waste analysis included with the feasibility and plan of operation report, the department, in establishing the license conditions, shall exempt the applicant from this subchapter except ss. NR 664.0341 and 664.0351, if all of the following conditions are met:

(a) The department finds that the waste to be burned is one of the following:

1. Listed as a hazardous waste in subch. D of ch. NR 661 solely because it is ignitable (hazard code I), corrosive (hazard code C) or both.

2. Listed as a hazardous waste in subch. D of ch. NR 661 solely because it is reactive (hazard code R) for characteristics other than those in s. NR 661.23(1)(d) and (e), and will not be burned when other hazardous wastes are present in the combustion zone.

3. A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity or both, as determined by the test for characteristics of hazardous wastes under subch. C of ch. NR 661.

4. A hazardous waste solely because it possesses any of the reactivity characteristics in s. NR 661.23(1)(a), (b), (c), (f), (g) and (h), and will not be burned when other hazardous wastes are present in the combustion zone.

(b) The waste analysis shows that the waste contains none of the hazardous constituents in ch. NR 661, Appendix VIII, which would reasonably be expected to be in the waste.

(4) If the waste to be burned is one which is described by sub. (3)(a)1., 2., 3. or 4. and contains insignificant concentrations of the hazardous constituents in ch. NR 661, Appendix VIII, then the department may, in establishing license conditions, exempt the applicant from all requirements of this subchapter, except ss. NR 664.0341 and 664.0351, after consideration of the waste analysis included with the feasibility and plan of operation report, unless the department finds that the waste will pose a threat to human health and the environment when burned in an incinerator.

(5) The owner or operator of an incinerator may conduct trial burns subject only to s. NR 670.062.

NR 664.0341 Waste analysis. (1) As a portion of the trial burn plan required by s. NR 670.062, or with the feasibility and plan of operation report, the owner or operator shall have included an analysis of the waste feed sufficient to provide all information required by s. NR 670.062(2) or 670.019. Owners or operators of new hazardous waste incinerators shall provide the information required by s. NR 670.062(3) or 670.019 to the greatest extent possible.

(2) Throughout normal operation the owner or operator shall conduct sufficient waste analysis to verify that waste feed to the incinerator is within the physical and chemical composition limits specified in the owner or operator's license (under s. NR 664.0345(2)).

NR 664.0342 Principal organic hazardous constituents (POHCs). (1) The owner or operator shall treat principal organic hazardous constituents (POHCs) in the waste feed to the extent required by the performance standard of s. NR 664.0343.

(2)(a) The department will specify one or more POHCs in the facility's license, from among those constituents in ch. NR 661, Appendix VIII, for each waste feed to be burned. The department will base this specification on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with the feasibility and plan of operation report. Organic constituents which represent the greatest degree of difficulty of incineration will be those most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantities or concentrations in the waste.

(b) The department will designate trial POHCs for performance of trial burns according to the procedure in s. NR 670.062 for obtaining trial burn plan approvals.

NR 664.0343 Performance standards. The owner or operator shall design, construct and maintain an incinerator burning hazardous waste so that, when operated according to operating requirements specified under s. NR 664.0345, it will meet all of the following performance standards:

(1)(a) Except as provided in par. (b), an incinerator burning hazardous waste shall achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated (under s. NR 664.0342) in its license for each waste feed. Determine the DRE for each POHC using the following equation:

$$\text{DRE} = \frac{(W_{in} - W_{out})}{W_{in}} \cdot 100\ \%$$

where:

W_{in} = mass feed rate of one principal organic hazardous constituent (POHC) in the waste stream feeding the incinerator

W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere

(b) An incinerator burning hazardous wastes F020, F021, F022, F023, F026 or F027 shall achieve a destruction and removal efficiency (DRE) of 99.9999% for each principal organic hazardous constituent (POHC) designated (under s. NR 664.0342) in its license. The owner or operator shall demonstrate this performance on POHCs that are more difficult to incinerate than tetra-, penta- and hexachlorodibenzo-p-dioxins and dibenzofurans. The owner or operator shall determine the DRE for each POHC using the equation in par. (a). In addition, the owner or operator of the incinerator shall notify the department of the owner or operator's intent to incinerate hazardous wastes F020, F021, F022, F023, F026 or F027.

(2) An incinerator burning hazardous waste and producing stack emissions of more than 1.8 kilograms per hour (4 pounds per hour) of hydrogen chloride (HCl) shall control HCl emissions such that the rate of emission is no greater than the larger of either 1.8 kilograms per hour or 1% of the HCl in the stack gas prior to entering any pollution control equipment.

(3) An incinerator burning hazardous waste may not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) when corrected for the amount of oxygen in the stack gas according to the formula:

$$P_c = P_m \cdot \frac{14}{21 - Y}$$

where:

P_c = corrected concentration of particulate matter

P_m = measured concentration of particulate matter

Y = measured concentration of oxygen in the stack gas, using the Orsat method for oxygen analysis of dry flue gas, presented in Method 3 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11

All hazardous waste incinerators except those operating under conditions of oxygen enrichment shall use this correction procedure. For incinerators operating under conditions of oxygen enrichment, the department will select an appropriate correction procedure and specify it in the facility license.

(4) For purposes of license enforcement, compliance with the operating requirements specified in the license (under s. NR 664.0345) is compliance with this section. However, evidence that compliance with those license conditions is insufficient to ensure compliance with the performance requirements of this section may be ”information” justifying modification, revocation or reissuance of a license under s. NR 670.041.

NR 664.0344 Hazardous waste incinerator licenses. (1) The owner or operator of a hazardous waste incinerator may burn only wastes specified in the owner or operator’s license and only under operating conditions specified for those wastes under s. NR 664.0345, except in any of the following circumstances:

(a) In approved trial burns under s. NR 670.062.

(b) Under exemptions created by s. NR 664.0340.

(2) Other hazardous wastes may be burned only after the department has specified operating conditions in a new license or a license modification as applicable. The department may base operating requirements for new wastes on either trial burn results or alternative data included with the feasibility and plan of operation report under s. NR 670.019.

(3) The license for a new hazardous waste incinerator shall establish appropriate conditions for each of the applicable requirements of this subchapter, including but not limited to allowable waste feeds and operating conditions necessary to meet s. NR 664.0345, sufficient to comply with all of the following standards:

(a) For the period beginning with initial introduction of hazardous waste to the incinerator and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in par. (b), not to exceed a duration of 720 hours operating time for treatment of hazardous waste, the operating requirements shall be those most likely to ensure compliance with the performance standards of s. NR 664.0343, based on the department’s engineering judgment. The department may extend the duration of this period once for up to 720 additional hours when the applicant demonstrates good cause for the extension.

(b) For the duration of the trial burn, the operating requirements shall be sufficient to demonstrate compliance with the performance standards of s. NR 664.0343 and shall be according to the approved trial burn plan.

(c) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility license by the department, the operating requirements shall be those most likely to ensure compliance with the performance standards of s. NR 664.0343, based on the department’s engineering judgment.

(d) For the remaining duration of the license, the operating requirements shall be those demonstrated, in a trial burn or by alternative data specified in s. NR 670.019(3), as sufficient to ensure compliance with the performance standards of s. NR 664.0343.

NR 664.0345 Operating requirements. (1) The owner or operator shall operate an incinerator according to the operating requirements in the license. The department will specify these on a

case-by-case basis as those demonstrated (in a trial burn or in alternative data as specified in s. NR 664.0344(2) and included with the feasibility and plan of operation report) to be sufficient to comply with the performance standards of s. NR 664.0343.

(2) Each set of operating requirements will specify the composition of the waste feed (including acceptable variations in the physical or chemical properties of the waste feed which will not affect compliance with the performance requirement of s. NR 664.0343) to which the operating requirements apply. For each waste feed to which the operating requirements apply, the license will specify acceptable operating limits including all of the following conditions:

(a) Carbon monoxide (CO) level in the stack exhaust gas.

(b) Waste feed rate.

(c) Combustion temperature.

(d) An appropriate indicator of combustion gas velocity.

(e) Allowable variations in incinerator system design or operating procedures.

(f) Other operating requirements as are necessary to ensure that the performance standards of s. NR 664.0343 are met.

(3) During start-up and shut-down of an incinerator, the owner or operator shall not feed hazardous waste (except wastes exempted according to s. NR 664.0340) into the incinerator unless the incinerator is operating within the conditions of operation (temperature, air feed rate, etc.) specified in the license.

(4) The owner or operator shall control fugitive emissions from the combustion zone by one of the following:

(a) Keeping the combustion zone totally sealed against fugitive emissions.

(b) Maintaining a combustion zone pressure lower than atmospheric pressure.

(c) An alternate means of control demonstrated (with the feasibility and plan of operation report) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(5) The owner or operator shall operate an incinerator with a functioning system to automatically cut off waste feed to the incinerator when operating conditions deviate from limits established under sub. (1).

(6) The owner or operator shall cease operation of an incinerator when changes in waste feed, incinerator design or operating conditions exceed limits designated in its license.

NR 664.0347 Monitoring and inspections. (1) The owner or operator shall conduct, as a minimum, all of the following monitoring while incinerating hazardous waste:

(a) Monitor combustion temperature, waste feed rate and the indicator of combustion gas velocity specified in the facility license on a continuous basis.

(b) Monitor CO on a continuous basis at a point in the incinerator downstream of the combustion zone and prior to release to the atmosphere.

(c) Upon request by the department, sample and analyze the waste and exhaust emissions to verify that the operating requirements established in the license achieve the performance standards of s. NR 664.0343.

(2) The owner or operator shall subject the incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) to thorough visual inspection, at least daily, for leaks, spills, fugitive emissions and signs of tampering.

(3) The owner or operator shall test the emergency waste feed cutoff system and associated alarms at least weekly to verify operability, unless the applicant demonstrates to the department that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, the owner or operator shall conduct operational testing at least monthly.

(4) The owner or operator shall record this monitoring and inspection data and place the records in the operating log required by s. NR 664.0073.

NR 664.0351 Closure. At closure the owner or operator shall remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters and scrubber sludges) from the incinerator site.

Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate, according to s. NR 661.03(4), that the residue removed from the incinerator is not hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it according to the applicable requirements of chs. NR 662 to 666.

Subchapter S —Special Provisions for Cleanup

NR 664.0550 Applicability of corrective action management unit (CAMU) rules. (1) Except as provided in sub. (2), CAMUs are subject to the requirements of s. NR 664.0552.

(2) CAMUs that were approved before April 22, 2002, or for which substantially complete applications (or equivalents) were submitted to the department on or before November 20, 2000, are subject to the requirements in s. NR 664.0551 for grandfathered CAMUs; CAMU waste, activities and design will not be subject to the standards in s. NR 664.0552, so long as the waste, activities and design remain within the general scope of the CAMU as approved.

NR 664.0551 Grandfathered corrective action management units (CAMUs). (1) To implement remedies under s. NR 664.0101 or s. 291.37, Stats., or to implement remedies at a licensed facility that is not subject to s. NR 664.0101, the department may designate an area at the facility as a corrective action management unit under the requirements in this section. In this section, ”Corrective action management unit” or “CAMU” means an area within a facility that is used only for managing remediation wastes for implementing corrective action or cleanup at the facility. A CAMU shall be located within the contiguous property under the control of the owner or operator where the wastes to be managed in the CAMU originated. One or more CAMUs may be designated at a facility.

(a) Placement of remediation wastes into or within a CAMU does not constitute land disposal of hazardous wastes.

(b) Consolidation or placement of remediation wastes into or within a CAMU does not constitute creation of a unit subject to minimum technology requirements.

(2)(a) The department may designate a regulated unit (as defined in s. NR 664.0090(1)(b)) as a CAMU, or may incorporate a regulated unit into a CAMU, if all of the following apply:

1. The regulated unit is closed or closing, meaning it has begun the closure process under s. NR 664.0113 or 665.0113.

2. Inclusion of the regulated unit will enhance implementation of effective, protective and reliable remedial actions for the facility.

(b) The subchs. F, G and H requirements and the unit-specific requirements of this chapter or ch. NR 665 that applied to that regulated unit will continue to apply to that portion of the CAMU after incorporation into the CAMU.

(3) The department shall designate a CAMU in accordance with all of the following:

(a) The CAMU shall facilitate the implementation of reliable, effective, protective and cost-effective remedies.

(b) Waste management activities associated with the CAMU may not create unacceptable risks to humans or to the environment resulting from exposure to hazardous wastes or hazardous constituents.

(c) The CAMU shall include uncontaminated areas of the facility, only if including the areas for the purpose of managing remediation waste is more protective than management of the wastes at contaminated areas of the facility.

(d) Areas within the CAMU, where wastes remain in place after closure of the CAMU, shall be managed and contained so as to minimize future releases, to the extent practicable.

(e) The CAMU shall expedite the timing of remedial activity implementation, when appropriate and practicable.

(f) The CAMU shall enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long-term effectiveness of remedial actions by reducing the toxicity, mobility or volume of wastes that will remain in place after closure of the CAMU.

(g) The CAMU shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the CAMU.

(4) The owner or operator shall provide sufficient information to enable the department to designate a CAMU in accordance with the criteria in s. NR 664.0552.

(5) The department shall specify, in the license or order, requirements for CAMUs to include all of the following:

(a) The areal configuration of the CAMU.

(b) Requirements for remediation waste management to include the specification of applicable design, operation and closure requirements.

(c) Requirements for groundwater monitoring that are sufficient to do all of the following:

1. Continue to detect and to characterize the nature, extent, concentration, direction and movement of existing releases of hazardous constituents in groundwater from sources located within the CAMU.

2. Detect and subsequently characterize releases of hazardous constituents to groundwater that may occur from areas of the CAMU in which wastes will remain in place after closure of the CAMU.

(d) Closure and long-term care requirements.

1. Closure of corrective action management units shall do all of the following:

a. Minimize the need for further maintenance.

b. Control, minimize or eliminate, to the extent necessary to protect human health and the environment, for areas where wastes remain in place, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff or hazardous waste decomposition products to the ground, to surface waters or to the atmosphere.

2. Requirements for closure of CAMUs shall include the following, as appropriate and as deemed necessary by the department for a given CAMU:

a. Requirements for excavation, removal, treatment or containment of wastes.

b. For areas in which wastes will remain after closure of the CAMU, requirements for capping of the areas.

c. Requirements for removal and decontamination of equipment, devices and structures used in remediation waste management activities within the CAMU.

3. In establishing specific closure requirements for CAMUs under s. NR 664.0552(5), the department shall consider all of the following factors:

a. CAMU characteristics.

b. Volume of wastes which remain in place after closure.

c. Potential for releases from the CAMU.

d. Physical and chemical characteristics of the waste.

e. Hydrogeological and other relevant environmental conditions at the facility which may influence the migration of any potential or actual releases.

f. Potential for exposure of humans and environmental receptors if releases were to occur from the CAMU.

4. Long-term care requirements as necessary to protect human health and the environment, to include, for areas where wastes will remain in place, monitoring and maintenance activities and the frequency with which the activities shall be performed to ensure the integrity of any cap, final cover or other containment system.

(6) The department shall document the rationale for designating CAMUs and shall make the documentation available to the public.

(7) Incorporation of a CAMU into an existing license shall be approved by the department according to the procedures for department-initiated license modifications under s. NR 670.041, or according to the license modification procedures of s. NR 670.042.

(8) The designation of a CAMU does not change the department's existing authority to address clean-up levels, media-specific points of compliance to be applied to remediation at a facility or other remedy selection decisions.

NR 664.0552 Corrective action management units (CAMUs). (1) To implement remedies under s. NR 664.0101 or ss. 291.37 and 291.97(1), Stats., or to implement remedies at a licensed facility that is not subject to s. NR 664.0101, the department may designate an area at the facility as a corrective action management unit under the requirements in this section. In this section, "corrective action management unit" or "CAMU" means an area within a facility that is used only for managing CAMU-eligible wastes for implementing corrective action or cleanup at the facility. A CAMU shall be located within the contiguous property under the control of the owner or operator where the wastes to be managed in the CAMU originated. One or more CAMUs may be designated at a facility.

(a) In this section, "CAMU-eligible waste" means all of the following:

1. All solid and hazardous wastes, and all media (including groundwater, surface water, soils and sediments) and debris, that are managed for implementing cleanup. As-generated wastes (either hazardous or non-hazardous) from ongoing industrial operations at a site are not CAMU-eligible wastes.

2. Wastes that would otherwise meet the description in subd. 1. are not CAMU-eligible wastes if any of the following apply:

a. The wastes are hazardous wastes found during cleanup in intact or substantially intact containers, tanks or other non-land-based units found above ground, unless the wastes are first placed in the tanks, containers or non-land-based units as part of cleanup, or the containers or tanks are excavated during the course of cleanup.

b. The department exercises the discretion in par. (b) to prohibit the wastes from management in a CAMU.

3. Notwithstanding subd. 1., where appropriate, as-generated non-hazardous waste may be placed in a CAMU, where the waste is being used to facilitate treatment or the performance of the CAMU.

(b) The department may prohibit, where appropriate, the placement of waste in a CAMU where the department has or receives information that the wastes have not been managed in compliance with applicable land disposal treatment standards of ch. NR 668, or applicable unit design requirements of this chapter or applicable unit design requirements of ch. NR 665, or that non-compliance with other applicable requirements of chs. NR 660 to 673 likely contributed to the release of the waste.

(c) Prohibition against placing liquids in CAMUs. 1. The placement of bulk or noncontainerized liquid hazardous waste or free liquids contained in hazardous waste, whether or not sorbents have been added, in any CAMU is prohibited except where placement of the wastes facilitates the remedy selected for the waste.

2. The requirements in s. NR 664.0314(4) for placement of containers holding free liquids in landfills apply to placement in a CAMU except where placement facilitates the remedy selected for the waste.

3. The placement of any liquid which is not a hazardous waste in a CAMU is prohibited unless the placement facilitates the remedy selected for the waste or a demonstration is made pursuant to s. NR 664.0314(6).

4. The absence or presence of free liquids in either a containerized or a bulk waste shall be determined in accordance with s. NR 664.0314(3). Sorbents used to treat free liquids in CAMUs shall meet the requirements of s. NR 664.0314(5).

(d) Placement of CAMU-eligible wastes into or within a CAMU does not constitute land disposal of hazardous wastes.

(e) Consolidation or placement of CAMU-eligible wastes into or within a CAMU does not constitute creation of a unit subject to minimum technology requirements.

(2)(a) The department may designate a regulated unit (as defined in s. NR 664.0090(1)(b)) as a CAMU, or may incorporate a regulated unit into a CAMU, if all of the following apply:

1. The regulated unit is closed or closing, meaning it has begun the closure process under s. NR 664.0113 or 665.0113.

2. Inclusion of the regulated unit will enhance implementation of effective, protective and reliable remedial actions for the facility.

(b) The subchs. F, G and H requirements and the unit-specific requirements of this chapter or ch. NR 665 that applied to the regulated unit will continue to apply to that portion of the CAMU after incorporation into the CAMU.

(3) The department shall designate a CAMU that will be used for storage or treatment only in accordance with sub. (6). The department shall designate all other CAMUs in accordance with all of the following:

(a) The CAMU shall facilitate the implementation of reliable, effective, protective and cost-effective remedies.

(b) Waste management activities associated with the CAMU may not create unacceptable risks to humans or to the environment resulting from exposure to hazardous wastes or hazardous constituents.

(c) The CAMU shall include uncontaminated areas of the facility, only if including the areas for the purpose of managing CAMU-eligible waste is more protective than management of the wastes at contaminated areas of the facility.

(d) Areas within the CAMU, where wastes remain in place after closure of the CAMU, shall be managed and contained so as to minimize future releases, to the extent practicable.

(e) The CAMU shall expedite the timing of remedial activity implementation, when appropriate and practicable.

(f) The CAMU shall enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long-term effectiveness of remedial actions by reducing the toxicity, mobility or volume of wastes that will remain in place after closure of the CAMU.

(g) The CAMU shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the CAMU.

(4) The owner or operator shall provide sufficient information to enable the department to designate a CAMU in accordance with the criteria in this section. This shall include, unless not reasonably available, information on all of the following:

(a) The origin of the waste and how it was subsequently managed (including a description of the timing and circumstances surrounding the disposal or release).

(b) Whether the waste was listed or identified as hazardous at the time of disposal or release.

(c) Whether the disposal or release of the waste occurred before or after the land disposal requirements of ch. NR 668 were in effect for the waste listing or characteristic.

(5) The department shall specify, in the license or order, requirements for CAMUs to include all of the following:

(a) *Areal configuration requirements.* The areal configuration of the CAMU.

(b) *Design, operation, treatment and closure requirements.* Except as provided in sub. (7), requirements for CAMU-eligible waste management to include the specification of applicable design, operation, treatment and closure requirements.

(c) *Minimum design requirements.* Except as provided in sub. (6), CAMUs into which wastes are placed shall be designed in accordance with all of the following requirements:

1. Unless the department approves alternate requirements under subd. 2., CAMUs that consist of new, replacement or laterally expanded units shall include a composite liner and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner. In this section, ”composite liner” means a system consisting of 2 components; the upper component shall consist of a minimum 30-mil flexible membrane liner (FML), and the lower component shall consist of at least a

2-foot layer of compacted soil with a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec. FML components consisting of high density polyethylene (HDPE) shall be at least 60 mil thick. The FML component shall be installed in direct and uniform contact with the compacted soil component.

2. The department may approve alternate requirements if any of the following apply:

a. The department finds that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents into the groundwater or surface water at least as effectively as the liner and leachate collection systems in subd. 1.

b. The CAMU is to be established in an area with existing significant levels of contamination, and the department finds that an alternative design, including a design that does not include a liner, would prevent migration from the unit that would exceed long-term remedial goals.

(d) *Minimum treatment requirements.* Unless the wastes will be placed in a CAMU for storage or treatment only in accordance with sub. (6), CAMU-eligible wastes that, absent this section, would be subject to the treatment requirements of ch. NR 668, and that the department determines contain principal hazardous constituents shall be treated to the standards specified in subd. 3.

1. Principal hazardous constituents are those constituents that the department determines pose a risk to human health and the environment substantially higher than the cleanup levels or goals at the site.

a. In general, the department will designate as principal hazardous constituents all of the following:

1) Carcinogens that pose a potential direct risk from ingestion or inhalation at the site at or above 10^{-3}.

2) Non-carcinogens that pose a potential direct risk from ingestion or inhalation at the site an order of magnitude or greater over their reference dose.

b. The department will also designate constituents as principal hazardous constituents, where appropriate, when risks to human health and the environment posed by the potential migration of constituents in wastes to groundwater are substantially higher than cleanup levels or goals at the site; when making such a designation, the department may consider factors such as constituent concentrations, and fate and transport characteristics under site conditions.

c. The department may also designate other constituents as principal hazardous constituents that the department determines pose a risk to human health and the environment substantially higher than the cleanup levels or goals at the site.

2. In determining which constituents are ”principal hazardous constituents”, the department shall consider all constituents which, absent this section, would be subject to the treatment requirements in ch. NR 668.

3. Waste that the department determines contains principal hazardous constituents shall meet treatment standards determined in accordance with subd. 4. or 5.

4. The following treatment standards apply to wastes placed in CAMUs:

a. For non-metals, treatment shall achieve 90% reduction in total principal hazardous constituent concentrations, except as provided by subd. 4.c.

b. For metals, treatment shall achieve 90% reduction in principal hazardous constituent concentrations as measured in leachate from the treated waste or media (tested according to the TCLP) or 90% reduction in total constituent concentrations (when a metal removal treatment technology is used), except as provided by subd. 4.c.

c. When treatment of any principal hazardous constituent to a 90% reduction standard would result in a concentration less than 10 times the universal treatment standard for that constituent, treatment to achieve constituent concentrations less than 10 times the universal treatment standard is not required. Universal treatment standards are identified in s. NR 668.48, Table UTS.

d. For waste exhibiting the hazardous characteristic of ignitability, corrosivity or reactivity, the waste shall also be treated to eliminate these characteristics.

e. For debris, the debris shall be treated in accordance with s. NR 668.45, or by methods or to levels established under subd. 4.a. to d. or 5., whichever the department determines is appropriate.

f. For metal bearing wastes for which metals removal treatment is not used, the department may specify a leaching test other than the TCLP (method 1311 of EPA SW-846, incorporated by reference in s. NR 660.11) to measure treatment effectiveness, provided the department determines that an alternative leach testing protocol is appropriate for use, and that the alternative more accurately reflects conditions at the site that affect leaching.

5. The department may adjust the treatment level or method in subd. 4. to a higher or lower level, based on one or more of the following factors, as appropriate. The adjusted level or method shall be protective of human health and the environment:

a. The technical impracticability of treatment to the levels or by the methods in subd. 4.

b. The levels or methods in subd. 4. would result in concentrations of principal hazardous constituents (PHCs) that are significantly above or below cleanup standards applicable to the site (established either site-specifically, or promulgated under state or federal law).

c. The views of the affected local community on the treatment levels or methods in subd. 4. as applied at the site, and, for treatment levels, the treatment methods necessary to achieve these levels.

d. The short-term risks presented by the on-site treatment method necessary to achieve the levels or treatment methods in subd. 4.

e. The long-term protection offered by the engineering design of the CAMU and related engineering controls where any of the following apply:

1) The treatment standards in subd. 4. are substantially met and the principal hazardous constituents in the waste or residuals are of very low mobility.

2) Cost-effective treatment has been used and the CAMU meets the liner and leachate collection requirements for new land disposal units at s. NR 664.0301(3) and (4).

3) After review of appropriate treatment technologies, the department determines that cost-effective treatment is not reasonably available, and the CAMU meets the liner and leachate collection requirements for new land disposal units at s. NR 664.0301(3) and (4).

4) Cost-effective treatment has been used and the principal hazardous constituents in the treated wastes are of very low mobility.

5) After review of appropriate treatment technologies, the department determines that cost-effective treatment is not reasonably available, the principal hazardous constituents in the wastes are of very low mobility and either the CAMU meets or exceeds the liner standards for new, replacement or laterally expanded CAMUs in par. (c)1. and 2. or the CAMU provides substantially equivalent or greater protection.

6. The treatment required by the treatment standards shall be completed prior to, or within a reasonable time after, placement in the CAMU.

7. For the purpose of determining whether wastes placed in CAMUs have met site-specific treatment standards, the department may, as appropriate, specify a subset of the principal hazardous constituents in the waste as analytical surrogates for determining whether treatment standards have been met for other principal hazardous constituents. This specification will be based on the degree of difficulty of treatment and analysis of constituents with similar treatment properties.

(e) *Groundwater monitoring and corrective action requirements.* Except as provided in sub. (6), requirements for groundwater monitoring and corrective action that are sufficient to do all of the following:

1. Continue to detect and to characterize the nature, extent, concentration, direction and movement of existing releases of hazardous constituents in groundwater from sources located within the CAMU.

2. Detect and subsequently characterize releases of hazardous constituents to groundwater that may occur from areas of the CAMU in which wastes will remain in place after closure of the CAMU.

3. Require notification to the department and corrective action as necessary to protect human health and the environment for releases to groundwater from the CAMU.

(f) *Closure and long-term care requirements.* Except as provided in sub. (6), all of the following closure and long-term care requirements:

1. Closure of corrective action management units shall do all of the following:

a. Minimize the need for further maintenance.

b. Control, minimize or eliminate, to the extent necessary to protect human health and the environment, for areas where wastes remain in place, post-closure escape of hazardous wastes, hazardous constituents, leachate, contaminated runoff or hazardous waste decomposition products to the ground, surface waters or the atmosphere.

2. Requirements for closure of CAMUs shall include the following, as appropriate and as deemed necessary by the department for a given CAMU:

a. Requirements for excavation, removal, treatment or containment of wastes.

b. Requirements for removal and decontamination of equipment, devices and structures used in CAMU-eligible waste management activities within the CAMU.

3. In establishing specific closure requirements for CAMUs under this subsection, the department shall consider all of the following factors:

a. CAMU characteristics.

b. Volume of wastes which remain in place after closure.

c. Potential for releases from the CAMU.

d. Physical and chemical characteristics of the waste.

e. Hydrogeological and other relevant environmental conditions at the facility which may influence the migration of any potential or actual releases.

f. Potential for exposure of humans and environmental receptors if releases were to occur from the CAMU.

4. Cap requirements:

a. At final closure of the CAMU, for areas in which wastes will remain after closure of the CAMU, with constituent concentrations at or above remedial levels or goals applicable to the site, the owner or operator shall cover the CAMU with a final cover designed and constructed to meet all of the following performance criteria, except as provided in subd. 4.b.:

1) Provide long-term minimization of migration of liquids through the closed unit.

2) Function with minimum maintenance.

3) Promote drainage and minimize erosion or abrasion of the cover.

4) Accommodate settling and subsidence so that the cover's integrity is maintained.

5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

b. The department may determine that modifications to the cap requirements of subd. 4.a. are needed to facilitate treatment or the performance of the CAMU (e.g., to promote biodegradation).

5. Long-term care requirements as necessary to protect human health and the environment, to include, for areas where wastes will remain in place, monitoring and maintenance activities and the frequency with which the activities shall be performed to ensure the integrity of any cap, final cover or other containment system.

(6) In this section, "CAMUs that are used for storage or treatment only" means CAMUs in which wastes will not remain after closure. Those CAMUs shall be designated in accordance with all of the requirements of this section, except as follows.

(a) CAMUs that are used for storage or treatment only and that operate according to the time limits established in the staging pile rules at s. NR 664.0554(4)(a)3., (8) and (9) are subject to the requirements for staging piles at s. NR 664.0554(4)(a)1. and 2. and (b), (5), (6), (10) and (11) in lieu of the performance standards and requirements for CAMUs in subs. (3) and (5)(c) to (f).

(b) CAMUs that are used for storage or treatment only and that do not operate according to the time limits established in the staging pile rules at s. NR 664.0554(4)(a)3., (8) and (9):

1. Shall operate in accordance with a time limit, established by the department, that is no longer than necessary to achieve a timely remedy selected for the waste.

2. Are subject to the requirements for staging piles at s. NR 664.0554(4)(a)1. and 2. and (b), (5), (6), (10) and (11) in lieu of the performance standards and requirements for CAMUs in subs. (3) and (5)(d) and (f).

(7) CAMUs into which wastes are placed where all wastes have constituent levels at or below remedial levels or goals applicable to the site do not have to comply with the requirements for liners at sub. (5)(c)1., caps at sub. (5)(f)4., groundwater monitoring requirements at sub. (5)(e) or, for treatment or storage-only CAMUs, the design standards at sub. (6).

(8) The department shall provide public notice and a reasonable opportunity for public comment before designating a CAMU. The notice shall include the rationale for any proposed adjustments under sub. (5)(d)5. to the treatment standards in sub. (5)(d)4.

(9) Notwithstanding any other provision of this section, the department may impose additional requirements as necessary to protect human health and the environment.

(10) Incorporation of a CAMU into an existing license shall be approved by the department according to the procedures for department-initiated license modifications under s. NR 670.041, or according to the license modification procedures of s. NR 670.042.

(11) The designation of a CAMU does not change the department's existing authority to address clean-up levels, media-specific points of compliance to be applied to remediation at a facility or other remedy selection decisions.

NR 664.0553 Temporary units (TUs). (1) For temporary tanks and container storage areas used to treat or store hazardous remediation wastes during remedial activities required under s. NR 664.0101 or ss. 291.37 and 291.97(1), Stats., or at a licensed facility that is not subject to s. NR 664.0101, the department may designate a unit at the facility as a temporary unit. A temporary unit shall be located within the contiguous property under the control of the owner or operator where the wastes to be managed in the temporary unit originated. For temporary units, the department may replace the design, operating or closure standard applicable to these units under this chapter or ch. NR 665 with alternative requirements which protect human health and the environment.

(2) Any temporary unit to which alternative requirements are applied in accordance with sub. (1) shall be all of the following:

(a) Located within the facility boundary.

(b) Used only for treatment or storage of remediation wastes.

(3) In establishing standards to be applied to a temporary unit, the department shall consider all of the following factors:

(a) Length of time the unit will be in operation.

(b) Type of unit.

(c) Volumes of wastes to be managed.

(d) Physical and chemical characteristics of the wastes to be managed in the unit.

(e) Potential for releases from the unit.

(f) Hydrogeological and other relevant environmental conditions at the facility which may influence the migration of any potential releases.

(g) Potential for exposure of humans and environmental receptors if releases were to occur from the unit.

(4) The department shall specify in the license or order the length of time a temporary unit will be allowed to operate, to be no longer than a period of one year. The department shall also specify the design, operating and closure requirements for the unit.

(5) The department may extend the operational period of a temporary unit once for no longer than a period of one year beyond that originally specified in the license or order, if the department determines that all of the following apply:

(a) Continued operation of the unit will not pose a threat to human health and the environment.

(b) Continued operation of the unit is necessary to ensure timely and efficient implementation of remedial actions at the facility.

(6) Incorporation of a temporary unit or a time extension for a temporary unit into an existing license shall be any of the following:

(a) Approved in accordance with the procedures for department-initiated license modifications under s. NR 670.041.

(b) Requested by the owner or operator as a class II modification according to the procedures under s. NR 670.042.

(7) The department shall document the rationale for designating a temporary unit and for granting time extensions for temporary units and shall make the documentation available to the public.

NR 664.0554 Staging piles. This section is written in a special format to make it easier to understand the rule requirements. Like other department rules, this section establishes enforceable legal requirements. In this section, ”I” and ”you” refer to the owner or operator.

(1) WHAT IS A STAGING PILE? A staging pile is an accumulation of solid, non-flowing remediation waste (as defined in s. NR 660.10) that is not a containment building and is used only during remedial operations for temporary storage at a facility. A staging pile shall be located within the contiguous property under the control of the owner or operator where the wastes to be managed in the staging pile originated. The department shall designate staging piles according to the requirements in this section. For the purposes of this section, ”storage” includes mixing, sizing, blending or other similar physical operations as long as they are intended to prepare the wastes for subsequent management or treatment.

(2) WHEN MAY I USE A STAGING PILE? You may use a staging pile to store hazardous remediation waste (or remediation waste otherwise subject to land disposal restrictions) only if you follow the standards and design criteria the department has designated for that staging pile. The department shall designate the staging pile in a license or, at an interim license facility, in a license, closure plan or order (consistent with s. NR 670.072(1)(e) and (2)(e)). The department shall establish conditions in the license, closure plan or order that comply with subs. (4) to (11).

(3) WHAT INFORMATION MUST I PROVIDE TO GET A STAGING PILE DESIGNATED? When seeking a staging pile designation, you shall provide all of the following:

(a) Sufficient and accurate information to enable the department to impose standards and design criteria for your staging pile according to subs. (4) to (11).

(b) Certification by an independent, qualified, registered professional engineer for technical data, such as design drawings and specifications, and engineering studies, unless the department determines, based on information that you provide, that this certification is not necessary to ensure that a staging pile will protect human health and the environment.

(c) Any additional information the department determines is necessary to protect human health and the environment.

(4) WHAT PERFORMANCE CRITERIA MUST A STAGING PILE SATISFY? The department shall establish the standards and design criteria for the staging pile in the license, closure plan or order.

(a) The standards and design criteria shall comply with all of the following:

1. The staging pile shall facilitate a reliable, effective and protective remedy.

2. The staging pile shall be designed so as to prevent or minimize releases of hazardous wastes and hazardous constituents into the environment, and minimize or adequately control cross-media transfer, as necessary to protect human health and the environment (for example, through the use of liners, covers, run-off or run-on controls, as appropriate).

3. The staging pile may not operate for more than 2 years, except when the department grants an operating term extension under sub. (9). You shall measure the 2-year limit, or other operating term specified by the department in the license, closure plan or order, from the first time you place remediation

waste into a staging pile. You shall maintain a record of the date when you first placed remediation waste into the staging pile for the life of the license, closure plan, or order, or for 3 years, whichever is longer.

(b) In setting the standards and design criteria, the department shall consider all of the following factors:

1. Length of time the pile will be in operation.
2. Volumes of wastes you intend to store in the pile.
3. Physical and chemical characteristics of the wastes to be stored in the unit.
4. Potential for releases from the unit.
5. Hydrogeological and other relevant environmental conditions at the facility that may influence the migration of any potential releases.
6. Potential for human and environmental exposure to potential releases from the unit.

(5) MAY A STAGING PILE RECEIVE IGNITABLE OR REACTIVE REMEDIATION WASTE? You may not place ignitable or reactive remediation waste in a staging pile unless par. (a) or (b) applies:

(a) You have treated, rendered or mixed the remediation waste before you placed it in the staging pile so that both of the following apply:

1. The remediation waste no longer meets the definition of ignitable or reactive under s. NR 661.21 or 661.23.
2. You have complied with s. NR 664.0017(2).

(b) You manage the remediation waste to protect it from exposure to any material or condition that may cause it to ignite or react.

(6) HOW DO I HANDLE INCOMPATIBLE REMEDIATION WASTES IN A STAGING PILE? The term ”incompatible waste” is defined in s. NR 660.10. You shall comply with all of the following requirements for incompatible wastes in staging piles:

(a) You may not place incompatible remediation wastes in the same staging pile unless you have complied with s. NR 664.0017(2).

(b) If remediation waste in a staging pile is incompatible with any waste or material stored nearby in containers, other piles, open tanks or land disposal units (for example, surface impoundments), you shall separate the incompatible materials, or protect them from one another by using a dike, berm, wall or other device.

(c) You may not pile remediation waste on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to comply with s. NR 664.0017(2).

(7) ARE STAGING PILES SUBJECT TO THE LAND DISPOSAL RESTRICTIONS IN CH. NR 668 AND THE MINIMUM TECHNOLOGICAL REQUIREMENTS? No. Placing hazardous remediation wastes into a staging pile does not constitute land disposal of hazardous wastes or create a unit that is subject to the minimum technological requirements in s. NR 664.0221, 664.0251, 664.0301, 665.0221, 665.0254 or 665.0301.

Note: The original source for the minimum technological requirements is 42 USC 6924(o).

(8) HOW LONG MAY I OPERATE A STAGING PILE? The department may allow a staging pile to operate for up to 2 years after hazardous remediation waste is first placed into the pile. You shall use a staging pile no longer than the length of time designated by the department in the license, closure plan or order (the ”operating term”), except as provided in sub. (9).

(9) MAY I RECEIVE AN OPERATING EXTENSION FOR A STAGING PILE? (a) The department may grant one operating term extension of up to 180 days beyond the operating term limit contained in the license, closure plan or order (see sub. (12) for modification procedures). To justify to the department the need for an extension, you shall provide sufficient and accurate information to enable the department to determine that continued operation of the staging pile will do all of the following:

1. Will not pose a threat to human health and the environment.
2. Is necessary to ensure timely and efficient implementation of remedial actions at the facility.

(b) The department may, as a condition of the extension, specify further standards and design criteria in the license, closure plan or order, as necessary, to ensure protection of human health and the environment.

(10) WHAT IS THE CLOSURE REQUIREMENT FOR A STAGING PILE LOCATED IN A PREVIOUSLY CONTAMINATED AREA? (a) Within 180 days after the operating term of the staging pile expires, you shall close a staging pile located in a previously contaminated area of the site by removing or decontaminating all of the following:

1. Remediation waste.
2. Contaminated containment system components.
3. Structures and equipment contaminated with waste and leachate.

(b) You shall also decontaminate contaminated subsoils in a manner and according to a schedule that the department determines will protect human health and the environment.

(c) The department shall include the requirements of pars. (a) and (b) in the license, closure plan or order in which the staging pile is designated.

(11) WHAT IS THE CLOSURE REQUIREMENT FOR A STAGING PILE LOCATED IN AN UNCONTAMINATED AREA? (a) Within 180 days after the operating term of the staging pile expires, you shall close a staging pile located in an uncontaminated area of the site according to ss. NR 664.0258(1) and 664.0111, or according to ss. NR 665.0258(1) and 665.0111.

(b) The department shall include the requirement of par. (a) in the license, closure plan or order in which the staging pile is designated.

(12) HOW MAY MY EXISTING LICENSE (FOR EXAMPLE, REMEDIATION VARIANCE), CLOSURE PLAN OR ORDER BE MODIFIED TO ALLOW ME TO USE A STAGING PILE? (a) To modify a license, other than a remediation variance, to incorporate a staging pile or staging pile operating term extension, either:

1. The department shall approve the modification under the procedures for department-initiated license modifications in s. NR 670.041.
2. You shall request a class 2 modification under s. NR 670.042.

(b) To modify a remediation variance to incorporate a staging pile or staging pile operating term extension, you shall resubmit the remediation variance application required under s. NR 670.079.

(c) To modify a closure plan to incorporate a staging pile or staging pile operating term extension, you shall follow the applicable requirements under s. NR 664.0112(3) or 665.0112(3).

(d) To modify an order to incorporate a staging pile or staging pile operating term extension, you shall follow the terms of the order and the applicable provisions of s. NR 670.072(1)(e) or (2)(e).

(13) IS INFORMATION ABOUT THE STAGING PILE AVAILABLE TO THE PUBLIC? The department shall document the rationale for designating a staging pile or staging pile operating term extension and make this documentation available to the public.

NR 664.0555 Disposal of CAMU-eligible wastes in licensed or permitted hazardous waste landfills. (1) The department may approve placement of CAMU-eligible wastes in hazardous waste landfills not located at the site from which the waste originated, without the wastes meeting the requirements of ch. NR 668, if all of the following conditions are met:

(a) The waste meets the definition of CAMU-eligible waste in s. NR 664.0552(1)(a) and (b).

(b) The department identifies principal hazardous constituents in the waste, in accordance with s. NR 664.0552(5)(d)1. and 2., and requires that the principal hazardous constituents are treated to any of the following standards specified for CAMU-eligible wastes:

1. The treatment standards under s. NR 664.0552(5)(d)4.
2. Treatment standards adjusted in accordance with s. NR 664.0552(5)(d)5.a., c., d. or e.1).
3. Treatment standards adjusted in accordance with s. NR 664.0552(5)(d)5.e.2), where treatment has been used and that treatment significantly reduces the toxicity or mobility of the principal hazardous constituents in the waste, minimizing the short-term and long-term threat posed by the waste, including the threat at the remediation site.

(c) The landfill receiving the CAMU-eligible waste shall have a hazardous waste license or permit, meet the requirements for new landfills in subch. N, and be authorized to accept CAMU-eligible wastes; for the purposes of this requirement, ”license or permit” does not include an interim license or permit.

(2) The person seeking approval shall provide sufficient information to enable the department to approve placement of CAMU-eligible waste in accordance with sub. (1). Information required by s. NR 664.0552(4)(a) to (c) for CAMU applications shall be provided, unless not reasonably available.

(3) The department shall provide public notice and a reasonable opportunity for public comment before approving CAMU-eligible waste for placement in an off-site licensed or permitted hazardous waste landfill, consistent with the requirements for CAMU approval at s. NR 664.0552(8). The approval shall be specific to a single remediation.

(4) Applicable hazardous waste management requirements in this chapter, including recordkeeping requirements to demonstrate compliance with treatment standards approved under this section, for CAMU-eligible waste shall be incorporated into the receiving facility license or permit through license or permit issuance or a license or permit modification, providing notice and an opportunity for comment and a hearing. Notwithstanding s. NR 670.004(1), a landfill may not receive hazardous CAMU-eligible waste under this section unless its license or permit specifically authorizes receipt of the waste.

(5) For each remediation, CAMU-eligible waste may not be placed in an off-site landfill authorized to receive CAMU-eligible waste in accordance with sub. (4) until all of the following additional conditions have been met:

(a) The landfill owner or operator notifies the department and persons on the facility mailing list, maintained in accordance with s. NR 670.410(3)(a)9., of the owner or operator’s intent to receive CAMU-eligible waste in accordance with this section; the notice shall identify the source of the remediation waste, the principal hazardous constituents in the waste and treatment requirements.

(b) Persons on the facility mailing list may provide comments, including objections to the receipt of the CAMU-eligible waste, to the department within 15 days of notification.

(c) The department may object to the placement of the CAMU-eligible waste in the landfill within 30 days of notification; the department may extend the review period an additional 30 days because of public concerns or insufficient information.

(d) CAMU-eligible wastes may not be placed in the landfill until the department has notified the facility owner or operator that the department does not object to its placement.

(e) If the department objects to the placement or does not notify the facility owner or operator that the department has chosen not to object, the facility may not receive the waste, notwithstanding s. NR 670.004(1), until the objection has been resolved, or the owner or operator obtains a license or permit modification in accordance with the procedures of s. NR 670.042 specifically authorizing receipt of the waste.

(f) As part of the license or permit issuance or license or permit modification process of sub. (4), the department may modify, reduce or eliminate the notification requirements of this subsection as they apply to specific categories of CAMU-eligible waste, based on minimal risk.

(6) Generators of CAMU-eligible wastes sent off-site to a hazardous waste landfill under this section shall comply with the requirements of s. NR 668.07(1)(d); off-site facilities treating CAMU-eligible wastes to comply with this section shall comply with the requirements of s. NR 668.07(2)(d) or 40 CFR 268.7(b)(4), except that the certification shall be with respect to the treatment requirements of sub. (1)(b).

(7) For the purposes of this section only, the ”design of the CAMU” in s. NR 664.0552(5)(d)5.e. means design of the licensed or permitted hazardous waste landfill.

Subchapter W —Drip Pads

NR 664.0570 Applicability. (1) The requirements of this subchapter apply to owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation or surface water run-off to an associated collection system. Existing drip pads are those constructed before June 1,

1995 and those for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to June 1, 1995. All other drip pads are new drip pads.

(2) The owner or operator of any drip pad that is inside or under a structure that provides protection from precipitation so that neither run-off nor run-on is generated is not regulated under s. NR 664.0573(5) or (6), as appropriate.

(3) The requirements of this subchapter are not applicable to the management of infrequent and incidental drippage in storage yards provided that the owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of the infrequent and incidental drippage. At a minimum, the contingency plan shall describe how the owner or operator will do all of the following:

(a) Clean up the drippage.

(b) Document the cleanup of the drippage.

(c) Retain documents regarding cleanup for 3 years.

(d) Manage the contaminated media in a manner consistent with state rules.

NR 664.0571 Assessment of existing drip pad integrity. (1) For each existing drip pad as defined in s. NR 664.0570, the owner or operator shall evaluate the drip pad and determine that it meets all of the requirements of this subchapter, except the requirements for liners and leak detection systems of s. NR 664.0573(2). No later than June 1, 1995, the owner or operator shall obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an independent, qualified registered professional engineer that attests to the results of the evaluation. The assessment shall be reviewed, updated and re-certified annually until all upgrades, repairs or modifications necessary to achieve compliance with all of the standards of s. NR 664.0573 are complete. The evaluation shall document the extent to which the drip pad meets each of the design and operating standards of s. NR 664.0573, except the standards for liners and leak detection systems, specified in s. NR 664.0573(2).

(2) The owner or operator shall develop a written plan for upgrading, repairing and modifying the drip pad to meet the requirements of s. NR 664.0573(2), and submit the plan to the department no later than 2 years before the date that all repairs, upgrades and modifications are complete. This written plan shall describe all changes to be made to the drip pad in sufficient detail to document compliance with all the requirements of s. NR 664.0573. The plan shall be reviewed and certified by an independent qualified registered professional engineer.

(3) Upon completion of all upgrades, repairs and modifications, the owner or operator shall submit to the department, the as-built drawings for the drip pad together with a certification by an independent qualified registered professional engineer attesting that the drip pad conforms to the drawings.

(4) If the drip pad is found to be leaking or unfit for use, the owner or operator shall comply with the provisions of s. NR 664.0573(13) or close the drip pad in accordance with s. NR 664.0575.

NR 664.0572 Design and installation of new drip pads. Owners and operators of new drip pads shall ensure that the pads are designed, installed and operated in accordance with one of the following:

(1) All of the requirements of ss. NR 664.0573 (except s. NR 664.0573(1)(d)), 664.0574 and 664.0575.

(2) All of the requirements of ss. NR 664.0573 (except s. NR 664.0573(2)), 664.0574 and 664.0575.

NR 664.0573 Design and operating requirements. (1) Drip pads shall comply with all of the following:

(a) Be constructed of non-earthen materials, excluding wood and non-structurally supported asphalt.

(b) Be sloped to free-drain treated wood drippage, rain and other waters, or solutions of drippage and water or other wastes to the associated collection system.

(c) Have a curb or berm around the perimeter.

(d)1. Have a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second, e.g., existing concrete drip pads shall be sealed, coated or covered with a surface material with a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second such that the entire surface where drippage occurs or may run across is capable of containing the drippage and mixtures of drippage and precipitation, materials or other wastes while being routed to an associated collection system. This surface material shall be maintained free of cracks and gaps that could adversely affect its hydraulic conductivity, and the material shall be chemically compatible with the preservatives that contact the drip pad. The requirements of this provision apply only to existing drip pads and those drip pads for which the owner or operator elects to comply with s. NR 664.0572(2) instead of s. NR 664.0572(1).

2. The owner or operator shall obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an independent, qualified registered professional engineer that attests to the results of the evaluation. The assessment shall be reviewed, updated and recertified annually. The evaluation shall document the extent to which the drip pad meets the design and operating standards of this section, except for sub. (2).

(e) Be of sufficient structural strength and thickness to prevent failure due to physical contact, climatic conditions and the stress of daily operations, including variable and moving loads such as vehicle traffic or movement of wood.

Note: The department will generally consider applicable standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) or the American Society of Testing and Materials (ASTM) in judging the structural integrity requirement of par. (e).

(2) If an owner or operator elects to comply with s. NR 664.0572(1) instead of s. NR 664.0572(2), the drip pad shall have all of the following:

(a) A synthetic liner installed below the drip pad that is designed, constructed and installed to prevent leakage from the drip pad into the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the drip pad. The liner shall be constructed of materials that will prevent waste from being absorbed into the liner and to prevent releases into the adjacent subsurface soil or groundwater or surface water during the active life of the facility. The liner shall comply with all of the following:

1. Be constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or drip pad leakage to which they are exposed, climatic conditions, the stress of installation and the stress of daily operation (including stresses from vehicular traffic on the drip pad).

2. Be placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift.

3. Be installed to cover all surrounding earth that could come in contact with the waste or leakage.

(b) A leakage detection system immediately above the liner that is designed, constructed, maintained and operated to detect leakage from the drip pad. The leakage detection system shall comply with all of the following:

1. Be constructed of materials that are all of the following:

a. Chemically resistant to the waste managed in the drip pad and the leakage that might be generated.

b. Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying materials and by any equipment used at the drip pad.

2. Be designed and operated to function without clogging through the scheduled closure of the drip pad.

3. Be designed so that it will detect the failure of the drip pad or the presence of a release of hazardous waste or accumulated liquid at the earliest practicable time.

(c) A leakage collection system immediately above the liner that is designed, constructed, maintained and operated to collect leakage from the drip pad such that it can be removed from below the drip pad. The date, time and quantity of any leakage collected in this system and removed shall be documented in the operating log.

(3) Drip pads shall be maintained such that they remain free of cracks, gaps, corrosion or other deterioration that could cause hazardous waste to be released from the drip pad.

Note: See sub. (13) for remedial action required if deterioration or leakage is detected.

(4) The drip pad and associated collection system shall be designed and operated to convey, drain and collect liquid resulting from drippage or precipitation in order to prevent run-off.

(5) Unless protected by a structure, as described in s. NR 664.0570(2), the owner or operator shall design, construct, operate and maintain a run-on control system capable of preventing flow onto the drip pad during peak discharge from at least a 24-hour, 25-year storm, unless the system has sufficient excess capacity to contain any run-off that might enter the system.

(6) Unless protected by a structure or cover as described in s. NR 664.0570(2), the owner or operator shall design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(7) The drip pad shall be evaluated to determine that it meets the requirements of subs. (1) to (6), and the owner or operator shall obtain a statement from an independent, qualified registered professional engineer certifying that the drip pad design meets the requirements of this section.

(8) Drippage and accumulated precipitation shall be removed from the associated collection system as necessary to prevent overflow onto the drip pad.

(9) The drip pad surface shall be cleaned thoroughly in a manner and frequency such that accumulated residues of hazardous waste or other materials are removed, with residues being properly managed as hazardous waste, so as to allow weekly inspections of the entire drip pad surface without interference or hindrance from accumulated residues of hazardous waste or other materials on the drip pad. The owner or operator shall document the date and time of each cleaning and the cleaning procedure used in the facility's operating log. The owner or operator shall determine if the residues are hazardous per s. NR 662.11 and, if so, shall manage them under chs. NR 661 to 668, 670 and s. 291.05(1), Stats.

(10) Drip pads shall be operated and maintained in a manner to minimize tracking of hazardous waste or hazardous waste constituents off the drip pad as a result of activities by personnel or equipment.

(11) After being removed from the treatment vessel, treated wood from pressure and non-pressure processes shall be held on the drip pad until drippage has ceased. The owner or operator shall maintain records sufficient to document that all treated wood is held on the pad following treatment in accordance with this requirement.

(12) Collection and holding units associated with run-on and run-off control systems shall be emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system.

(13) Throughout the active life of the drip pad and as specified in the license, if the owner or operator detects a condition that may have caused or has caused a release of hazardous waste, the condition shall be repaired within a reasonably prompt period of time following discovery, in accordance with all of the following procedures:

(a) Upon detection of a condition that may have caused or has caused a release of hazardous waste (e.g., upon detection of leakage in the leak detection system), the owner or operator shall do all of the following:

1. Enter a record of the discovery in the facility operating log.

2. Immediately remove the portion of the drip pad affected by the condition from service.

3. Determine what steps must be taken to repair the drip pad and clean up any leakage from below the drip pad, and establish a schedule for accomplishing the repairs.

4. Immediately after discovery of the condition, notify the department of the condition and, within 10 working days, provide written notice to the department with a description of the steps that will be taken to repair the drip pad and clean up any leakage, and the schedule for accomplishing this work.

(b) The department will review the information submitted, make a determination regarding whether the pad must be removed from service completely or partially until repairs and clean up are complete and notify the owner or operator of the determination and the underlying rationale in writing.

(c) Upon completing all repairs and clean up, the owner or operator shall notify the department in writing and provide a certification signed by an independent, qualified registered professional engineer, that the repairs and clean up have been completed according to the written plan submitted in accordance with par. (a)4.

(14) Should a license be necessary, the department will specify in the license all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

(15) The owner or operator shall maintain, as part of the facility operating log, documentation of past operating and waste handling practices. This shall include identification of preservative formulations used in the past, a description of drippage management practices and a description of treated wood storage and handling practices.

NR 664.0574 Inspections. (1) During construction or installation, liners and cover systems (e.g., membranes, sheets or coatings) shall be inspected for uniformity, damage and imperfections (e.g., holes, cracks, thin spots or foreign materials). Immediately after construction or installation, liners shall be inspected and certified as meeting the requirements of s. NR 664.0573 by an independent qualified, registered professional engineer. This certification shall be maintained at the facility as part of the facility operating record. After installation, liners and covers shall be inspected to ensure tight seams and joints and the absence of tears, punctures or blisters.

(2) While a drip pad is in operation, it shall be inspected weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunctions or improper operation of run-on and run-off control systems.

(b) The presence of leakage in and proper functioning of the leak detection system.

(c) Deterioration or cracking of the drip pad surface.

Note: See s. NR 664.0573(13) for remedial action required if deterioration or leakage is detected.

NR 664.0575 Closure. (1) At closure, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components (such as pads and liners), contaminated subsoils, and structures and equipment contaminated with waste and leakage, and manage them as hazardous waste.

(2) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components subsoils, structures and equipment as required in sub. (1), the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, the owner or operator shall close the facility and perform long-term care in accordance with closure and long-term care requirements that apply to landfills (s. NR 664.0310). For licensed units, the requirement to have a license continues throughout the long-term care period. In addition, for the purpose of closure, long-term care and financial responsibility, such a drip pad is then considered to be landfill, and the owner or operator shall meet all of the requirements for landfills specified in subchs. G and H.

(3)(a) The owner or operator of an existing drip pad, as defined in s. NR 664.0570, that does not comply with the liner requirements of s. NR 664.0573(2)(a) shall do both of the following:

1. Include in the closure plan for the drip pad under s. NR 664.0112 both a plan for complying with sub. (1) and a contingent plan for complying with sub. (2) in case not all contaminated subsoils can be practicably removed at closure.

2. Prepare a contingent long-term care plan under s. NR 664.0118 for complying with sub. (2) in case not all contaminated subsoils can be practicably removed at closure.

(b) The cost estimates calculated under ss. NR 664.0112 and 664.0144 for closure and long-term care of a drip pad subject to this subsection shall include the cost of complying with the contingent closure plan and the contingent long-term care plan, but are not required to include the cost of expected closure under sub. (1).

Subchapter X —Miscellaneous Units

NR 664.0600 Applicability. The requirements in this subchapter apply to owners and operators of facilities that treat, store or dispose of hazardous waste in miscellaneous units, except as s. NR 664.0001 provides otherwise.

NR 664.0601 Environmental performance standards. A miscellaneous unit shall be located, designed, constructed, operated, maintained and closed in a manner that will ensure protection of human health and the environment. Licenses for miscellaneous units shall contain terms and provisions necessary to protect human health and the environment, including, as appropriate, design and operating requirements, detection and monitoring requirements and requirements for responses to releases of hazardous waste or hazardous constituents from the unit. License terms and provisions shall include those requirements of subchs. I to O and subchs. AA to CC, ch. NR 670, 40 CFR part 63 subpart EEE and ch. NR 815 that are appropriate for the miscellaneous unit being licensed. Protection of human health and the environment includes all of the following:

(1) Prevention of any releases that may have adverse effects on human heath or the environment due to migration of waste constituents in the groundwater or subsurface environment, considering all of the following:

(a) The volume and physical and chemical characteristics of the waste in the unit, including its potential for migration through soil, liners or other containing structures.

(b) The hydrologic and geologic characteristics of the unit and the surrounding area.

(c) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater.

(d) The quantity and direction of groundwater flow.

(e) The proximity to and withdrawal rates of current and potential groundwater users.

(f) The patterns of land use in the region.

(g) The potential for deposition or migration of waste constituents into subsurface physical structures, and into the root zone of food-chain crops and other vegetation.

(h) The potential for health risks caused by human exposure to waste constituents.

(i) The potential for damage to domestic animals, wildlife, crops, vegetation and physical structures caused by exposure to waste constituents.

(2) Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in surface water or wetlands, or on the soil surface considering all of the following:

(a) The volume and physical and chemical characteristics of the waste in the unit.

(b) The effectiveness and reliability of containing, confining and collecting systems and structures in preventing migration.

(c) The hydrologic characteristics of the unit and the surrounding area, including the topography of the land around the unit.

(d) The patterns of precipitation in the region.

(e) The quantity, quality and direction of groundwater flow.

(f) The proximity of the unit to surface waters.

(g) The current and potential uses of nearby surface waters and any water quality standards established for those surface waters.

(h) The existing quality of surface waters and surface soils, including other sources of contamination and their cumulative impact on surface waters and surface soils.

(i) The patterns of land use in the region.

(j) The potential for health risks caused by human exposure to waste constituents.

(k) The potential for damage to domestic animals, wildlife, crops, vegetation and physical structures caused by exposure to waste constituents.

(3) Prevention of any release that may have adverse effects on human health or the environment due to migration of waste constituents in the air, considering all of the following:

(a) The volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases, aerosols and particulates.

(b) The effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air.

(c) The operating characteristics of the unit.

(d) The atmospheric, meteorologic and topographic characteristics of the unit and the surrounding area.

(e) The existing quality of the air, including other sources of contamination and their cumulative impact on the air.

(f) The potential for health risks caused by human exposure to waste constituents.

(g) The potential for damage to domestic animals, wildlife, crops, vegetation and physical structures caused by exposure to waste constituents.

NR 664.0602 Monitoring, analysis, inspection, response, reporting and corrective action. Monitoring, testing, analytical data, inspections, response and reporting procedures and frequencies shall ensure compliance with ss. NR 664.0015, 664.0033, 664.0075, 664.0076, 664.0077, 664.0101 and 664.0601 as well as meet any additional requirements needed to protect human health and the environment as specified in the license.

NR 664.0603 Long-term care. A miscellaneous unit that is a disposal unit shall be maintained in a manner that complies with s. NR 664.0601 during the long-term care period. If a treatment or storage unit has contaminated soils or groundwater that cannot be completely removed or decontaminated during closure, the unit shall also meet the requirements of s. NR 664.0601 during long-term care. The long-term care plan under s. NR 664.0118 shall specify the procedures that will be used to satisfy this requirement.

Subchapter AA —Air Emission Standards for Process Vents

NR 664.1030 Applicability. (1) This subchapter applies to owners and operators of facilities that treat, store or dispose of hazardous wastes (except as provided in s. NR 664.0001).

(2) Except for s. NR 664.1034(4) and (5), this subchapter applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10 ppmw, if these operations are conducted in one of the following:

(a) A unit that is subject to the licensing requirements of ch. NR 670.

(b) A unit (including a hazardous waste recycling unit) that is not exempt from licensing under s. NR 662.034(1) (i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the licensing requirements of ch. NR 670.

(c) A unit that is exempt from licensing under s. NR 662.034(1) (i.e., a ”90-day” tank or container) and is not a recycling unit under s. NR 661.06.

(3) For the owner and operator of a facility subject to this subchapter and who received an operating license under s. 291.25, Stats., prior to December 6, 1996, the requirements of this subchapter shall be incorporated into the license when the license is reissued according to s. NR 670.415 or reviewed according to s. NR 670.050(4). Until the date when the owner and operator receives an operating license incorporating the requirements of this subchapter, the owner and operator is subject to the requirements of subch. AA of ch. NR 665.

Note: Sections NR 664.1032 to 664.1036 apply to process vents on hazardous waste recycling units previously exempt under s. NR 661.06(3)(a). Other exemptions under ss. NR 661.04 and 664.0001(7) are not affected by these requirements.

(5) This subchapter does not apply to the process vents at a facility where the facility owner or operator certifies that all of the process vents that would otherwise be subject to this subchapter are equipped with and operating air emission controls according to the process vent requirements in 40 CFR part 60, 61 or 63, and corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469. Keep the documentation of compliance under 40 CFR part 60, 61 or 63 and corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469 with, or make it readily available with, the facility operating record.

NR 664.1031 Definitions. As used in this subchapter:

(1) "Air stripping operation" means a desorption operation employed to transfer one or more volatile components from a liquid mixture into a gas (air) either with or without the application of heat to the liquid. Packed towers, spray towers and bubble-cap, sieve or valve-type plate towers are among the process configurations used for contacting the air and a liquid.

(2) "Bottoms receiver" means a container or tank used to receive and collect the heavier bottoms fractions of the distillation feed stream that remain in the liquid phase.

(3) "Closed-vent system" means a system that is not open to the atmosphere and that is composed of piping, connections and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.

(4) "Condenser" means a heat-transfer device that reduces a thermodynamic fluid from its vapor phase to its liquid phase.

(5) "Connector" means flanged, screwed, welded or other joined fittings used to connect 2 pipelines or a pipeline and a piece of equipment. For the purposes of reporting and recordkeeping, connector means flanged fittings that are not covered by insulation or other materials that prevent location of the fittings.

(6) "Continuous recorder" means a data-recording device recording an instantaneous data value at least once every 15 minutes.

(7) "Control device" means an enclosed combustion device, vapor recovery system or flare. Any device the primary function of which is the recovery or capture of solvents or other organics for use, reuse or sale (e.g., a primary condenser on a solvent recovery unit) is not a control device.

(8) "Control device shutdown" means the cessation of operation of a control device for any purpose.

(9) "Distillate receiver" means a container or tank used to receive and collect liquid material (condensed) from the overhead condenser of a distillation unit and from which the condensed liquid is pumped to larger storage tanks or other process units.

(10) "Distillation operation" means an operation, either batch or continuous, separating one or more feed streams into 2 or more exit streams, each exit stream having component concentrations different from those in the feed stream. The separation is achieved by the redistribution of the components between the liquid and vapor phase as they approach equilibrium within the distillation unit.

(11) "Double block and bleed system" means 2 block valves connected in series with a bleed valve or line that can vent the line between the 2 block valves.

(12) "Equipment" means each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line or flange or other connector and any control devices or systems required by this subchapter.

(13) "Flame zone" means the portion of the combustion chamber in a boiler occupied by the flame envelope.

(14) "Flow indicator" means a device that indicates whether gas flow is present in a vent stream.

(15) "First attempt at repair" means to take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

(16) "Fractionation operation" means a distillation operation or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components.

(17) "Hazardous waste management unit shutdown" means a work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit. An unscheduled work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit for less than 24 hours is not a hazardous waste management unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping operation are not hazardous waste management unit shutdowns.

(18) "Hot well" means a container for collecting condensate as in a steam condenser serving a vacuum-jet or steam-jet ejector.

(19) "In gas or vapor service" means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

(20) "In heavy liquid service" means that the piece of equipment is not in gas or vapor service or in light liquid service.

(21) "In light liquid service" means that the piece of equipment contains or contacts a waste stream where the vapor pressure of one or more of the organic components in the stream is greater than 0.3 kilopascals (kPa) at 20°C, the total concentration of the pure organic components having a vapor pressure greater than 0.3 kilopascals (kPa) at 20°C is equal to or greater than 20% by weight and the fluid is a liquid at operating conditions.

(22) "In situ sampling systems" means nonextractive samplers or in-line samplers.

(23) "In vacuum service" means that equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure.

(24) "Malfunction" means any sudden failure of a control device or a hazardous waste management unit or failure of a hazardous waste management unit to operate in a normal or usual manner, so that organic emissions are increased.

(25) "Open-ended valve or line" means any valve, except pressure relief valves, having one side of the valve seat in contact with hazardous waste and one side open to the atmosphere, either directly or through open piping.

(26) "Pressure release" means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

(27) "Process heater" means a device that transfers heat liberated by burning fuel to fluids contained in tubes, including all fluids except water that are heated to produce steam.

(28) "Process vent" means any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank or hot well) associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operations.

(29) "Repaired" means that equipment is adjusted, or otherwise altered, to eliminate a leak.

(30) "Sampling connection system" means an assembly of equipment within a process or waste management unit used during periods of representative operation to take samples of the process or waste fluid. Equipment used to take non-routine grab samples is not considered a sampling connection system.

(31) "Sensor" means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH or liquid level.

(32) "Separator tank" means a device used for separation of 2 immiscible liquids.

(33) "Solvent extraction operation" means an operation or method of separation in which a solid or solution is contacted with a liquid solvent (the 2 being mutually insoluble) to preferentially dissolve and transfer one or more components into the solvent.

(34) "Startup" means the setting in operation of a hazardous waste management unit or control device for any purpose.

(35) "Steam stripping operation" means a distillation operation in which vaporization of the volatile constituents of a liquid mixture takes place by the introduction of steam directly into the charge.

(36) "Surge control tank" means a large-sized pipe or storage reservoir sufficient to contain the surging liquid discharge of the process tank to which it is connected.

(37) "Thin-film evaporation operation" means a distillation operation that employs a heating surface consisting of a large diameter tube that may be either straight or tapered, horizontal or vertical. Liquid is spread on the tube wall by a rotating assembly of blades that maintain a close clearance from the wall or actually ride on the film of liquid on the wall.

(38) "Vapor incinerator" means any enclosed combustion device that is used for destroying organic compounds and does not extract energy in the form of steam or process heat.

(39) "Vented" means discharged through an opening, typically an open-ended pipe or stack, allowing the passage of a stream of liquids, gases or fumes into the atmosphere. The passage of liquids, gases or fumes is caused by mechanical means such as compressors or vacuum-producing systems or by process-related means such as evaporation produced by heating and not caused by tank loading and unloading (working losses) or by natural means such as diurnal temperature changes.

NR 664.1032 Standards: process vents. (1) The owner or operator of a facility with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operations managing hazardous wastes with organic concentrations of at least 10 ppmw shall do any of the following:

(a) Reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr).

(b) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

(2) If the owner or operator installs a closed-vent system and control device to comply with sub. (1), the closed-vent system and control device shall meet s. NR 664.1033.

(3) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions or total organic compound concentrations achieved by add-on control devices, the performance tests shall conform with s. NR 664.1034(3).

(4) When an owner or operator and the department do not agree on determinations of vent emissions, emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, use the procedures in s. NR 664.1034(3) to resolve the disagreement.

NR 664.1033 Standards: closed-vent systems and control devices. (1)(a) Owners or operators of closed-vent systems and control devices used to comply with provisions of this chapter shall comply with this section.

(b)1. The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with this subchapter on the effective date that the facility becomes subject to this subchapter shall prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls shall be installed as soon as possible,

but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this subchapter for installation and startup.

2. Any unit that begins operation after June 1, 1995, and is subject to this subchapter when operation begins, shall comply with the rules immediately (i.e., shall have control devices installed and operating on startup of the affected unit; the 30-month implementation schedule does not apply).

3. The owner or operator of any facility in existence on the effective date of a department rule amendment that renders the facility subject to this subchapter shall comply with this subchapter as soon as practicable but no later than 30 months after the amendment's effective date. When control equipment required by this subchapter cannot be installed and begin operation by the effective date of the amendment, the facility owner or operator shall prepare an implementation schedule that includes specific calendar dates for award of contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subchapter. The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility.

4. Owners and operators of facilities and units that become newly subject to the requirements of this subchapter after the effective date of this subchapter … [revisor inserts date], due to an action other than those described in subd. 3. shall comply with all applicable requirements immediately (i.e., shall have control devices installed and operating on the date the facility or unit becomes subject to this subchapter; the 30-month implementation schedule does not apply).

(2) Design and operate a control device involving vapor recovery (e.g., a condenser or adsorber) to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of s. NR 664.1032(1)(a) for all affected process vents can be attained at an efficiency less than 95 weight percent.

(3) Design and operate an enclosed combustion device (e.g., a vapor incinerator, boiler or process heater) to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760°C. If a boiler or process heater is used as the control device, introduce the vent stream into the flame zone of the boiler or process heater.

(4)(a) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in sub. (5)(a), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(b) Operate a flare with a flame present at all times, as determined by the methods specified in sub. (6)(b)3.

(c) Use a flare only if the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted, or if the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. Determine the net heating value of the gas being combusted by the methods specified in sub. (5)(b).

(d)1. Design a steam-assisted or nonassisted flare for and operate it with an exit velocity, determined by the methods specified in sub. (5)(c), less than 18.3 m/s (60 ft/s), except as provided in subds. 2. and 3.

2. A steam-assisted or nonassisted flare designed for and operated with an exit velocity, determined by the methods specified in sub. (5)(c), equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted greater than 37.3 MJ/scm (1,000 Btu/scf).

3. A steam-assisted or nonassisted flare designed for and operated with an exit velocity, determined by the methods specified in sub. (5)(c), less than the velocity, V_{max}, determined by the method specified in sub. (5)(d) and less than 122 m/s (400 ft/s) is allowed.

(e) Design and operate an air-assisted flare with an exit velocity less than the velocity, V_{max}, determined by the method specified in sub. (5)(e).

(f) A flare used to comply with this section shall be steam-assisted, air-assisted or nonassisted.

(5)(a) Use Method 22 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, to determine the compliance of a flare with the visible emission provisions of this subchapter. Use an observation period of 2 hours according to Method 22.

(b) Calculate the net heating value of the gas being combusted in a flare using the following equation:

$$H_T = K\left[\sum_{i=1}^{n} C_i H_i\right]$$

where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20 °C

K = Constant, 1.74×10^{-7} (1/ppm) (g mol/scm) (MJ/kcal) where standard temperature for (g mol/scm) is 20°C

C_i = Concentration of sample component i in ppm on a wet basis, measured for organics by Method 18 in appendix A of 40 CFR part 60 and measured for hydrogen and carbon monoxide by ASTM D1946-82, both incorporated by reference in s. NR 660.11

H_i = Net heat of combustion of sample component i, kcal/9 mol at 25°C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-83, incorporated by reference in s. NR 660.11, if published values are not available or cannot be calculated

(c) Determine the actual exit velocity of a flare by dividing the volumetric flow rate (in units of standard temperature and pressure), determined by Methods 2, 2A, 2C or 2D in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(d) Determine the maximum allowed velocity in m/s, V_{max}, for a flare complying with sub. (4)(d)3. by the following equation:

$$\mathrm{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$$

where:

28.8 = Constant

31.7 = Constant

H_T = The net heating value determined in par. (b)

(e) Determine the maximum allowed velocity in m/s, V_{max}, for an air-assisted flare by the following equation:

$$V_{max} = 8.706 + 0.7084\,(H_T)$$

where:

8.706 = Constant

0.7084 = Constant

H_T = The net heating value determined in par. (b)

(6) The owner or operator shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing all of the following requirements:

(a) Install, calibrate, maintain and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. Install the flow indicator sensor in the vent stream at the nearest feasible point to the control device inlet, but before the point at which the vent streams are combined.

(b) Install, calibrate, maintain and operate according to the manufacturer's specifications a device to continuously monitor control device operation according to one of the following:

1. For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1% of the temperature being monitored in °C or ±0.5°C, whichever is greater. Install the temperature sensor at a location in the combustion chamber downstream of the combustion zone.

2. For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at 2 locations and have an accuracy of ±1% of the temperature being monitored in °C or ±0.5°C, whichever is greater. Install one temperature sensor in the vent stream at the nearest feasible point to the catalyst bed inlet and install a second temperature sensor in the vent stream at the nearest feasible point to the catalyst bed outlet.

3. For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

4. For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1% of the temperature being monitored in °C or ±0.5°C, whichever is greater. Install the temperature sensor at a location in the furnace downstream of the combustion zone.

5. For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter or parameters that indicates good combustion operating practices are being used.

6. For a condenser, any of the following:

a. A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser.

b. A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of ±1% of the temperature being monitored in °C or ±0.5°C, whichever is greater. Install the temperature sensor at a location in the exhaust vent stream from the condenser exit (i.e., product side).

7. For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber, any of the following:

a. A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed.

b. A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(c) Inspect the readings from each monitoring device required by pars. (a) and (b) at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with this section.

(7) An owner or operator using a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of s. NR 664.1035(2)(d)3.f.

(8) An owner or operator using a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis using one of the following procedures:

(a) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20% of the time required to consume the total carbon working capacity established as a requirement of s. NR 664.1035(2)(d)3.g., whichever is longer.

(b) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of s. NR 664.1035(2)(d)3.g.

(9) An alternative operational or process parameter may be monitored if it can be demonstrated that another parameter will ensure that the control device is operated in conformance with these standards and the control device's design specifications.

(10) An owner or operator of an affected facility seeking to comply with this chapter by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser or carbon adsorption system shall develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

(11) A closed-vent system shall meet any of the following design requirements:

(a) Design a closed-vent system to operate with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background determined by the procedure in s. NR 664.1034(2), and by visual inspections.

(b) Design a closed-vent system to operate at a pressure below atmospheric pressure. Equip the system with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating.

(12) The owner or operator shall monitor and inspect each closed-vent system required to comply with this section to ensure proper operation and maintenance of the closed-vent system by implementing all of the following requirements:

(a) Inspect and monitor each closed-vent system that is used to comply with sub. (11)(a) according to all of the following requirements:

1. Conduct an initial leak detection monitoring of the closed-vent system on or before the date that the system becomes subject to this section. Monitor the closed-vent system components and connections using the procedures in s. NR 664.1034(2) to demonstrate that the closed-vent system operates with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background.

2. After initial leak detection monitoring required in subd. 1., inspect and monitor the closed-vent system as follows:

a. Visually inspect closed-vent system joints, seams or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between 2 sections of hard piping or a bolted and gasketed ducting flange) at least once per year to check for defects that could result in air pollutant emissions. Monitor a component or connection using the procedures in s. NR 664.1034(2) to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced (e.g., a section of damaged hard piping is replaced with new hard piping) or the connection is unsealed (e.g., a flange is unbolted).

b. Monitor closed-vent system components or connections other than those specified in subd. 2.a. annually and at other times requested by the department, except as provided for in sub. (15), using the procedures in s. NR 664.1034(2) to demonstrate that the components or connections operate with no detectable emissions.

3. In the event that a defect or leak is detected, repair the defect or leak according to par. (c).

4. Maintain a record of the inspection and monitoring according to s. NR 664.1035.

(b) Inspect and monitor each closed-vent system that is used to comply with sub. (11)(b) according to all of the following requirements:

1. Visually inspect the closed-vent system to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes or gaps in ductwork or piping or loose connections.

2. Perform an initial inspection of the closed-vent system on or before the date that the system becomes subject to this section. Thereafter, perform the inspections at least once every year.

3. In the event that a defect or leak is detected, repair the defect according to par. (c).

4. Maintain a record of the inspection and monitoring according to s. NR 664.1035.

(c) Repair all detected defects according to all of the following:

1. Control detectable emissions, as indicated by visual inspection, or by an instrument reading greater than 500 ppmv above background, as soon as practicable, but not later than 15 calendar days after the emission is detected, except as provided for in subd. 3.

2. Make a first attempt at repair no later than 5 calendar days after the emission is detected.

3. Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Complete repair of the equipment by the end of the next process unit shutdown.

4. Maintain a record of the defect repair according to s. NR 664.1035.

(13) Operate closed-vent systems and control devices used to comply with this subchapter at all times when emissions may be vented to them.

(14) The owner or operator using a carbon adsorption system to control air pollutant emissions shall document that all carbon that is a hazardous waste and that is removed from the control device is managed in one of the following manners, regardless of the average volatile organic concentration of the carbon:

(a) Regenerated or reactivated in a thermal treatment unit that meets one of the following:

1. The owner or operator of the unit has been issued an operating license under ch. NR 670 which implements the requirements of subch. X.

2. The unit is equipped with and operating air emission controls according to the applicable requirements of this subchapter and subch. CC or subchs. AA and CC of ch. NR 665.

3. The unit is equipped with and operating air emission controls according to a national emission standard for hazardous air pollutants under 40 CFR part 61 or 63, or corresponding provisions of subch. III of ch. NR 446 and chs. NR 447 to 469.

(b) Incinerated in a hazardous waste incinerator for which any of the following conditions has been met:

1. The owner or operator has been issued an operating license under ch. NR 670 which implements the requirements of subch. O.

2. The owner or operator has designed and operates the incinerator according to the interim license requirements of subch. O of ch. NR 665.

(c) Burned in a boiler or industrial furnace for which any of the following conditions has been met:

1. The owner or operator has been issued an operating license under ch. NR 670 which implements the requirements of subch. H of ch. NR 666.

2. The owner or operator has designed and operates the boiler or industrial furnace according to the interim license requirements of subch. H of ch. NR 666.

(15) Any components of a closed-vent system that are designated, as described in s. NR 664.1035(3)(i), as unsafe to monitor are exempt from sub. (12)(a)2.b. if the owner or operator does all of the following:

(a) Determines that the components of the closed-vent system are unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with sub. (12)(a)2.b.

(b) Adheres to a written plan that requires monitoring the closed-vent system components using the procedure in sub. (12)(a)2.b. as frequently as practicable during safe-to-monitor times.

NR 664.1034 Test methods and procedures. (1) Each owner or operator subject to this subchapter shall comply with the test methods and procedures requirements in this section.

(2) When a closed-vent system is tested for compliance with no detectable emissions, as required in s. NR 664.1033(12), the test shall comply with all of the following requirements:

(a) Monitoring shall comply with Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(b) The detection instrument shall meet the performance criteria of Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(c) The instrument shall be calibrated before use on each day of its use by the procedures in Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(d) Calibration gases shall be all of the following:

1. Zero air (less than 10 ppm of hydrocarbon in air).

2. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(e) Determine the background level according to Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(f) Traverse the instrument probe around all potential leak interfaces as close to the interface as possible as described in Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(g) Compare the arithmetic difference between the maximum concentration indicated by the instrument and the background level with 500 ppm for determining compliance.

(3) Performance tests to determine compliance with s. NR 664.1032(1) and with the total organic compound concentration limit of s. NR 664.1033(3) shall comply with all of the following:

(a) Conduct performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices and reduce data according to all of the following methods and calculation procedures:

1. Method 2 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, for velocity and volumetric flow rate.

2. Method 18 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, for organic content.

3. Each performance test shall consist of 3 separate runs; conduct each run for at least one hour under the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, average the results of all runs. Compute the average on a time-weighted basis.

4. Determine total organic mass flow rates by the following equation:

$$E_h = Q_{sd}\left\{\sum_{i=1}^{n} C_i MW_i\right\}[0.0416][10^{-6}]$$

where:

E_h = Total organic mass flow rate, kg/h

Q_{sd} = Volumetric flow rate of gases entering or exiting control device, determined by Method 2, dscm/h

n = Number of organic compounds in the vent gas

C_i = Organic concentration in ppm, dry basis, of compound i in the vent gas, determined by Method 18

MW_i = Molecular weight of organic compound i in the vent gas, kg/kg-mol

0.0416 = Conversion factor for molar volume, kg-mol/m^3 (at 293 K and 760 mm Hg)

10^{-6} = Conversion from ppm, ppm^{-1}

5. Determine the annual total organic emission rate by the following equation:

$$E_A = (E_h)(H)$$

where:

E_A = Total organic mass emission rate, kg/y

E_h = Total organic mass flow rate for the process vent, kg/h

H = Total annual hours of operations for the affected unit, h

6. Determine total organic emissions from all affected process vents at the facility by summing the hourly total organic mass emission rates (E_h, determined in subd. 4.) and by summing the annual total organic mass emission rates (E_A, determined in subd. 5.) for all affected process vents at the facility.

(b) Record the process information as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown and malfunction may not constitute representative conditions for the purpose of a performance test.

(c) For an affected facility, provide, or cause to be provided, all of the following performance testing facilities:

1. Sampling ports adequate for the test methods specified in par. (a).
2. A safe sampling platform or platforms.
3. Safe access to the sampling platform or platforms.
4. Utilities for sampling and testing equipment.

(d) For the purpose of making compliance determinations, use the time-weighted average of the results of the 3 runs. In the event that a sample is accidentally lost or conditions occur in which one of the 3 runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions or other circumstances beyond the owner or operator's control, compliance may, upon the department's approval, be determined using the average of the results of the 2 other runs.

(4) To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operation is not subject to this subchapter, the owner or operator shall make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than 10 ppmw using one of the following 2 methods:

(a) *Direct measurement of the organic concentration of the waste.* This method requires all of the following:

1. Take a minimum of 4 grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.
2. For waste generated onsite, collect the grab samples at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operation. For waste generated off-site, collect the grab samples at the inlet to the first waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.
3. Analyze each sample and compute the total organic concentration of the sample using Method 9060 or 8260 of EPA SW-846, incorporated by reference in s. NR 660.11.
4. Use the arithmetic mean of the results of the analyses of the 4 samples for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. Calculate the time-weighted average using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

(b) *Using knowledge of the waste to determine that its total organic concentration is less than 10 ppmw.* This method requires documentation of the waste determination. Examples of documentation that shall be used to support a determination under this paragraph include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than 10 ppmw, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(5) Make the determination that distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operations manage hazardous wastes with time-weighted, annual average total organic concentrations less than 10 ppmw according to pars. (a) and (b) or (c):

(a) By the effective date that the facility becomes subject to this subchapter or by the date when the waste is first managed in a waste management unit, whichever is later.

(b) For continuously generated waste, annually.

(c) Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

(6) When an owner or operator and the department do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operation manages a hazardous waste with organic concentrations of at least 10 ppmw based on knowledge of the waste, the procedures in Method 8260 of EPA SW-846, incorporated by reference in s. NR 660.11, may be used to resolve the dispute.

NR 664.1035 Recordkeeping requirements. (1)(a) Each owner or operator subject to this subchapter shall comply with this section.

(b) An owner or operator of more than one hazardous waste management unit subject to this subchapter may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(2) Record all of the following information in the facility operating record:

(a) For facilities that comply with s. NR 664.1033(1)(b), an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule shall also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule shall be in the facility operating record by the effective date that the facility becomes subject to this subchapter.

(b) Up-to-date documentation of compliance with the process vent standards in s. NR 664.1032, including all of the following:

1. Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility) and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan).

2. Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, make determinations of vent emissions and emission reductions using operating parameter values (e.g., temperatures, flow rates or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action (e.g., managing a waste of different composition or increasing operating hours of affected waste management units) that would result in an increase in total organic emissions from affected process vents at the facility, a new determination is required.

(c) Where an owner or operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan shall include all of the following:

1. A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

2. A detailed engineering description of the closed-vent system and control device including all of the following:

a. Manufacturer's name and model number of control device.

b. Type of control device.

c. Dimensions of the control device.

d. Capacity.

e. Construction materials.

3. A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency and planned analytical procedures for sample analysis.

(d) Documentation of compliance with s. NR 664.1033 shall include all of the following information:

1. A list of all information references and sources used in preparing the documentation.

2. Records, including the dates, of each compliance test required by s. NR 664.1033(11).

3. If engineering calculations are used, a design analysis, specifications, drawings, schematics and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 415: Control of Gaseous Emissions", incorporated by reference in s. NR 660.11, or other engineering texts acceptable to the department that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design according to subd. 3.a. to g. may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as follows:

a. For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

b. For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

c. For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time and description of method and location where the vent stream is introduced into the combustion zone.

d. For a flare, the design analysis shall consider the vent stream composition, constituent concentrations and flow rate. The design analysis shall also consider the requirements in s. NR 664.1033(4).

e. For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream and design average temperatures of the coolant fluid at the condenser inlet and outlet.

f. For a carbon adsorption system such as a fixed-bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling or drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time and design service life of carbon.

g. For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity

of activated carbon used for carbon bed and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

4. A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

5. A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95% or greater, unless the total organic concentration limit of s. NR 664.1032(1) is achieved at an efficiency less than 95 weight percent or the total organic emission limits of s. NR 664.1032(1) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

6. If performance tests are used to demonstrate compliance, all test results.

(3) Record and keep up-to-date in the facility operating record design documentation and monitoring, operating and inspection information for each closed-vent system and control device required to comply with this chapter. The information shall include all of the following:

(a) Description and date of each modification that is made to the closed-vent system or control device design.

(b) Identification of operating parameter, description of monitoring device and diagram of monitoring sensor location or locations used to comply with s. NR 664.1033(6)(a) and (b).

(c) Monitoring, operating and inspection information required by s. NR 664.1033(6) to (11).

(d) Date, time and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as follows:

1.For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 seconds at a minimum temperature of 760°C, period when the combustion temperature is below 760°C.

2. For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 weight percent or greater, period when the combustion zone temperature is more than 28°C below the design average combustion zone temperature established as a requirement of sub. (2)(d)3.a.

3. For a catalytic vapor incinerator, period when any of the following occurs:

a. Temperature of the vent stream at the catalyst bed inlet is more than 28°C below the average temperature of the inlet vent stream established as a requirement of sub. (2)(d)3.b.

b. Temperature difference across the catalyst bed is less than 80% of the design average temperature difference established as a requirement of sub. (2)(d)3.b.

4. For a boiler or process heater, period when any of the following occurs:

a. Flame zone temperature is more than 28°C below the design average flame zone temperature established as a requirement of sub. (2)(d)3.c.

b. Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of sub. (2)(d)3.c.

5. For a flare, period when the pilot flame is not ignited.

6. For a condenser that complies with s. NR 664.1033(6)(b)6.a., period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than 20% greater than the design outlet organic compound concentration level established as a requirement of sub. (2)(d)3.e.

7. For a condenser that complies with s. NR 664.1033(6)(b)6.b., period when any of the following occurs:

a. Temperature of the exhaust vent stream from the condenser is more than 6°C above the design average exhaust vent stream temperature established as a requirement of sub. (2)(d)3.e.

b. Temperature of the coolant fluid exiting the condenser is more than 6°C above the design average coolant fluid temperature at the condenser outlet established as a requirement of sub. (2)(d)3.e.

8. For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with s. NR 664.1033(6)(b)7.a., period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than 20% greater than the design exhaust vent stream organic compound concentration level established as a requirement of sub. (2)(d)3.f.

9. For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with s. NR 664.1033(6)(b)7.b., period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of sub. (2)(d)3.f.

(e) Explanation for each period recorded under par. (d) of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

(f) For a carbon adsorption system operated subject to s. NR 664.1033(7) or (8)(b), date when existing carbon in the control device is replaced with fresh carbon.

(g) For a carbon adsorption system operated subject to s. NR 664.1033(8)(a), a log that records all of the following:

1. Date and time when control device is monitored for carbon breakthrough and the monitoring device reading.

2. Date when existing carbon in the control device is replaced with fresh carbon.

(h) Date of each control device startup and shutdown.

(i) An owner or operator designating any components of a closed-vent system as unsafe to monitor pursuant to s. NR 664.1033(15) shall record in a log that is kept in the facility operating record the identification of closed-vent system components that are designated as unsafe to monitor according to s. NR 664.1033(15), an explanation for each closed-vent system component stating why the closed-vent system component is unsafe to monitor and the plan for monitoring each closed-vent system component.

(j) When each leak is detected as specified in s. NR 664.1033(12), record all of the following information:

1. The instrument identification number, the closed-vent system component identification number and the operator name, initials or identification number.

2. The date the leak was detected and the date of first attempt to repair the leak.

3. The date of successful repair of the leak.

4. Maximum instrument reading measured by Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, after the leak is successfully repaired or determined to be nonrepairable.

5. ”Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

a. The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In those cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

b. If delay of repair was caused by depletion of stocked parts, there shall be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(4) Maintain records of the monitoring, operating and inspection information required by sub. (3)(c) to (j) for at least 3 years following the date of each occurrence, measurement, maintenance, corrective action or record.

(5) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser or carbon adsorption system, the department shall specify the appropriate recordkeeping requirements.

(6) Record up-to-date information and data used to determine whether or not a process vent is subject to s. NR 664.1032, including supporting documentation required by s. NR 664.1034(4)(b) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, in a log that is kept in the facility operating record.

NR 664.1036 Reporting requirements. (1) Owners and operators subject to this subchapter shall submit a semiannual report to the department by dates specified by the department. The report shall include all of the following information:

(a) The EPA identification number, name and address of the facility.

(b) For each month during the semiannual reporting period, dates when the control device exceeded or operated outside of the design specifications as defined in s. NR 664.1035(3)(d) and as indicated by the control device monitoring required by s. NR 664. 1033(6) and the exceedances were not corrected within 24 hours, or that a flare operated with visible emissions as defined in s. NR 664.1033(4) and as determined by Method 22 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, monitoring, the duration and cause of each exceedance or visible emissions and any corrective measures taken.

(2) If, during the semiannual reporting period, the control device does not exceed or operate outside of the design specifications as defined in s. NR 664.1035(3)(d) for more than 24 hours or a flare does not operate with visible emissions as defined in s. NR 664.1033(4), a report is not required.

Subchapter BB —Air Emission Standards for Equipment Leaks

NR 664.1050 Applicability. (1) This subchapter applies to owners and operators of facilities that treat, store or dispose of hazardous wastes (except as provided in s. NR 664.0001).

(2) Except as provided in s. NR 664.1064(11), this subchapter applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10% by weight that are managed in one of the following:

(a) A unit that is subject to the licensing requirements of ch. NR 670.

(b) A unit (including a hazardous waste recycling unit) that is not exempt from licensing under s. NR 662.034(1) (i.e., a hazardous waste recycling unit that is not a ”90-day” tank or container) and that is located at a hazardous waste management facility otherwise subject to the licensing requirements of ch. NR 670.

(c) A unit that is exempt from licensing under s. NR 662.034(1) (i.e., a ”90-day” tank or container) and is not a recycling unit under s. NR 661.06.

(3) For the owner or operator of a facility subject to this subchapter and who received an operating license under s. 291.25, Stats., prior to December 6, 1996, the requirements of this subchapter shall be incorporated into the license when the license is reissued according to the requirements of s. NR 670.415 or reviewed according to s. NR 670.050(4). Until the date when the owner or operator receives an operating license incorporating the requirements of this subchapter, the owner or operator is subject to the requirements of subch. BB of ch. NR 665.

(4) Each piece of equipment to which this subchapter applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(5) Equipment that is in vacuum service is excluded from ss. NR 664.1052 to 664.1060 if it is identified as required in s. NR 664.1064(7)(e).

(6) Equipment that contains or contacts hazardous waste with an organic concentration of at least 10% by weight for less than 300 hours per calendar year is excluded from ss. NR 664.1052 to 664.1060 if it is identified, as required in s. NR 664.1064(7)(f).

Note: Sections NR 664.1052 to 664.1065 apply to equipment associated with hazardous waste recycling units previously exempt under s. NR 661.06(3)(a). Other exemptions under ss. NR 661.04 and 664.0001(7) are not affected by these requirements.

NR 664.1051 Definitions. As used in this subchapter, all terms shall have the meaning given them in s. NR 664.1031, ch. 291, Stats., and chs. NR 660 to 666.

NR 664.1052 Standards: pumps in light liquid service. (1)(a) Monitor each pump in light liquid service monthly to detect leaks by the methods specified in s. NR 664.1063(2), except as provided in subs. (4) to (6).

(b) Check each pump in light liquid service by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(2)(a) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(b) If there are indications of liquids dripping from the pump seal, a leak is detected.

(3)(a) When a leak is detected, repair it as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in s. NR 664.1059.

(b) Make a first attempt at repair (e.g., tightening the packing gland) no later than 5 calendar days after each leak is detected.

(4) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from sub. (1), provided all of the following requirements are met:

(a) Each dual mechanical seal system shall be one of the following:

1. Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure.

2. Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with s. NR 664.1060.

3. Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.

(b) The barrier fluid system may not be a hazardous waste with organic concentrations 10% or greater by weight.

(c) Equip each barrier fluid system with a sensor that will detect failure of the seal system, the barrier fluid system or both.

(d) Check each pump by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(e)1. Check each sensor as described in par. (c) daily, or equip it with an audible alarm and check the alarm monthly to ensure that it is functioning properly.

2. Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system or both.

(f)1. If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system or both based on the criterion determined in par. (e)2., a leak is detected.

2. When a leak is detected, repair it as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in s. NR 664.1059.

3. Make a first attempt at repair (e.g., relapping the seal) no later than 5 calendar days after each leak is detected.

(5) Any pump that is designated, as described in s. NR 664.1064(7)(b), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from subs. (1), (3) and (4) if the pump meets all of the following requirements:

(a) It has no externally actuated shaft penetrating the pump housing.

(b) It operates with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background measured by the methods specified in s. NR 664.1063(3).

(c) It is tested for compliance with par. (b) initially upon designation, annually and at other times requested by the department.

(6) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with s. NR 664.1060, it is exempt from subs. (1) to (5).

NR 664.1053 Standards: compressors. (1) Equip each compressor with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in subs. (8) and (9).

(2) Each compressor seal system as required in sub. (1) shall be one of the following:

(a) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure.

(b) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with s. NR 664.1060.

(c) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

(3) The barrier fluid may not be a hazardous waste with organic concentrations 10% or greater by weight.

(4) Equip each barrier fluid system described in subs. (1) to (3) with a sensor that will detect failure of the seal system, barrier fluid system or both.

(5)(a) Check each sensor required in sub. (4) daily or equip it with an audible alarm and check the alarm monthly to ensure it is functioning properly, unless the compressor is located within the boundary of an unmanned plant site, in which case check the sensor daily.

(b) Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system or both.

(6) If the sensor indicates failure of the seal system, the barrier fluid system or both based on the criterion determined under sub. (5)(b), a leak is detected.

(7)(a) When a leak is detected, repair it as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in s. NR 664.1059.

(b) Make a first attempt at repair (e.g., tightening the packing gland) no later than 5 calendar days after each leak is detected.

(8) A compressor is exempt from subs. (1) and (2) if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with s. NR 664.1060, except as provided in sub. (9).

(9). Any compressor that is designated, as described in s. NR 664.1064(7)(b), for no detectable emissions as indicated by an instrument reading of less than 500 ppm above background is exempt from subs. (1) to (8) if the compressor meets all of the following requirements:

(a) It is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, measured by the method specified in s. NR 664.1063(3).

(b) It is tested for compliance with par. (a) initially upon designation, annually and at other times requested by the department.

NR 664.1054 Standards: pressure relief devices in gas or vapor service. (1) Except during pressure releases, operate each pressure relief device in gas or vapor service with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, measured by the method specified in s. NR 664.1063(3).

(2)(a) After each pressure release, return the pressure relief device to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in s. NR 664.1059.

(b) No later than 5 calendar days after the pressure release, monitor the pressure relief device to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, measured by the method specified in s. NR 664.1063(3).

(3) Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device described in s. NR 664.1060 is exempt from subs. (1) and (2).

NR 664.1055 Standards: sampling connection systems. (1) Equip each sampling connection system with a closed-purge, closed-loop or closed-vent system. The system shall collect the sample purge for return to the process or for routing to the appropriate treatment system. Gases displaced during filling of the sample container are not required to be collected or captured.

(2) Each closed-purge, closed-loop or closed-vent system required in sub. (1) shall meet one of the following requirements:

(a) It returns the purged process fluid directly to the process line.

(b) It collects and recycles the purged process fluid.

(c) It is designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of ss. NR 664.1084 to 664.1086 or a control device that complies with s. NR 664.1060.

(3) In-situ sampling systems and sampling systems without purges are exempt from subs. (1) and (2).

NR 664.1056 Standards: open-ended valves or lines. (1)(a) Equip each open-ended valve or line with a cap, blind flange, plug or a second valve.

(b) The cap, blind flange, plug or second valve shall seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

(2) Operate each open-ended valve or line equipped with a second valve in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with sub. (1) at all other times.

NR 664.1057 Standards: valves in gas or vapor service or in light liquid service. (1) Monitor each valve in gas, vapor or light liquid service monthly to detect leaks by the methods specified in s. NR 664.1063(2) and comply with subs. (2) to (5), except as provided in subs. (6) to (8) and ss. NR 664.1061 and 664.1062.

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3)(a) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

(b) If a leak is detected, monitor the valve monthly until a leak is not detected for 2 successive months.

(4)(a) When a leak is detected, repair it as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in s. NR 664.1059.

(b) Make a first attempt at repair no later than 5 calendar days after each leak is detected.

(5) First attempts at repair include, but are not limited to, the following best practices where practicable:

(a) Tightening of bonnet bolts.

(b) Replacement of bonnet bolts.

(c) Tightening of packing gland nuts.

(d) Injection of lubricant into lubricated packing.

(6) Any valve that is designated, as described in s. NR 664.1064(7)(b), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from sub. (1) if the valve meets all of the following requirements:

(a) It has no external actuating mechanism in contact with the hazardous waste stream.

(b) It is operated with emissions less than 500 ppm above background determined by the method specified in s. NR 664.1063(3).

(c) It is tested for compliance with par. (b) initially upon designation, annually and at other times requested by the department.

(7) Any valve that is designated, as described in s. NR 664.1064(8)(a), as an unsafe-to-monitor valve is exempt from sub. (1) if the owner or operator does all of the following:

(a) Determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with sub. (1).

(b) Adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(8) Any valve that is designated, as described in s. NR 664.1064(8)(b), as a difficult-to-monitor valve is exempt from sub. (1) if any of the following requirements are met:

(a) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(b) The hazardous waste management unit within which the valve is located was in operation before June 1, 1995.

(c) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

NR 664.1058 Standards: pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service and flanges and other connectors. (1) Monitor pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service and flanges and other connectors within 5 days by the method specified in s. NR 664.1063(2) if evidence of a potential leak is found by visual, audible, olfactory or any other detection method.

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3)(a) When a leak is detected, repair it as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in s. NR 664.1059.

(b) Make the first attempt at repair no later than 5 calendar days after each leak is detected.

(4) First attempts at repair include, but are not limited to, the best practices described under s. NR 664.1057(5).

(5) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass or glass-lined) is exempt from sub. (1) and from s. NR 664.1064.

NR 664.1059 Standards: delay of repair. (1) Delay of repair of equipment for which leaks have been detected shall be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair the equipment before the end of the next hazardous waste management unit shutdown.

(2) Delay of repair of equipment for which leaks have been detected shall be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least 10% by weight.

(3) Delay of repair for valves shall be allowed if all of the following conditions are met:

(a) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(b) When repair procedures are effected, collect and destroy or recover the purged material in a control device complying with s. NR 664.1060.

(4) Delay of repair for pumps shall be allowed if all of the following conditions are met:

(a) The repair requires use of a dual mechanical seal system that includes a barrier fluid system.

(b) The repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(5) Delay of repair beyond a hazardous waste management unit shutdown shall be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Repair may not be delayed beyond the next hazardous waste management unit shutdown unless the next hazardous waste management unit shutdown occurs sooner than 6 months after the first hazardous waste management unit shutdown.

NR 664.1060 Standards: closed-vent systems and control devices. (1) Owners and operators of closed-vent systems and control devices subject to this subchapter shall comply with s. NR 664.1033.

(2)(a) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with this subchapter on the effective date that the facility becomes subject to this subchapter shall prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. Install the controls as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this subchapter for installation and startup.

(b) Any unit that begins operation after June 1, 1995, and is subject to this subchapter when operation begins, shall comply with the rules immediately (i.e., shall have control devices installed and operating on startup of the affected unit; the 30-month implementation schedule does not apply).

(c) The owner or operator of any facility in existence on the effective date of a department rule amendment that renders the facility subject to this subchapter shall comply with this subchapter as soon as practicable but no later than 30 months after the amendment's effective date. When control equipment required by this subchapter cannot be installed and begin operation by the effective date of the amendment, prepare an implementation schedule that includes specific calendar dates for award or contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subchapter. Enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility.

(d) Owners and operators of facilities and units that become newly subject to this subchapter after the effective date of this subsection … [revisor inserts date], due to an action other than those described in par. (c) shall comply with all applicable requirements immediately (i.e., shall have control devices installed and operating on the date the facility or unit becomes subject to this subchapter; the 30-month implementation schedule does not apply).

NR 664.1061 Alternative standards for valves in gas or vapor service or in light liquid service: percentage of valves allowed to leak. (1) An owner or operator subject to s. NR 664.1057 may elect to have all valves within a hazardous waste management unit comply with an alternative standard that allows no greater than 2% of the valves to leak.

(2) An owner or operator who decides to comply with the alternative standard of allowing 2% of valves to leak shall meet all of the following requirements:

(a) Notify the department that the owner or operator has elected to comply with this section.

(b) Conduct a performance test as specified in sub. (3) initially upon designation, annually and at other times requested by the department.

(c) If a valve leak is detected, repair it according to s. NR 664.1057(4) and (5).

(3) Conduct performance tests according to all of the following:

(a) Monitor all valves subject to s. NR 664.1057, within the hazardous waste management unit, within one week by the methods specified in s. NR 664.1063(2).

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c) Determine the leak percentage by dividing the number of valves subject to s. NR 664.1057 for which leaks are detected, by the total number of valves subject to s. NR 664.1057 within the hazardous waste management unit.

(4) An owner or operator who decides to no longer comply with this section, shall notify the department in writing that the owner or operator will follow the work practice standard described in s. NR 664.1057(1) to (5).

NR 664.1062 Alternative standards for valves in gas or vapor service or in light liquid service: skip period leak detection and repair. (1)(a) An owner or operator subject to s. NR 664.1057 may elect for all valves within a hazardous waste management unit to comply with one of the alternative work practices specified in sub. (2)(b) and (c).

(b) An owner or operator shall notify the department before implementing one of the alternative work practices.

(2)(a) An owner or operator shall comply with the requirements for valves in s. NR 664.1057, except as described in pars. (b) and (c).

(b) After 2 consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2%, an owner or operator may begin to skip one of the quarterly leak detection periods (i.e., monitor for leaks once every 6 months) for the valves subject to s. NR 664.1057.

(c) After 5 consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2%, an owner or operator may begin to skip 3 of the quarterly leak detection periods (i.e., monitor for leaks once every year) for the valves subject to s. NR 664.1057.

(d) If the percentage of valves leaking is greater than 2%, the owner or operator shall monitor monthly in compliance with s. NR 664.1057, but may again elect to use this section after meeting s. NR 664.1057(3)(a).

NR 664.1063 Test methods and procedures. (1) Each owner or operator subject to this subchapter shall comply with the test methods and procedures requirements in this section.

(2) Leak detection monitoring, as required in ss. NR 664.1052 to 664.1062, shall comply with all of the following requirements:

(a) Monitoring shall comply with Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(b) The detection instrument shall meet the performance criteria of Method 21.

(c) Calibrate the instrument before use on each day of its use by the procedures in Method 21.

(d) Calibration gases shall be all of the following:

1. Zero air (less than 10 ppm of hydrocarbon in air).

2. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(e) Traverse the instrument probe around all potential leak interfaces as close to the interface as possible as described in Method 21.

(3) When equipment is tested for compliance with no detectable emissions, as required in ss. NR 664.1052(5), 664.1053(9), 664.1054 and 664.1057(6), the test shall comply with all of the following requirements:

(a) Comply with sub. (2)(a) to (d).

(b) Determine the background level, as set forth in Method 21.

(c) Traverse the instrument probe around all potential leak interfaces as close to the interface as possible as described in Method 21.

(d) Compare the arithmetic difference between the maximum concentration indicated by the instrument and the background level with 500 ppm for determining compliance.

(4) According to the waste analysis plan required by s. NR 664.0013(2), an owner or operator of a facility shall determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with an organic concentration that equals or exceeds 10% by weight using any of the following:

(a) Methods described in ASTM Methods D2267-88, E169-87, E168-88 or E260-85, incorporated by reference in s. NR 660.11.

(b) Method 9060 or 8260 of EPA SW-846, incorporated by reference in s. NR 660.11.

(c) Application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. This method requires documentation of a waste determination. Examples of documentation that shall be used to support a determination under this paragraph include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10% or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(5) If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10% by weight, the determination can be revised only after following the procedures in sub. (4)(a) or (b).

(6) When an owner or operator and the department do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10% by weight, the procedures in sub. (4)(a) or (b) can be used to resolve the dispute.

(7) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.

(8) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D2879-86, incorporated by reference in s. NR 660.11.

(9) Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with s. NR 664.1034(3)(a) to (d).

NR 664.1064 Recordkeeping requirements. (1)(a) Each owner or operator subject to this subchapter shall comply with this section.

(b) An owner or operator of more than one hazardous waste management unit subject to this subchapter may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(2) Owners and operators shall record all of the following information in the facility operating record:

(a) For each piece of equipment to which this subchapter applies:

1. Equipment identification number and hazardous waste management unit identification.

2. Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).

3. Type of equipment (e.g., a pump or pipeline valve).

4. Percent-by-weight total organics in the hazardous waste stream at the equipment.

5. Hazardous waste state at the equipment (e.g., gas or vapor or liquid).

6. Method of compliance with the standard (e.g., ”monthly leak detection and repair” or ”equipped with dual mechanical seals”).

(b) For facilities that comply with s. NR 664.1033(1)(b), an implementation schedule as specified in s. NR 664.1033(1)(b).

(c) Where an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in s. NR 664.1035(2)(c).

(d) Documentation of compliance with s. NR 664.1060, including the detailed design documentation or performance test results specified in s. NR 664.1035(2)(d).

(3) When each leak is detected as specified in ss. NR 664.1052, 664.1053, 664.1057 and 664.1058, all of the following requirements apply:

(a) Attach to the leaking equipment a weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found according to s. NR 664.1058(1) and the date the leak was detected.

(b) The identification on equipment, except on a valve, may be removed after it has been repaired.

(c) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in s. NR 664.1057(3) and no leak has been detected during those 2 months.

(4) When each leak is detected as specified in ss. NR 664.1052, 664.1053, 664.1057 and 664.1058, record all of the following information in an inspection log and keep it in the facility operating record:

(a) The instrument and operator identification numbers and the equipment identification number.

(b) The date evidence of a potential leak was found according to s. NR 664.1058(1).

(c) The date the leak was detected and the dates of each attempt to repair the leak.

(d) Repair methods applied in each attempt to repair the leak.

(e) ”Above 10,000” if the maximum instrument reading measured by the methods specified in s. NR 664.1063(2) after each repair attempt is equal to or greater than 10,000 ppm.

(f) ”Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(g) Documentation supporting the delay of repair of a valve in compliance with s. NR 664.1059(3).

(h) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.

(i) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(j) The date of successful repair of the leak.

(5) Record design documentation and monitoring, operating and inspection information for each closed-vent system and control device required to comply with s. NR 664.1060 and keep them up-to-date in the facility operating record as specified in s. NR 664.1035(3). Design documentation is specified in s. NR 664.1035(3)(a) and (b) and monitoring, operating and inspection information in s. NR 664.1035(3)(c) to (h).

(6) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser or carbon adsorption system, the department shall specify the appropriate recordkeeping requirements.

(7) Record all of the following information pertaining to all equipment subject to ss. NR 664.1052 to 664.1060 in a log that is kept in the facility operating record:

(a) A list of identification numbers for equipment (except welded fittings) subject to this subchapter.

(b)1. A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under ss. NR 664.1052(5), 664.1053(9) and 664.1057(6).

2. The designation of this equipment as subject to s. NR 664.1052(5), 664.1053(9) or 664.1057(6), signed by the owner or operator.

(c) A list of equipment identification numbers for pressure relief devices required to comply with s. NR 664.1054(1).

(d)1. The dates of each compliance test required in ss. NR 664.1052(5), 664.1053(9), 664.1054 and 664.1057(6).

2. The background level measured during each compliance test.

3. The maximum instrument reading measured at the equipment during each compliance test.

(e) A list of identification numbers for equipment in vacuum service.

(f) Identification, either by list or location (area or group) of equipment that contains or contacts hazardous waste with an organic concentration of at least 10% by weight for less than 300 hours per calendar year.

(8) Record all of the following information pertaining to all valves subject to s. NR 664.1057(7) and (8) in a log that is kept in the facility operating record:

(a) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor and the plan for monitoring each valve.

(b) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor and the planned schedule for monitoring each valve.

(9) Record all of the following information in the facility operating record for valves complying with s. NR 664.1062:

(a) A schedule of monitoring.

(b) The percent of valves found leaking during each monitoring period.

(10) Record all of the following information in a log that is kept in the facility operating record:

(a) Criteria required in ss. NR 664.1052(4)(e)2. and 664.1053(5)(b) and an explanation of the design criteria.

(b) Any changes to these criteria and the reasons for the changes.

(11) Record all of the following information in a log that is kept in the facility operating record for use in determining exemptions in the applicability section of this subchapter and other specific subchapters:

(a) An analysis determining the design capacity of the hazardous waste management unit.

(b) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to ss. NR 664.1052 to 664.1060 and an analysis determining whether these hazardous wastes are heavy liquids.

(c) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to ss. NR 664.1052 to 664.1060. The record shall include supporting documentation as required by s. NR 664.1063(4)(c) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to ss. NR 664.1052 to 664.1060, then a new determination is required.

(12) Keep records of the equipment leak information required by sub. (4) and the operating information required by sub. (5) for at least 3 years.

(13) The owner or operator of a facility with equipment that is subject to this subchapter and to 40 CFR part 60, 61 or 63, or to corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469, may elect to determine compliance with this subchapter either by documentation pursuant to this section, or by documentation of compliance with 40 CFR part 60, 61 or 63, or with corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469, pursuant to the relevant provisions of 40 CFR part 60, 61 or 63, or the corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469. Keep the documentation of compliance with 40 CFR part 60, 61 or 63, or corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469, with or make it readily available with the facility operating record.

NR 664.1065 Reporting requirements. (1) Owners and operators subject to this subchapter shall submit a semiannual report to the department by dates specified by the department. The report shall include all of the following information:

(a) The EPA identification number, name and address of the facility.

(b) For each month during the semiannual reporting period:

1. The equipment identification number of each valve for which a leak was not repaired as required in s. NR 664.1057(4).

2. The equipment identification number of each pump for which a leak was not repaired as required in s. NR 664.1052(3) and (4)(f).

3. The equipment identification number of each compressor for which a leak was not repaired as required in s. NR 664.1053(7).

(c) Dates of hazardous waste management unit shutdowns that occurred within the semiannual reporting period.

(d) For each month during the semiannual reporting period, dates when the control device installed as required by s. NR 664.1052, 664.1053, 664.1054 or 664.1055 exceeded or operated outside of the design specifications as defined in s. NR 664.1064(5) and as indicated by the control device monitoring required by s. NR 664.1060 and was not corrected within 24 hours, the duration and cause of each exceedance and any corrective measures taken.

(2) If, during the semiannual reporting period, leaks from valves, pumps and compressors are repaired as required in ss. NR 664.1057(4), 664.1052(3) and (4)(f), and 664.1053(7), respectively, and the control device does not exceed or operate outside of the design specifications as defined in s. NR 664.1064(5) for more than 24 hours, a report to the department is not required.

Subchapter CC —Air Emission Standards for Tanks, Surface Impoundments and Containers

NR 664.1080 Applicability. (1) This subchapter applies to owners and operators of all facilities that treat, store or dispose of hazardous waste in containers, tanks or surface impoundments subject to subch. I, J or K except as s. NR 664.0001 and sub. (2) provide otherwise.

(2) This subchapter does not apply to the following waste management units at the facility:

(a) A waste management unit that holds hazardous waste placed in the unit before June 1, 1998, and in which no hazardous waste is added to the unit on or after June 1, 1998.

(b) A container that has a design capacity less than or equal to 0.1 m^3.

(c) A tank in which an owner or operator has stopped adding hazardous waste and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(d) A surface impoundment in which an owner or operator has stopped adding hazardous waste (except to implement an approved closure plan) and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(e) A waste management unit that is used solely for on-site treatment or storage of hazardous waste that is placed in the unit as a result of implementing remedial activities required under the corrective action authorities of 42 USC 6924(u) or (v), 6928(h) or 9601 to 9675, similar federal authorities or s. 291.37 or 292.11, Stats.

(f) A waste management unit that is used solely for the management of radioactive mixed waste according to all applicable regulations under the authority of 42 USC 2011 to 2297 and 10101 to 10270.

Note: The U.S. code (USC) cites in this paragraph are also known as the federal atomic energy act and the federal nuclear waste policy act, respectively.

(g) A hazardous waste management unit that the owner or operator certifies is equipped with and operating air emission controls according to 40 CFR part 60, 61 or 63, or to corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469. For the purpose of complying with this paragraph, a tank for which the air emission control includes an enclosure, as opposed to a cover, shall be in compliance with the enclosure and control device requirements of s. NR 664.1084(9), except as provided in s. NR 664.1082(3)(e).

(h) A tank that has a process vent as defined in s. NR 664.1031.

(3) For the owner and operator of a facility subject to this subchapter who received an operating license under s. 291.25, Stats., prior to June 1, 1998, the requirements of this subchapter shall be

incorporated into the license when it is reissued according to s. NR 670.415 or reviewed according to s. NR 670.050(4). Until the date when the license is reissued according to s. NR 670.415 or reviewed according to s. NR 670.050(4), the owner and operator is subject to subch. CC of ch. NR 665.

(4) The requirements of this subchapter, except for the recordkeeping requirements in s. NR 664.1089(9), are administratively stayed for a tank or a container used to manage hazardous waste generated by organic peroxide manufacturing and its associated laboratory operations when the owner or operator of the unit meets all of the following conditions:

(a) The owner or operator identifies that the tank or container receives hazardous waste generated by an organic peroxide manufacturing process producing more than one functional family of organic peroxides or multiple organic peroxides within one functional family, that one or more of these organic peroxides could potentially undergo self-accelerating thermal decomposition at or below ambient temperatures and that organic peroxides are the predominant products manufactured by the process. For the purpose of meeting the conditions of this subsection, ”organic peroxide” means an organic compound that contains the bivalent —O—O— structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

(b) The owner or operator prepares documentation, according to s. NR 664.1089(9), explaining why an undue safety hazard would be created if air emission controls specified in ss. NR 664.1084 to 664.1087 are installed and operated on the tanks and containers used at the facility to manage the hazardous waste generated by the organic peroxide manufacturing process or processes meeting par. (a).

(c) The owner or operator notifies the department in writing that hazardous waste generated by an organic peroxide manufacturing process or processes meeting par. (a) are managed at the facility in tanks or containers meeting par. (b). The notification shall state the name and address of the facility and be signed and dated by an authorized representative of the facility owner or operator.

NR 664.1081 Definitions. As used in this subchapter, all terms shall have the meaning given them in s. NR 665.1081, ch. 291, Stats., and chs. NR 660 to 666.

NR 664.1082 Standards: general. (1) This section applies to the management of hazardous waste in tanks, surface impoundments and containers subject to this subchapter.

(2) The owner or operator shall control air pollutant emissions from each hazardous waste management unit according to the standards in ss. NR 664.1084 to 664.1087, as applicable to the hazardous waste management unit, except as provided in sub. (3).

(3) A tank, surface impoundment or container is exempt from the standards in ss. NR 664.1084 to 664.1087, as applicable, provided that the waste management unit is one of the following:

(a) A tank, surface impoundment or container for which all hazardous waste entering the unit has an average VO concentration at the point of waste origination of less than 500 parts per million by weight (ppmw). Determine the average VO concentration using the procedures in s. NR 664.1083(1). Review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous waste streams entering the unit.

(b) A tank, surface impoundment or container for which the organic content of all the hazardous waste entering the waste management unit has been reduced by an organic destruction or removal process that achieves any one of the following conditions:

1. A process that removes or destroys the organics contained in the hazardous waste to a level such that the average VO concentration of the hazardous waste at the point of waste treatment is less than the exit concentration limit (C_t) established for the process. Determine the average VO concentration of the hazardous waste at the point of waste treatment and the exit concentration limit for the process using the procedures in s. NR 664.1083(2).

2. A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95%, and the average VO concentration of the hazardous waste at the point of waste treatment is less than 100 ppmw.

Determine the organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste treatment using the procedures in s. NR 664.1083(2).

3. A process that removes or destroys the organics contained in the hazardous waste to a level such that the actual organic mass removal rate (MR) for the process is equal to or greater than the required organic mass removal rate (RMR) established for the process. Determine the required organic mass removal rate and the actual organic mass removal rate for the process using the procedures in s. NR 664.1083(2).

4. A biological process that destroys or degrades the organics contained in the hazardous waste, such that any of the following conditions is met:

a. The organic reduction efficiency (R) for the process is equal to or greater than 95%, and the organic biodegradation efficiency (R_{bio}) for the process is equal to or greater than 95%. Determine the organic reduction efficiency and the organic biodegradation efficiency for the process using the procedures in s. NR 664.1083(2).

b. The total actual organic mass biodegradation rate (MR_{bio}) for all hazardous waste treated by the process is equal to or greater than the required organic mass removal rate (RMR). Determine the required organic mass removal rate and the actual organic mass biodegradation rate for the process using the procedures in s. NR 664.1083(2).

5. A process that removes or destroys the organics contained in the hazardous waste and meets all of the following conditions:

a. From the point of waste origination through the point where the hazardous waste enters the treatment process, the hazardous waste is managed continuously in waste management units which use air emission controls according to the standards in ss. NR 664.1084 to 664.1087, as applicable to the waste management unit.

b. From the point of waste origination through the point where the hazardous waste enters the treatment process, any transfer of the hazardous waste is accomplished through continuous hard-piping or other closed system transfer that does not allow exposure of the waste to the atmosphere. A drain system that meets 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems is a closed system.

c. The average VO concentration of the hazardous waste at the point of waste treatment is less than the lowest average VO concentration at the point of waste origination determined for each of the individual waste streams entering the process or 500 ppmw, whichever value is lower. Determine the average VO concentration of each individual waste stream at the point of waste origination using the procedures in s. NR 664.1083(1). Determine the average VO concentration of the hazardous waste at the point of waste treatment using the procedures in s. NR 664.1083(2).

6. A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95% and the owner or operator certifies that the average VO concentration at the point of waste origination for each of the individual waste streams entering the process is less than 10,000 ppmw. Determine the organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste origination using the procedures in s. NR 664.1083(2) and (1), respectively.

7. A hazardous waste incinerator for which any of the following conditions has been met:

a. The owner or operator has been issued an operating license under ch. NR 670 which implements subch. O.

b. The owner or operator has designed and operates the incinerator according to the interim license requirements of subch. O of ch. NR 665.

8. A boiler or industrial furnace for which any of the following conditions has been met:

a. The owner or operator has been issued an operating license under ch. NR 670 which implements subch. H of ch. NR 666.

b. The owner or operator has designed and operates the boiler or industrial furnace according to the interim license requirements of subch. H of ch. NR 666.

9. For the purpose of determining the performance of an organic destruction or removal process according to subds. 1. to 6., the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method using the following VO concentration:

a. If Method 25D in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, is used for the analysis, one-half the blank value determined in the method at section 4.4, or a value of 25 ppmw, whichever is less.

b. If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant value at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m^3] at 25°C.

(c) A tank or surface impoundment used for biological treatment of hazardous waste according to par. (b)4.

(d) A tank, surface impoundment or container for which all hazardous waste placed in the unit meets any of the following conditions:

1. The waste meets the numerical concentration limits for organic hazardous constituents, applicable to the hazardous waste, as specified in ch. NR 668—Hazardous Waste Land Disposal Restrictions under Table "Treatment Standards for Hazardous Waste" in s. NR 668.40.

2. The organic hazardous constituents in the waste have been treated by the treatment technology established by the department for the waste in s. NR 668.42(1), or have been removed or destroyed by an equivalent method of treatment approved by EPA pursuant to 40 CFR 268.42(b).

(e) A tank used for bulk feed of hazardous waste to a waste incinerator and all of the following conditions are met:

1. The tank is located inside an enclosure vented to a control device that is designed and operated according to all applicable requirements in 40 CFR part 61, subpart FF—National Emission Standards for Benzene Waste Operations, for a facility at which the total annual benzene quantity from the facility waste is equal to or greater than 10 megagrams per year.

2. The enclosure and control device serving the tank were installed and began operation prior to June 1, 1998.

3. The enclosure is designed and operated according to the criteria for a permanent total enclosure in Method 204—"Criteria for and Verification of a Permanent or Temporary Total Enclosure" of appendix M of 40 CFR part 51, incorporated by reference in s. NR 660.11. The enclosure may have permanent or temporary openings to allow worker access, passage of material into or out of the enclosure by conveyor, vehicles or other mechanical or electrical equipment or to direct air flow into the enclosure. Perform the verification procedure for the enclosure in Section 8 of Method 204 annually.

(4) The department may at any time perform or request that the owner or operator perform a waste determination for a hazardous waste managed in a tank, surface impoundment or container exempted from using air emission controls under this section as follows:

(a) Perform the waste determination for average VO concentration of a hazardous waste at the point of waste origination using direct measurement according to the applicable requirements of s. NR 664.1083(1). Perform the waste determination for a hazardous waste at the point of waste treatment according to the applicable requirements of s. NR 664.1083(2).

(b) In performing a waste determination pursuant to par. (a), conduct the sample preparation and analysis as follows:

1. According to the method used by the owner or operator to perform the waste analysis, except in the case specified in subd. 2.

2. If the department determines that the method used by the owner or operator was not appropriate for the hazardous waste managed in the tank, surface impoundment or container, then the department may choose an appropriate method.

(c) In a case when the owner or operator is requested to perform the waste determination, the department may elect to have an authorized representative observe the collection of the hazardous waste samples used for the analysis.

(d) In a case when the results of the waste determination performed or requested by the department do not agree with the results of a waste determination performed by the owner or operator using knowledge of the waste, use the results of the waste determination performed according to par. (a) to establish compliance with this subchapter.

(e) In a case when the owner or operator has used an averaging period greater than one hour for determining the average VO concentration of a hazardous waste at the point of waste origination, the department may elect to establish compliance with this subchapter by performing, or requesting that the owner or operator perform, a waste determination using direct measurement based on waste samples collected within a one-hour period as follows:

1. Determine the average VO concentration of the hazardous waste at the point of waste origination by direct measurement according to s. NR 664.1083(1).

2. Results of the waste determination performed or requested by the department showing that the average VO concentration of the hazardous waste at the point of waste origination is equal to or greater than 500 ppmw shall constitute noncompliance with this subchapter except in a case provided for in subd. 3.

3. For the case when the average VO concentration of the hazardous waste at the point of waste origination previously has been determined by the owner or operator using an averaging period greater than one hour to be less than 500 ppmw but because of normal operating process variations the VO concentration of the hazardous waste determined by direct measurement for any given one-hour period may be equal to or greater than 500 ppmw, the department shall consider information that was used by the owner or operator to determine the average VO concentration of the hazardous waste (e.g., test results, measurements, calculations and other documentation) and recorded in the facility records according to ss. NR 664.1083(1) and 664.1089 together with the results of the waste determination performed or requested by the department in establishing compliance with this subchapter.

NR 664.1083 Waste determination procedures. (1) PROCEDURE TO DETERMINE AVERAGE VO CONCENTRATION OF A HAZARDOUS WASTE AT THE POINT OF WASTE ORIGINATION. (a) An owner or operator shall determine the average VO concentration at the point of waste origination for each hazardous waste placed in a waste management unit exempted under s. NR 664.1082(3)(a) from using air emission controls according to the standards in ss. NR 664.1084 to 664.1087, as applicable to the waste management unit. Make the determinations according to all of the following:

1. Make an initial determination of the average VO concentration of the waste stream before the first time any portion of the material in the hazardous waste stream is placed in a waste management unit exempted under s. NR 664.1082(3)(a) from using air emission controls, and thereafter make an initial determination of the average VO concentration of the waste stream for each averaging period that a hazardous waste is managed in the unit.

2. Perform a new waste determination whenever changes to the source generating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level that is equal to or greater than the applicable VO concentration limits in s. NR 664.1082.

(b) For a waste determination that is required by par. (a), determine the average VO concentration of a hazardous waste at the point of waste origination according to the procedures in s. NR 665.1084(1)(b) to (d).

(2) PROCEDURES FOR TREATED HAZARDOUS WASTE. (a) An owner or operator shall perform the applicable waste determinations for each treated hazardous waste placed in waste management units

exempted under s. NR 664.1082(3)(b)1. to 6. from using air emission controls according to standards in ss. NR 664.1084 to 664.1087, as applicable to the waste management unit. Make the determinations according to all of the following:

1. Make an initial determination of the average VO concentration of the waste stream before the first time any portion of the material in the treated waste stream is placed in the exempt waste management unit, and thereafter update the information used for the waste determination at least once every 12 months following the date of the initial waste determination.

2. Perform a new waste determination whenever changes to the process generating or treating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level such that the applicable treatment conditions specified in s. NR 664.1082(3)(b) are not achieved.

(b) Perform the waste determination for a treated hazardous waste according to the procedures in s. NR 665.1084(2)(b) to (i), as applicable to the treated hazardous waste.

(3) PROCEDURE TO DETERMINE THE MAXIMUM ORGANIC VAPOR PRESSURE OF A HAZARDOUS WASTE IN A TANK. (a) An owner or operator shall determine the maximum organic vapor pressure for each hazardous waste placed in a tank using Tank Level 1 controls according to standards in s. NR 664.1084(3).

(b) The maximum organic vapor pressure of the hazardous waste may be determined according to the procedures in s. NR 665.1084(3)(b) to (d).

(4) PROCEDURE FOR DETERMINING NO DETECTABLE ORGANIC EMISSIONS. For the purpose of complying with this subchapter, an owner or operator shall determine no detectable organic emissions according to the procedures in s. NR 665.1084(4).

NR 664.1084 Standards: tanks. (1) This section applies to the control of air pollutant emissions from tanks for which s. NR 664.1082(2) references the use of this section for the air emission control.

(2) The owner or operator shall control air pollutant emissions from each tank subject to this section according to one of the following requirements as applicable:

(a) For a tank that manages hazardous waste that meets all of the following conditions, control air pollutant emissions from the tank according to the Tank Level 1 controls specified in sub. (3) or the Tank Level 2 controls specified in sub. (4):

1. The hazardous waste in the tank has a maximum organic vapor pressure which is less than the maximum organic vapor pressure limit for the tank's design capacity category as follows:

a. For a tank design capacity equal to or greater than 151 m^3, the maximum organic vapor pressure limit for the tank is 5.2 kPa.

b. For a tank design capacity equal to or greater than 75 m^3 but less than 151 m^3, the maximum organic vapor pressure limit for the tank is 27.6 kPa.

c. For a tank design capacity less than 75 m^3, the maximum organic vapor pressure limit for the tank is 76.6 kPa.

2. The hazardous waste in the tank is not heated to a temperature that is greater than the temperature at which the maximum organic vapor pressure of the hazardous waste is determined for the purpose of complying with subd. 1.

3. The hazardous waste in the tank is not treated using a waste stabilization process, as defined in s. NR 665.1081.

(b) For a tank that manages hazardous waste that does not meet all of the conditions in par. (a)1. to 3., control air pollutant emissions from the tank using Tank Level 2 controls according to sub. (4). Examples of tanks required to use Tank Level 2 controls include a tank used for a waste stabilization process, and a tank for which the hazardous waste in the tank has a maximum organic vapor pressure that is equal to or greater than the maximum organic vapor pressure limit for the tank's design capacity category as specified in par. (a)1.

(3) Owners and operators controlling air pollutant emissions from a tank using Tank Level 1 controls shall meet all of the following requirements:

(a) Determine the maximum organic vapor pressure for a hazardous waste to be managed in the tank using Tank Level 1 controls before the first time the hazardous waste is placed in the tank. Determine the maximum organic vapor pressure using the procedures in s. NR 664.1083(3). Thereafter, perform a new determination whenever changes to the hazardous waste managed in the tank could potentially cause the maximum organic vapor pressure to increase to a level that is equal to or greater than the maximum organic vapor pressure limit for the tank design capacity category specified in sub. (2)(a)1., as applicable to the tank.

(b) Equip the tank with a fixed roof designed to meet all of the following specifications:

1. Design the fixed roof and its closure devices to form a continuous barrier over the entire surface area of the hazardous waste in the tank. The fixed roof may be a separate cover installed on the tank (e.g., a removable cover mounted on an open-top tank) or may be an integral part of the tank structural design (e.g., a horizontal cylindrical tank equipped with a hatch).

2. Install the fixed roof in a manner such that there are no visible cracks, holes, gaps or other open spaces between roof section joints or between the interface of the roof edge and the tank wall.

3. Each opening in the fixed roof, and any manifold system associated with the fixed roof, shall be any of the following:

a. Equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps or other open spaces in the closure device or between the perimeter of the opening and the closure device.

b. Connected by a closed-vent system that is vented to a control device. The control device shall remove or destroy organics in the vent stream, and shall be operating whenever hazardous waste is managed in the tank, except as follows:

1) During periods when it is necessary to provide access to the tank for performing the activities of subd. 3.b.2), venting of the vapor headspace underneath the fixed roof to the control device is not required, opening of closure devices is allowed and removal of the fixed roof is allowed. After completing the activity, promptly secure the closure device in the closed position or reinstall the cover, as applicable, and resume operation of the control device.

2) During periods of routine inspection, maintenance or other activities needed for normal operations, and for removal of accumulated sludge or other residues from the bottom of the tank.

4. Make the fixed roof and its closure devices of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to consider when selecting the materials for and designing the fixed roof and closure devices shall include organic vapor permeability, the effects of any contact with the hazardous waste or its vapors managed in the tank, the effects of outdoor exposure to wind, moisture and sunlight and the operating practices used for the tank on which the fixed roof is installed.

(c) Whenever a hazardous waste is in the tank, install the fixed roof with each closure device secured in the closed position except as follows:

1. Opening of closure devices or removal of the fixed roof is allowed at the following times:

a. To provide access to the tank for performing routine inspection, maintenance or other activities needed for normal operations. Examples of those activities include those times when a worker needs to open a port to sample the liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. After completing the activity, promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

b. To remove accumulated sludge or other residues from the bottom of the tank.

2. Opening of a spring-loaded pressure-vacuum relief valve, conservation vent or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose

of maintaining the tank internal pressure according to the tank design specifications. Design the device to operate with no detectable organic emissions when the device is secured in the closed position. Establish the settings at which the device opens such that the device remains in the closed position whenever the tank internal pressure is within the internal pressure operating range determined by the owner or operator based on the tank manufacturer recommendations, applicable rules, fire protection and prevention codes, standard engineering codes and practices or other requirements for the safe handling of flammable, ignitable, explosive, reactive or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the tank internal pressure exceeds the internal pressure operating range for the tank as a result of loading operations or diurnal ambient temperature fluctuations.

3. Opening of a safety device, as defined in s. NR 665.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(d) Inspect the air emission control equipment according to all of the following requirements:

1. Visually inspect the fixed roof and its closure devices to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes or gaps in the roof sections or between the roof and the tank wall, broken, cracked or otherwise damaged seals or gaskets on closure devices and broken or missing hatches, access covers, caps or other closure devices.

2. Perform an initial inspection of the fixed roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, perform the inspections at least once every year except under the special conditions provided for in sub. (12).

3. In the event that a defect is detected, repair the defect according to sub. (11).

4. Maintain a record of the inspection according to s. NR 664.1089(2).

(4) Owners and operators controlling air pollutant emissions from a tank using Tank Level 2 controls shall use one of the following tanks:

(a) A fixed-roof tank equipped with an internal floating roof according to sub. (5).

(b) A tank equipped with an external floating roof according to sub. (6).

(c) A tank vented through a closed-vent system to a control device according to sub. (7).

(d) A pressure tank designed and operated according to sub. (8).

(e) A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device according to sub. (9).

(5) The owner or operator who controls air pollutant emissions from a tank using a fixed roof with an internal floating roof shall meet pars. (a) to (c).

(a) Equip the tank with a fixed roof and an internal floating roof according to all of the following requirements:

1. Design the internal floating roof to float on the liquid surface except when the floating roof must be supported by the leg supports.

2. Equip the internal floating roof with a continuous seal between the wall of the tank and the floating roof edge that meets any of the following requirements:

a. A single continuous seal that is either a liquid-mounted seal or a metallic shoe seal, as defined in s. NR 665.1081.

b. Two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal.

3. The internal floating roof shall meet all of the following specifications:

a. Each opening in a non-contact internal floating roof, except for automatic bleeder vents (vacuum breaker vents) and the rim space vents, provides a projection below the liquid surface.

b. Each opening in the internal floating roof is equipped with a gasketed cover or a gasketed lid except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells and stub drains.

c. Each penetration of the internal floating roof for the purpose of sampling has a slit fabric cover that covers at least 90% of the opening.

d. Each automatic bleeder vent and rim space vent is gasketed.

e. Each penetration of the internal floating roof that allows for passage of a ladder has a gasketed sliding cover.

f. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof has a flexible fabric sleeve seal or a gasketed sliding cover.

(b) Operate the tank according to all of the following requirements:

1. When the floating roof is resting on the leg supports, the process of filling, emptying or refilling shall be continuous and shall be completed as soon as practical.

2. Set automatic bleeder vents to set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

3. Prior to filling the tank, bolt or fasten closed (i.e., no visible gaps) each cover, access hatch, gauge float well or lid on any opening in the internal floating roof. Set rim space vents to open only when the internal floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended setting.

(c) Inspect the internal floating roof according to all of the following requirements:

1. Visually inspect the floating roof and its closure devices to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, the internal floating roof is not floating on the surface of the liquid inside the tank, liquid has accumulated on top of the internal floating roof, any portion of the roof seals have detached from the roof rim, holes, tears or other openings are visible in the seal fabric, the gaskets no longer close off the hazardous waste surface from the atmosphere or the slotted membrane has more than 10% open area.

2. Inspect the internal floating roof components as follows, except as provided in subd. 3.:

a. Visually inspect the internal floating roof components through openings on the fixed-roof (e.g., manholes and roof hatches) at least once every 12 months after initial fill.

b. Visually inspect the internal floating roof, primary seal, secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the tank is emptied and degassed and at least every 10 years.

3. As an alternative to performing the inspections in subd. 2. for an internal floating roof equipped with 2 continuous seals mounted one above the other, visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes and sleeve seals (if any) each time the tank is emptied and degassed and at least every 5 years.

4. Prior to each inspection required by subd. 2. or 3., notify the department in advance of each inspection to provide the department with the opportunity to have an observer present during the inspection. Notify the department of the date and location of the inspection as follows:

a. Prior to each visual inspection of an internal floating roof in a tank that has been emptied and degassed, prepare and send written notification so that the department receives it at least 30 calendar days before refilling the tank, except when an inspection is not planned as provided for in subd. 4.b.

b. When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, notify the department as soon as possible, but no later than 7 calendar days before refilling the tank. Make this notification by telephone and immediately follow with a written explanation for why the inspection is unplanned. Alternatively, send written notification, including the explanation for the unplanned inspection, so that the department receives it at least 7 calendar days before refilling the tank.

5. In the event that a defect is detected, repair the defect according to sub. (11).

6. Maintain a record of the inspection according to the requirements in s. NR 664.1089(2).

(d) Safety devices, as defined in s. NR 665.1081, may be installed and operated as necessary on any tank complying with this subsection.

(6) The owner or operator who controls air pollutant emissions from a tank using an external floating roof shall meet pars. (a) to (c).

(a) Design the external floating roof according to all of the following requirements:

1. Design the external floating roof to float on the liquid surface except when the floating roof must be supported by the leg supports.

2. Equip the floating roof with 2 continuous seals, one above the other, between the wall of the tank and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

a. The primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in s. NR 665.1081. The total area of the gaps between the tank wall and the primary seal may not exceed 212 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps may not exceed 3.8 centimeters (cm). If a metallic shoe seal is used for the primary seal, design the metallic shoe seal so that one end extends into the liquid in the tank and the other end extends a vertical distance of at least 61 centimeters above the liquid surface.

b. Mount the secondary seal above the primary seal and cover the annular space between the floating roof and the wall of the tank. The total area of the gaps between the tank wall and the secondary seal may not exceed 21.2 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps may not exceed 1.3 centimeters (cm).

3. The external floating roof shall meet all of the following specifications:

a. Except for automatic bleeder vents (vacuum breaker vents) and rim space vents, each opening in a non-contact external floating roof shall project below the liquid surface.

b. Except for automatic bleeder vents, rim space vents, roof drains and leg sleeves, equip each opening in the roof with a gasketed cover, seal or lid.

c. Equip each access hatch and each gauge float well with a cover designed to be bolted or fastened when the cover is secured in the closed position.

d. Equip each automatic bleeder vent and each rim space vent with a gasket.

e. Equip each roof drain that empties into the liquid managed in the tank with a slotted membrane fabric cover that covers at least 90% of the area of the opening.

f. Equip each unslotted and slotted guide pole well with a gasketed sliding cover or a flexible fabric sleeve seal.

g. Equip each unslotted guide pole with a gasketed cap on the end of the pole.

h. Equip each slotted guide pole with a gasketed float or other device which closes off the liquid surface from the atmosphere.

i. Equip each gauge hatch and each sample well with a gasketed cover.

(b) Operate the tank according to all of the following requirements:

1. When the floating roof is resting on the leg supports, the process of filling, emptying or refilling shall be continuous and shall be completed as soon as practical.

2 Except for automatic bleeder vents, rim space vents, roof drains and leg sleeves, secure and maintain each opening in the roof in a closed position at all times except when the closure device must be open for access.

3. Bolt or fasten covers on each access hatch and each gauge float well when secured in the closed position.

4. Set closed automatic bleeder vents at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

5. Set to open rim space vents only at those times that the roof is being floated off the roof leg supports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

6. Secure the cap on the end of each unslotted guide pole in the closed position at all times except when measuring the level of the liquid in the tank or collecting samples of the liquid.

7. Secure the cover on each gauge hatch or sample well in the closed position at all times except when the hatch or well must be opened for access.

8. Both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the tank in a continuous fashion except during inspections.

(c) Inspect the external floating roof according to all of the following procedures:

1. Measure the external floating roof seal gaps according to all of the following requirements:

a. Perform measurements of gaps between the tank wall and the primary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every 5 years.

b. Perform measurements of gaps between the tank wall and the secondary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every year.

c. If a tank ceases to hold hazardous waste for a period of one year or more, subsequent introduction of hazardous waste into the tank is an initial operation for the purposes of subd. 1.a. and b.

d. Determine the total surface area of gaps in the primary seal and in the secondary seal individually using the following procedure:

1) Perform the seal gap measurements at one or more floating roof levels when the roof is floating off the roof supports.

2) Measure seal gaps, if any, around the entire perimeter of the floating roof in each place where a 0.32-centimeter (cm) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the tank and measure the circumferential distance of each location.

3) For a seal gap measured under this paragraph, determine the gap surface area by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each width by its respective circumferential distance.

4) Calculate the total gap area by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal diameter of the tank. Then compare these total gap areas per unit of tank diameter for the primary seal and secondary seal to the respective standards for the seal type in par. (a)2.

e. In the event that the seal gap measurements do not conform to the specifications in par. (a)2., repair the defect according to sub. (11).

f. Maintain a record of the inspection according to s. NR 664.1089(2).

2. Visually inspect the external floating roof according to all of the following requirements:

a. Visually inspect the floating roof and its closure devices to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, holes, tears or other openings in the rim seal or seal fabric of the floating roof, a rim seal detached from the floating roof, all or a portion of the floating roof deck being submerged below the surface of the liquid in the tank, broken, cracked or otherwise damaged seals or gaskets on closure devices and broken or missing hatches, access covers, caps or other closure devices.

b. Perform an initial inspection of the external floating roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, perform the inspections at least once every year except for the special conditions provided for in sub. (12).

c. In the event that a defect is detected, repair the defect according to sub. (11).

d. Maintain a record of the inspection according to s. NR 664.1089(2).

3. Prior to each inspection required by subd. 1. or 2., notify the department in advance of each inspection to provide the department with the opportunity to have an observer present during the inspection. Notify the department of the date and location of the inspection as follows:

a. Prior to each inspection to measure external floating roof seal gaps as required under subd. 1., prepare and send written notification so that the department receives it at least 30 calendar days before the date the measurements are scheduled to be performed.

b. Prior to each visual inspection of an external floating roof in a tank that has been emptied and degassed, prepare and send written notification so that the department receives it at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in subd. 3.c.

c. When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, notify the department as soon as possible, but no later than 7 calendar days before refilling the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that the department receives it at least 7 calendar days before refilling the tank.

(d) Safety devices, as defined in s. NR 665.1081, may be installed and operated as necessary on any tank complying with this subsection.

(7) The owner or operator who controls air pollutant emissions from a tank by venting the tank to a control device shall meet all of the following requirements:

(a) Cover the tank with a fixed roof and vent the tank directly through a closed-vent system to a control device according to all of the following requirements:

1. Design the fixed roof and its closure devices to form a continuous barrier over the entire surface area of the liquid in the tank.

2. Equip each opening in the fixed roof not vented to the control device with a closure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, design the closure devices to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, design the closure device to operate with no detectable organic emissions.

3. Make the fixed roof and its closure devices of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to consider when selecting the materials for and designing the fixed roof and closure devices shall include organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the tank, the effects of outdoor exposure to wind, moisture and sunlight and the operating practices used for the tank on which the fixed roof is installed.

4. Design and operate the closed-vent system and control device according to s. NR 664.1087.

(b) Whenever a hazardous waste is in the tank, install the fixed roof with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

1. Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

a. To provide access to the tank for performing routine inspection, maintenance or other activities needed for normal operations. Examples of those activities include those times when a worker needs to open a port to sample liquid in the tank or when a worker needs to open a hatch to maintain or repair equipment. After completing the activity, promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

b. To remove accumulated sludge or other residues from the bottom of the tank.

2. Opening of a safety device, as defined in s. NR 665.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(c) Inspect and monitor the air emission control equipment according to all of the following procedures:

1. Visually inspect the fixed roof and its closure devices to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes or gaps in the roof

sections or between the roof and the tank wall, broken, cracked or otherwise damaged seals or gaskets on closure devices and broken or missing hatches, access covers, caps or other closure devices.

2. Inspect and monitor the closed-vent system and control device according to the procedures in s. NR 664.1087.

3. Perform an initial inspection of the air emission control equipment on or before the date that the tank becomes subject to this section. Thereafter, perform the inspections at least once every year except for the special conditions provided for in sub. (12).

4. In the event that a defect is detected, repair the defect according to sub. (11).

5. Maintain a record of the inspection according to s. NR 664.1089(2).

(8) The owner or operator who controls air pollutant emissions by using a pressure tank shall meet all of the following requirements:

(a) Design the tank to not vent to the atmosphere as a result of compression of the vapor headspace in the tank during filling of the tank to its design capacity.

(b) Equip all tank openings with closure devices designed to operate with no detectable organic emissions determined using the procedure in s. NR 664.1083(4).

(c) Whenever hazardous waste is in the tank, operate the tank as a closed system that does not vent to the atmosphere except under any of the following conditions:

1. At those times when opening of a safety device, as defined in s. NR 665.1081, is required to avoid an unsafe condition.

2. At those times when purging of inerts from the tank is required and the purge stream is routed to a closed-vent system and control device designed and operated according to s. NR 664.1087.

(9) The owner or operator who controls air pollutant emissions by using an enclosure vented through a closed-vent system to an enclosed combustion control device shall meet all of the following requirements:

(a) Locate the tank inside an enclosure. Design and operate the enclosure according to the criteria for a permanent total enclosure in Method 204—"Criteria for and Verification of a Permanent or Temporary Total Enclosure" of appendix M of 40 CFR part 51, incorporated by reference in s. NR 660.11. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles or other mechanical means; entry of permanent mechanical or electrical equipment or direct airflow into the enclosure. Perform the verification procedure for the enclosure in Section 8 of Method 204 initially when the enclosure is first installed and, thereafter, annually.

(b) Vent the enclosure through a closed-vent system to an enclosed combustion control device that is designed and operated according to the standards for a vapor incinerator, boiler or process heater in s. NR 664.1087.

(c) Safety devices, as defined in s. NR 665.1081, may be installed and operated as necessary on any enclosure, closed-vent system or control device used to comply with pars. (a) and (b).

(d) Inspect and monitor the closed-vent system and control device as specified in s. NR 664.1087.

(10) The owner or operator shall transfer hazardous waste to a tank subject to this section according to all of the following requirements:

(a) Except as provided in par. (b), transfer hazardous waste to the tank from another tank subject to this section or from a surface impoundment subject to s. NR 664.1085 using continuous hard-piping or another closed system that does not allow exposure of the hazardous waste to the atmosphere. For the purpose of complying with this paragraph, an individual drain system is a closed system when it meets 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems.

(b) Paragraph (a) does not apply when transferring a hazardous waste to the tank under any of the following conditions:

1. The hazardous waste meets the average VO concentration conditions in s. NR 664.1082(3)(a) at the point of waste origination.

2. The hazardous waste has been treated by an organic destruction or removal process to meet s. NR 664.1082(3)(b).

3. The hazardous waste meets s. NR 664.1082(3)(d).

(11) The owner or operator shall repair each defect detected during an inspection performed according to sub. (3)(d), (5)(c), (6)(c) or (7)(c) as follows:

(a) Make first efforts at repair of the defect no later than 5 calendar days after detection, and complete the repair as soon as possible but no later than 45 calendar days after detection except as provided in par. (b).

(b) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the tank and no alternative tank capacity is available at the site to accept the hazardous waste normally managed in the tank. In this case, repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Complete repair of the defect before the process or unit resumes operation.

(12) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subchapter, subsequent inspection and monitoring may be performed at intervals longer than one year under the following special conditions:

(a) In the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous or other unsafe conditions, the owner or operator may designate a cover as an ”unsafe to inspect and monitor cover” and comply with all of the following requirements:

1. Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

2. Develop and implement a written plan and schedule to inspect and monitor the cover, using the procedures specified in the applicable section of this subchapter, as frequently as practicable during those times when a worker can safely access the cover.

(b) In the case when a tank is buried partially or entirely underground, inspect and monitor, as required by the applicable provisions of this section, only those portions of the tank cover and those connections to the tank (e.g., fill ports, access hatches, gauge wells, etc.) that are located on or above the ground surface.

NR 664.1085 Standards: surface impoundments. (1) This section applies to the control of air pollutant emissions from surface impoundments for which s. NR 664.1082(2) references the use of this section for the air emission control.

(2) The owner or operator shall control air pollutant emissions from the surface impoundment by installing and operating any of the following:

(a) A floating membrane cover according to sub. (3).

(b) A cover that is vented through a closed-vent system to a control device according to sub. (4).

(3) The owner or operator who controls air pollutant emissions from a surface impoundment using a floating membrane cover shall meet all of the following requirements:

(a) Equip the surface impoundment with a floating membrane cover designed to meet all of the following specifications:

1. Design the floating membrane cover to float on the liquid surface during normal operations and form a continuous barrier over the entire surface area of the liquid.

2. Fabricate the cover from a synthetic membrane material that is any of the following:

a. High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (mm).

b. A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in subd. 2.a. and chemical and physical properties that maintain the material integrity for the intended service life of the material.

3. Install the cover in a manner such that there are no visible cracks, holes, gaps or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings.

4. Except as provided for in subd. 5., equip each opening in the floating membrane cover with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

5. The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Equip each emergency cover drain with a slotted membrane fabric cover that covers at least 90% of the area of the opening or a flexible fabric sleeve seal.

6. Make the closure devices of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the closure devices throughout their intended service life. Factors to consider when selecting the materials of construction and designing the cover and closure devices shall include organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the surface impoundment, the effects of outdoor exposure to wind, moisture and sunlight and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

(b) Whenever hazardous waste is in the surface impoundment, float the floating membrane cover on the liquid and secure each closure device in the closed position except as follows:

1. Opening of closure devices or removal of the cover is allowed at the following times:

a. To provide access to the surface impoundment for performing routine inspection, maintenance or other activities needed for normal operations. Examples of those activities include those times when a worker needs to open a port to sample the liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. After completing the activity, promptly replace the cover and secure the closure device in the closed position, as applicable.

b. To remove accumulated sludge or other residues from the bottom of the surface impoundment.

2. Opening of a safety device, as defined in s. NR 665.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(c) Inspect the floating membrane cover according to all of the following procedures:

1. Visually inspect the floating membrane cover and its closure devices to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked or otherwise damaged seals or gaskets on closure devices and broken or missing hatches, access covers, caps or other closure devices.

2. Perform an initial inspection of the floating membrane cover and its closure devices on or before the date that the surface impoundment becomes subject to this section. Thereafter, perform the inspections at least once every year except for the special conditions provided for in sub. (7).

3. In the event that a defect is detected, repair the defect according to sub. (6).

4. Maintain a record of the inspection according to s. NR 664.1089(3).

(4) The owner or operator who controls air pollutant emissions from a surface impoundment using a cover vented to a control device shall meet all of the following requirements:

(a) Cover the surface impoundment and directly vent it through a closed-vent system to a control device according to all of the following requirements:

1. Design the cover and its closure devices to form a continuous barrier over the entire surface area of the liquid in the surface impoundment.

2. Equip each opening in the cover not vented to the control device with a closure device. If the pressure in the vapor headspace underneath the cover is less than atmospheric pressure when the control device is operating, design the closure devices to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the cover is equal to or greater than atmospheric pressure when the control device is

operating, design the closure device to operate with no detectable organic emissions using the procedure in s. NR 664.1083(4).

3. Make the cover and its closure devices of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the cover and closure devices throughout their intended service life. Factors to consider when selecting the materials of construction and designing the cover and closure devices shall include organic vapor permeability, the effects of any contact with the liquid or its vapors managed in the surface impoundment, the effects of outdoor exposure to wind, moisture and sunlight and the operating practices used for the surface impoundment on which the cover is installed.

4. Design and operate the closed-vent system and control device according to s. NR 664.1087.

(b) Whenever hazardous waste is in the surface impoundment, install the cover with each closure device secured in the closed position and the vapor headspace underneath the cover vented to the control device except as follows:

1. Venting to the control device is not required, and opening of closure devices or removal of the cover is allowed at the following times:

a. To provide access to the surface impoundment for performing routine inspection, maintenance or other activities needed for normal operations. Examples of those activities include those times when a worker needs to open a port to sample liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. After completing the activity, promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the surface impoundment.

b. To remove accumulated sludge or other residues from the bottom of the surface impoundment.

2. Opening of a safety device, as defined in s. NR 665.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(c) Inspect and monitor the air emission control equipment according to all of the following procedures:

1. Visually inspect the surface impoundment cover and its closure devices to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings, broken, cracked or otherwise damaged seals or gaskets on closure devices and broken or missing hatches, access covers, caps or other closure devices.

2. Inspect and monitor the closed-vent system and control device according to s. NR 664.1087.

3. Perform an initial inspection of the air emission control equipment on or before the date that the surface impoundment becomes subject to this section. Thereafter, perform the inspections at least once every year except for the special conditions provided for in sub. (7).

4. In the event that a defect is detected, repair the defect according to sub. (6).

5. Maintain a record of the inspection according to s. NR 664.1089(3).

(5) The owner or operator shall transfer hazardous waste to a surface impoundment subject to this section according to all of the following requirements:

(a) Except as provided in par. (b), transfer hazardous waste to the surface impoundment from another surface impoundment subject to this section or from a tank subject to s. NR 664.1084 using continuous hard-piping or another closed system that does not allow exposure of the waste to the atmosphere. For the purpose of complying with this paragraph, an individual drain system is a closed system when it meets 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems.

(b) Paragraph (a) does not apply when transferring a hazardous waste to the surface impoundment under any of the following conditions:

1. The hazardous waste meets the average VO concentration conditions in s. NR 664.1082(3)(a) at the point of waste origination.

2. The hazardous waste has been treated by an organic destruction or removal process to meet s. NR 664.1082(3)(b).

3. The hazardous waste meets s. NR 664.1082(3)(d).

(6) The owner or operator shall repair each defect detected during an inspection performed according to sub. (3)(c) or (4)(c) as follows:

(a) Make first efforts at repair of the defect no later than 5 calendar days after detection, and complete the repair as soon as possible but no later than 45 calendar days after detection except as provided in par. (b).

(b) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the surface impoundment and no alternative capacity is available at the site to accept the hazardous waste normally managed in the surface impoundment. In this case, repair the defect the next time the process or unit that is generating the hazardous waste managed in the surface impoundment stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(7) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subchapter, subsequent inspection and monitoring may be performed at intervals longer than one year in the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous or other unsafe conditions. In this case, the owner or operator may designate the cover as an ”unsafe to inspect and monitor cover” and comply with all of the following requirements:

(a) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(b) Develop and implement a written plan and schedule to inspect and monitor the cover using the procedures in the applicable section of this subchapter as frequently as practicable during those times when a worker can safely access the cover.

NR 664.1086 Standards: containers. (1) APPLICABILITY. This section applies to the control of air pollutant emissions from containers for which s. NR 664.1082(2) references the use of this section for the air emission control.

(2) GENERAL REQUIREMENTS. (a) The owner or operator shall control air pollutant emissions from each container subject to this section according to the following requirements, as applicable to the container, except when the special provisions for waste stabilization processes specified in par. (b) apply to the container:

1. For a container having a design capacity greater than 0.1 m^3 and less than or equal to 0.46 m^3, control air pollutant emissions from the container according to the Container Level 1 standards in sub. (3).

2. For a container having a design capacity greater than 0.46 m^3 that is not in light material service, control air pollutant emissions from the container according to the Container Level 1 standards in sub. (3).

3. For a container having a design capacity greater than 0.46 m^3 that is in light material service, control air pollutant emissions from the container according to the Container Level 2 standards in sub. (4).

(b) When a container having a design capacity greater than 0.1 m^3 is used for treatment of a hazardous waste by a waste stabilization process, control air pollutant emissions from the container according to the Container Level 3 standards in sub. (5) at those times during the waste stabilization process when the hazardous waste in the container is exposed to the atmosphere.

(3) CONTAINER LEVEL 1 STANDARDS. (a) A container using Container Level 1 controls is one of the following:

1. A container that meets the applicable U.S. department of transportation (DOT) regulations on packaging hazardous materials for transportation as specified in sub. (6).

2. A container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there are no visible holes, gaps or other open spaces into the interior of the container. The cover may be a

separate cover installed on the container (e.g., a lid on a drum or a suitably secured tarp on a roll-off box) or may be an integral part of the container structural design (e.g., a ”portable tank” or bulk cargo container equipped with a screw-type cap).

3. An open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous waste in the container such that no hazardous waste is exposed to the atmosphere. One example of such a barrier is application of a suitable organic-vapor suppressing foam.

(b) Equip a container used to meet par. (a)2. or 3. with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the hazardous waste to the atmosphere and to maintain the equipment integrity, for as long as the container is in service. Factors to consider in selecting the materials of construction and designing the cover and closure devices shall include organic vapor permeability, the effects of contact with the hazardous waste or its vapor managed in the container, the effects of outdoor exposure of the closure device or cover material to wind, moisture and sunlight and the operating practices for which the container is intended to be used.

(c) Whenever hazardous waste is in a container using Container Level 1 controls, install all covers and closure devices for the container, as applicable to the container, and secure and maintain each closure device in the closed position except as follows:

1. Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

a. In the case when the container is filled to the intended final level in one continuous operation, promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

b. In the case when discrete quantities or batches of material are intermittently added to the container over a period of time, promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level, the completion of a batch loading after which no additional material will be added to the container within 15 minutes, the person performing the loading operation leaving the immediate vicinity of the container or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

2. Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

a. For the purpose of meeting the requirements of this section, an empty container as defined in s. NR 661.07(2) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

b. In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container in s. NR 661.07(2), promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

3. Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of those activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. After completing the activity, promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

4. Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container according to the container design specifications. Design the device to operate with no detectable organic emissions when the device is secured in the

closed position. Establish the settings at which the device opens such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable rules, fire protection and prevention codes, standard engineering codes and practices or other requirements for the safe handling of flammable, ignitable, explosive, reactive or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

5. Opening of a safety device, as defined in s. NR 665.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(d) For containers using Container Level 1 controls, inspect the containers and their covers and closure devices as follows:

1. In the case when hazardous waste is already in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container in s. NR 661.07(2)), visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. Conduct the container visual inspection on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to this subchapter). For purposes of this subdivision, the date of acceptance is the date of signature that the facility owner or operator enters on item 20 of the Wisconsin manifest (department form 4400-66P and EPA form 8700-22A)**,** as required in s. NR 664.0071. If a defect is detected, repair the defect according to subd. 3.

2. In the case when a container used for managing hazardous waste remains at the facility for a period of one year or more, visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, repair the defect according to subd. 3.

3. When a defect is detected for the container, cover or closure devices, make first efforts at repair of the defect no later than 24 hours after detection and complete the repair as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, remove the hazardous waste from the container and do not use the container to manage hazardous waste until the defect is repaired.

(e) Maintain at the facility a copy of the procedure used to determine that containers with capacity of 0.46 m^3 or greater, which do not meet applicable U.S. department of transportation (DOT) regulations as specified in sub. (6), are not managing hazardous waste in light material service.

(4) CONTAINER LEVEL 2 STANDARDS. (a) A container using Container Level 2 controls is one of the following:

1. A container that meets the applicable U.S. department of transportation (DOT) regulations on packaging hazardous materials for transportation as specified in sub. (6).

2. A container that operates with no detectable organic emissions as defined in s. NR 665.1081 and determined according to sub. (7).

3. A container that has been demonstrated within the preceding 12 months to be vapor-tight using Method 27 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, according to sub. (8).

(b) Transfer hazardous waste in or out of a container using Container Level 2 controls in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive or other hazardous materials. Examples of container loading procedures that meet this paragraph include using a submerged-fill pipe or other submerged-fill

method to load liquids into the container, a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(c) Whenever hazardous waste is in a container using Container Level 2 controls, install all covers and closure devices for the container, and secure and maintain each closure device in the closed position except as follows:

1. Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

a. In the case when the container is filled to the intended final level in one continuous operation, promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

b. In the case when discrete quantities or batches of material are intermittently added to the container over a period of time, promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the container being filled to the intended final level, the completion of a batch loading after which no additional material will be added to the container within 15 minutes, the person performing the loading operation leaving the immediate vicinity of the container, or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

2. Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

a. For the purpose of meeting the requirements of this section, an empty container as defined in s. NR 661.07(2) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

b. In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container in s. NR 661.07(2), promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

3. Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of those activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. After completing the activity, promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

4. Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container according to the container design specifications. Design the device to operate with no detectable organic emission when the device is secured in the closed position. Establish the settings at which the device opens such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable rules, fire protection and prevention codes, standard engineering codes and practices or other requirements for the safe handling of flammable, ignitable, explosive, reactive or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

5. Opening of a safety device, as defined in s. NR 665.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(d) Inspect containers using Container Level 2 controls and their covers and closure devices as follows:

1. In the case when hazardous waste is already in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container in s. NR 661.07(2)), visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. Conduct the container visual inspection on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the standards in this subchapter). For purposes of this subdivision, the date of acceptance is the date of signature that the facility owner or operator enters on item 20 of the Wisconsin manifest (department form 4400-66P and EPA form 8700-22A), as required in s. NR 664.0071. If a defect is detected, repair the defect according to subd. 3.

2. In the case when a container used for managing hazardous waste remains at the facility for a period of one year or more, visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, repair the defect according to subd. 3.

3. When a defect is detected for the container, cover or closure devices, make first efforts at repair of the defect no later than 24 hours after detection, and complete the repair as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, remove the hazardous waste from the container and do not use the container to manage hazardous waste until the defect is repaired.

(5) CONTAINER LEVEL 3 STANDARDS. (a) A container using Container Level 3 controls is one of the following:

1. A container that is vented directly through a closed-vent system to a control device according to par. (b)2.

2. A container that is vented inside an enclosure which is exhausted through a closed-vent system to a control device according to par. (b)1. and 2.

(b) Meet the following requirements, as applicable to the type of air emission control equipment selected:

1. Design and operate the container enclosure according to the criteria for a permanent total enclosure in Method 204—"Criteria for and Verification of a Permanent or Temporary Total Enclosure" in appendix M of 40 CFR part 51, incorporated by reference in s. NR 660.11. The enclosure may have permanent or temporary openings to allow worker access, passage of containers through the enclosure by conveyor or other mechanical means, entry of permanent mechanical or electrical equipment or direct airflow into the enclosure. Perform the verification procedure for the enclosure in Section 8 of Method 204 initially when the enclosure is first installed and, thereafter, annually.

2. Design and operate the closed-vent system and control device according to s. NR 664.1087.

(c) Safety devices, as defined in s. NR 665.1081, may be installed and operated as necessary on any container, enclosure, closed-vent system or control device used to comply with par. (a).

(d) If using Container Level 3 controls according to this subchapter, inspect and monitor the closed-vent systems and control devices as specified in s. NR 664.1087.

(e) If using Container Level 3 controls according to this subchapter, prepare and maintain the records specified in s. NR 664.1089(4).

(f) Transfer hazardous waste in or out of a container using Container Level 3 controls in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive or other hazardous materials. Examples of container

loading procedures that meet this paragraph include using a submerged-fill pipe or other submerged-fill method to load liquids into the container, a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations, or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(6) HAZARDOUS MATERIALS PACKAGING REQUIREMENTS. For the purpose of compliance with sub. (3)(a)1. or (4)(a)1., use containers that meet the applicable U.S. department of transportation (DOT) regulations on packaging hazardous materials for transportation as follows:

(a) The container meets the applicable requirements in 49 CFR part 178—Specifications for Packaging or part 179—Specifications for Tank Cars.

(b) Hazardous waste is managed in the container according to the applicable requirements in 49 CFR part 107, subpart B—Exemptions; 49 CFR part 172—Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements; 49 CFR part 173—Shippers—General Requirements for Shipments and Packages and 49 CFR part 180—Continuing Qualification and Maintenance of Packagings.

(c) For the purpose of complying with this subchapter, no exceptions to the 49 CFR part 178 or 179 regulations are allowed except as provided for in par. (d).

(d) For a lab pack that is managed according to 49 CFR part 178 for the purpose of complying with this subchapter, an owner or operator may comply with the exceptions for combination packagings in 49 CFR 173.12(b).

(7) PROCEDURE FOR DETERMINING NO DETECTABLE ORGANIC EMISSIONS. To determine compliance with the no detectable organic emissions requirement of sub. (4)(a)2., use the procedure in s. NR 664.1083(4) as follows:

(a) Check each potential leak interface (i.e., a location where organic vapor leakage could occur) on the container, its cover and associated closure devices, as applicable to the container. Potential leak interfaces that are associated with containers include, but are not limited to, the interface of the cover rim and the container wall, the periphery of any opening on the container or container cover and its associated closure device and the sealing seat interface on a spring-loaded, pressure-relief valve.

(b) Perform the test when the container is filled with a material having a volatile organic concentration representative of the range of volatile organic concentrations for the hazardous wastes expected to be managed in this type of container. During the test, secure the container cover and closure devices in the closed position.

(8) PROCEDURE FOR DETERMINING A CONTAINER TO BE VAPOR-TIGHT. To determine compliance with the vapor-tight container requirement of sub. (4)(a)3., use the following procedure:

(a) Perform the test according to Method 27 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(b) Use a pressure measurement device that has a precision of ± 2.5 mm water and is capable of measuring above the pressure at which the container is to be tested for vapor tightness.

(c) If the test results determined by Method 27 indicate that the container sustains a pressure change less than or equal to 750 Pascals within 5 minutes after it is pressurized to a minimum of 4,500 Pascals, the container is vapor-tight.

NR 664.1087 Standards: closed-vent systems and control devices. (1) This section applies to each closed-vent system and control device installed and operated by the owner or operator to control air emissions according to the standards of this subchapter.

(2) The closed-vent system shall meet all of the following requirements:

(a) The closed-vent system shall route the gases, vapors and fumes emitted from the hazardous waste in the waste management unit to a control device that meets sub. (3).

(b) Design and operate the closed-vent system according to s. NR 664.1033(11).

(c) In the case when the closed-vent system includes bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device, equip each bypass device with either a flow indicator as specified in subd. 1. or a seal or locking device as specified in subd. 2. For the purpose of complying with this paragraph, low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, spring loaded pressure relief valves and other fittings used for safety purposes are not bypass devices.

1. If a flow indicator is used to comply with this paragraph, install the indicator at the inlet to the bypass line used to divert gases and vapors from the closed-vent system to the atmosphere at a point upstream of the control device inlet. For this paragraph, a flow indicator means a device which indicates the presence of either gas or vapor flow in the bypass line.

2. If a seal or locking device is used to comply with this paragraph, place the device on the mechanism by which the bypass device position is controlled (e.g., valve handle, damper lever) when the bypass device is in the closed position such that the bypass device cannot be opened without breaking the seal or removing the lock. Examples of the devices include, but are not limited to, a car-seal or a lock-and-key configuration valve. Visually inspect the seal or closure mechanism at least once every month to verify that the bypass mechanism is maintained in the closed position.

(d) Inspect and monitor the closed-vent system according to s. NR 664.1033(12).

(3) The control device shall meet all of the following applicable requirements:

(a) The control device shall be one of the following devices:

1. A control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95% by weight.

2. An enclosed combustion device designed and operated according to s. NR 664.1033(3).

3. A flare designed and operated according to s. NR 664.1033(4).

(b) If using a closed-vent system and control device to comply with this section, comply with all of the following requirements:

1. Periods of planned routine maintenance of the control device, during which the control device does not meet par. (a)1., 2. or 3., as applicable, may not exceed 240 hours per year.

2. The specifications and requirements in par. (a)1., 2. and 3. for control devices do not apply during periods of planned routine maintenance.

3. The specifications and requirements in par. (a)1., 2. and 3 for control devices do not apply during a control device system malfunction.

4. Demonstrate compliance with subd. 1. (i.e., planned routine maintenance of a control device, during which the control device does not meet the specifications of par. (a)1., 2. or 3., as applicable, may not exceed 240 hours per year) by recording the information specified in s. NR 664.1089(5)(e).

5. Correct control device system malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of air pollutants.

6. Operate the closed-vent system such that gases, vapors or fumes are not actively vented to the control device during periods of planned maintenance or control device system malfunction (i.e., periods when the control device is not operating or not operating normally) except in cases when it is necessary to vent the gases, vapors or fumes to avoid an unsafe condition or to implement malfunction corrective actions or planned maintenance actions.

(c) If using a carbon adsorption system to comply with par. (a), operate and maintain the control device according to all of the following requirements:

1. Following the initial startup of the control device, replace all activated carbon in the control device with fresh carbon on a regular basis according to s. NR 664.1033(7) or (8).

2. Manage all carbon that is hazardous waste and that is removed from the control device according to s. NR 664.1033(14), regardless of the average volatile organic concentration of the carbon.

(d) If using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser or carbon adsorption system to comply with par. (a), operate and maintain the control device according to s. NR 664.1033(10).

(e) Demonstrate that a control device achieves the performance requirements of par. (a) as follows:

1. Demonstrate, using either a performance test in subd. 3. or a design analysis in subd. 4., the performance of each control device except for any of the following:

a. A flare.

b. A boiler or process heater with a design heat input capacity of 44 megawatts or greater.

c. A boiler or process heater into which the vent stream is introduced with the primary fuel.

d. A boiler or industrial furnace burning hazardous waste for which the owner or operator has been issued an operating license under ch. NR 670 and has designed and operates the unit according to subch. H of ch. NR 666.

e. A boiler or industrial furnace burning hazardous waste which the owner or operator has designed and operates according to the interim license requirements of subch. H of ch. NR 666.

2. Demonstrate the performance of each flare according to s. NR 664.1033(5).

3. For a performance test conducted to meet subd. 1., use the test methods and procedures in s. NR 664.1034(3)(a) to (d).

4. For a design analysis conducted to meet subd. 1., meet the requirements in s. NR 664.1035(2)(d)3.

5. Demonstrate that a carbon adsorption system achieves the performance requirements of par. (a) based on the total quantity of organics vented to the atmosphere from all carbon adsorption system equipment that is used for organic adsorption, organic desorption or carbon regeneration, organic recovery and carbon disposal.

(f) If the owner or operator and the department do not agree on a demonstration of control device performance using a design analysis, resolve the disagreement using the results of a performance test performed by the owner or operator according to par. (e)3. The department may choose to have an authorized representative observe the performance test.

(g) Inspect and monitor the closed-vent system and control device according to s. NR 664.1033(6)(b) and (12). Inspect the readings from each monitoring device required by s. NR 664.1033(6)(b) at least once each operating day to check control device operation. Immediately implement any necessary corrective measures to ensure the control device is operated in compliance with this section.

NR 664.1088 Inspection and monitoring requirements. (1) The owner or operator shall inspect and monitor air emission control equipment used to comply with this subchapter according to the applicable requirements in ss. NR 664.1084 to 664.1087.

(2) The owner or operator shall develop and implement a written plan and schedule to perform the inspections and monitoring required by sub. (1). The owner or operator shall incorporate this plan and schedule into the facility inspection plan required under s. NR 664.0015.

NR 664.1089 Recordkeeping requirements. (1) Each owner or operator of a facility subject to requirements of this subchapter shall record and maintain the information specified in subs. (2) to (10), as applicable to the facility. Except for air emission control equipment design documentation and information required by subs. (9) and (10), maintain records required by this section in the operating record for a minimum of 3 years. Maintain air emission control equipment design documentation in the operating record until the air emission control equipment is replaced or otherwise no longer in service. Maintain information required by subs. (9) and (10) in the operating record for as long as the waste management unit is not using air emission controls specified in ss. NR 664.1084 to 664.1087 according to the conditions in s. NR 664.1080(4) or (2)(g), respectively.

(2) The owner or operator of a tank using air emission controls according to s. NR 664.1084 shall prepare and maintain records for the tank that include all of the following information:

(a) For each tank using air emission controls according to s. NR 664.1084, record all of the following:

1. A tank identification number (or other unique identification description selected by the owner or operator).

2. A record for each inspection required by s. NR 664.1084 that includes all of the following information:

a. Date inspection was conducted.

b. For each defect detected during the inspection, the location of the defect, a description of the defect, the date of detection and corrective action taken to repair the defect. In the event that repair of the defect is delayed according to s. NR 664.1084, also record the reason for the delay and the date that completion of repair of the defect is expected.

(b) In addition to the information required by par. (a), record the following information, as applicable to the tank:

1. If using a fixed roof to comply with the Tank Level 1 control requirements in s. NR 664.1084(3), prepare and maintain records for each determination for the maximum organic vapor pressure of the hazardous waste in the tank performed according to s. NR 664.1084(3). The records shall include the date and time the samples were collected, the analysis method used and the analysis results.

2. If using an internal floating roof to comply with the Tank Level 2 control requirements in s. NR 664.1084(5), prepare and maintain documentation describing the floating roof design.

3. If using an external floating roof to comply with the Tank Level 2 control requirements in s. NR 664.1084(6), prepare and maintain all of the following records:

a. Documentation describing the floating roof design and the dimensions of the tank.

b. Records for each seal gap inspection required by s. NR 664.1084(6)(c) describing the results of the seal gap measurements. The records shall include the date that the measurements were performed, the raw data obtained for the measurements and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in s. NR 664.1084(6)(a), the records shall include a description of the repairs that were made, the date the repairs were made and the date the tank was emptied, if necessary.

4. If using an enclosure to comply with the Tank Level 2 control requirements in s. NR 664.1084(9), prepare and maintain all of the following records:

a. Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria for a permanent total enclosure in Method 204—"Criteria for and Verification of a Permanent or Temporary Total Enclosure" in appendix M of 40 CFR part 51, incorporated by reference in s. NR 660.11.

b. Records required for the closed-vent system and control device according to sub. (5).

(3) The owner or operator of a surface impoundment using air emission controls according to s. NR 664.1085 shall prepare and maintain records for the surface impoundment that include all of the following information:

(a) A surface impoundment identification number (or other unique identification description selected by the owner or operator).

(b) Documentation describing the floating membrane cover or cover design, as applicable to the surface impoundment, that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the specifications in s. NR 664.1085(3).

(c) A record for each inspection required by s. NR 664.1085 that includes all of the following information:

1. Date inspection was conducted.

2. For each defect detected during the inspection, the location of the defect, a description of the defect, the date of detection and corrective action taken to repair the defect. In the event that repair of the defect is delayed according to s. NR 664.1085(6), also record the reason for the delay and the date that completion of repair of the defect is expected.

(d) For a surface impoundment equipped with a cover and vented through a closed-vent system to a control device, prepare and maintain the records specified in sub. (5).

(4) The owner or operator of containers using Container Level 3 air emission controls according to s. NR 664.1086 shall prepare and maintain records that include all of the following information:

(a) Records for the most recent set of calculations and measurements performed to verify that the enclosure meets the criteria for a permanent total enclosure in Method 204—"Criteria for and Verification of a Permanent or Temporary Total Enclosure" in appendix M of 40 CFR part 51, incorporated by reference in s. NR 660.11.

(b) Records required for the closed-vent system and control device according to sub. (5).

(5) The owner or operator using a closed-vent system and control device according to s. NR 664.1087 shall prepare and maintain records for the closed-vent system and control device that include all of the following information:

(a) Certification that is signed and dated by the owner or operator stating that the control device is designed to operate at the performance level documented by a design analysis as specified in par. (b) or by performance tests as specified in par. (c) when the tank, surface impoundment or container is or would be operating at capacity or the highest level reasonably expected to occur.

(b) If a design analysis is used, design documentation as specified in s. NR 664.1035(2)(d). The documentation shall include information prepared by the owner or operator or provided by the control device manufacturer or vendor that describes the control device design according to s. NR 664.1035(2)(d)3. and certification by the owner or operator that the control equipment meets the applicable specifications.

(c) If performance tests are used, a performance test plan as specified in s. NR 664.1035(2)(c) and all test results.

(d) Information required by s. NR 664.1035(3)(a) and (b), as applicable.

(e) On a semiannual basis, record all of the following information for those planned routine maintenance operations that would require the control device not to meet s. NR 664.1087(3)(a)1., 2. or 3., as applicable:

1. A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6-month period. This description shall include the type of maintenance necessary, planned frequency of maintenance and lengths of maintenance periods.

2. A description of the planned routine maintenance that was performed for the control device during the previous 6-month period. The description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet s. NR 664.1087 (3)(a)1., 2. or 3., as applicable, due to planned routine maintenance.

(f) Record all of the following information for those unexpected control device system malfunctions that would require the control device not to meet s. NR 664.1087(3)(a)1., 2. or 3., as applicable:

1. The occurrence and duration of each malfunction of the control device system.

2. The duration of each period during a malfunction when gases, vapors or fumes are vented from the waste management unit through the closed-vent system to the control device while the control device is not properly functioning.

3. Actions taken during periods of malfunction to restore a malfunctioning control device to its normal or usual manner of operation.

(g) Records of the management of carbon removed from a carbon adsorption system conducted according to s. NR 664.1087(3)(c)2.

(6) The owner or operator of a tank, surface impoundment or container exempted from standards according to s. NR 664.1082(3) shall prepare and maintain all of the following records, as applicable:

(a) For tanks, surface impoundments and containers exempted under the hazardous waste organic concentration conditions specified in s. NR 664.1082(3)(a) or (b)1. to 6., record the information used for each waste determination (e.g., test results, measurements, calculations and other documentation) in the

facility operating log. If analysis results for waste samples are used for the waste determination, record the date, time and location that each waste sample is collected according to the applicable requirements of s. NR 664.1083.

(b) For tanks, surface impoundments or containers exempted under s. NR 664.1082(3)(b)7. or 8., record the identification number for the incinerator, boiler or industrial furnace in which the hazardous waste is treated.

(7) An owner or operator designating a cover as ”unsafe to inspect and monitor” pursuant to s. NR 664.1084(12) or 664.1085(7) shall record in a log that is kept in the facility operating record the identification numbers for waste management units with covers that are designated as ”unsafe to inspect and monitor”, the explanation for each cover stating why the cover is unsafe to inspect and monitor and the plan and schedule for inspecting and monitoring each cover.

(8) The owner or operator of a facility that is subject to this subchapter and to the control device standards in 40 CFR part 60, subpart VV, or s. NR 440.62, or 40 CFR part 61, subpart V, may demonstrate compliance with the applicable sections of this subchapter by documentation either pursuant to this subchapter, or pursuant to 40 CFR part 60, subpart VV, or s. NR 440.62, or 40 CFR part 61, subpart V, to the extent that the documentation required by 40 CFR part 60 or 61 or ch. NR 440 duplicates the documentation required by this section.

(9) For each tank or container not using air emission controls specified in ss. NR 664.1084 to 664.1087 according to the conditions in s. NR 664.1080(4), the owner or operator shall record and maintain all of the following information:

(a) A list of the individual organic peroxide compounds manufactured at the facility that meet the conditions in s. NR 664.1080(4)(a).

(b) A description of how the hazardous waste containing the organic peroxide compounds identified in par. (a) is managed at the facility in tanks and containers. The description shall include all of the following information:

1. For the tanks used at the facility to manage this hazardous waste, provide sufficient information to describe for each tank a facility identification number for the tank, the purpose and placement of this tank in the management train of this hazardous waste and the procedures used to ultimately dispose of the hazardous waste managed in the tanks.

2. For containers used at the facility to manage these hazardous wastes, provide sufficient information to describe a facility identification number for the container or group of containers, the purpose and placement of this container, or group of containers, in the management train of this hazardous waste and the procedures used to ultimately dispose of the hazardous waste handled in the containers.

(c) An explanation of why managing the hazardous waste containing the organic peroxide compounds identified in par. (a) in the tanks and containers described in par. (b) would create an undue safety hazard if the air emission controls, required under ss. NR 664.1084 to 664.1087, were installed and operated on these waste management units. This explanation shall include all of the following information:

1. For tanks used at the facility to manage these hazardous wastes, provide sufficient information to explain how use of the required air emission controls on the tanks would affect the tank design features and facility operating procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the tanks, and why installation of safety devices on the required air emission controls, as allowed under this subchapter, will not address those situations in which evacuation of tanks equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

2. For containers used at the facility to manage these hazardous wastes, provide sufficient information to explain how use of the required air emission controls on the containers would affect the container design features and handling procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the containers, and why installation of safety devices on the required air emission controls, as allowed under this subchapter, will not address those situations in which

evacuation of containers equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(10) For each hazardous waste management unit not using air emission controls specified in ss. NR 664.1084 to 664.1087 according to s. NR 664.1080(2)(g), the owner and operator shall record and maintain all of the following information:

(a) Certification that the waste management unit is equipped with and operating air emission controls according to 40 CFR part 60, 61 or 63 or corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469.

(b) Identification of the specific requirements in 40 CFR part 60, 61 or 63 or in ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469 with which the waste management unit is in compliance.

NR 664.1090 Reporting requirements. (1) Each owner or operator managing hazardous waste in a tank, surface impoundment or container exempted from using air emission controls under s. NR 664.1082(3) shall report to the department each occurrence when hazardous waste is placed in the waste management unit in noncompliance with the conditions in s. NR 664.1082(3)(a) or (b), as applicable. Examples of those occurrences include placing in the waste management unit a hazardous waste having an average VO concentration equal to or greater than 500 ppmw at the point of waste origination, or placing in the waste management unit a treated hazardous waste of which the organic content has been reduced by an organic destruction or removal process that fails to achieve the applicable conditions in s. NR 664.1082(3)(b)1. to 6.. The owner or operator shall submit a written report within 15 calendar days of the time that the owner or operator becomes aware of the occurrence. The written report shall contain the EPA identification number, facility name and address, a description of the noncompliance event and the cause, the dates of the noncompliance and the actions taken to correct the noncompliance and prevent recurrence of the noncompliance. An authorized representative of the owner or operator shall sign and date the report.

(2) Each owner or operator using air emission controls on a tank according to s. NR 664.1084(3) shall report to the department each occurrence when hazardous waste is managed in the tank in noncompliance with the conditions in s. NR 664.1084(2). The owner or operator shall submit a written report within 15 calendar days of the time that the owner or operator becomes aware of the occurrence. The written report shall contain the EPA identification number, facility name and address, a description of the noncompliance event and the cause, the dates of the noncompliance and the actions taken to correct the noncompliance and prevent recurrence of the noncompliance. An authorized representative of the owner or operator shall sign and date the report.

(3) Each owner or operator using a control device according to s. NR 664.1087 shall submit a semiannual written report to the department except as provided for in sub. (4). The report shall describe each occurrence during the previous 6-month period when either a control device is operated continuously for 24 hours or longer in noncompliance with the applicable operating values defined in s. NR 664.1035(3)(d), or a flare is operated with visible emissions for 5 minutes or longer in a 2-hour period, as defined in s. NR 664.1033(4). The written report shall include the EPA identification number, facility name and address, an explanation why the control device could not be returned to compliance within 24 hours and actions taken to correct the noncompliance. An authorized representative of the owner or operator shall sign and date the report.

(4) A report to the department according to sub. (3) is not required for a 6-month period during which all control devices subject to this subchapter are operated by the owner or operator such that all of the following conditions are met:

(a) During no period of 24 hours or longer did a control device operate continuously in noncompliance with the applicable operating values defined in s. NR 664.1035(3)(d).

(b) No flare was operated with visible emissions for 5 minutes or longer in a 2-hour period, as defined in s. NR 664.1033(4).

Subchapter DD —Containment Buildings

NR 664.1100 Applicability. The requirements of this subchapter apply to owners or operators who store or treat hazardous waste in units designed and operated under s. NR 664.1101. The owner or operator is not subject to the definition of land disposal in s. NR 668.02(3) provided that the unit complies with all of the following:

(1) The unit is a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, uplift, physical contact with the hazardous wastes to which they are exposed, climatic conditions and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of the equipment with containment walls.

(2) The unit has a primary barrier that is designed to be sufficiently durable to withstand the movement of personnel, wastes and handling equipment within the unit.

(3) If the unit is used to manage liquids, it has all of the following:

(a) A primary barrier designed and constructed of materials to prevent migration of hazardous constituents into the barrier.

(b) A liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier.

(c) A secondary containment system designed and constructed of materials to prevent migration of hazardous constituents into the barrier, with a leak detection and liquid collection system capable of detecting, collecting and removing leaks of hazardous constituents at the earliest practicable time.

(4) The unit has controls sufficient to prevent fugitive dust emissions to meet the no visible emission standard in s**.** NR 664.1101(3)(a)4.

(5) The unit is designed and operated to ensure containment and prevent the tracking of materials from the unit by personnel or equipment.

NR 664.1101 Design and operating standards. (1) All containment buildings shall comply with all of the following design standards:

(a) The containment building shall be completely enclosed with a floor, walls and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.

(b) The floor and containment walls of the unit, including the secondary containment system if required under sub. (2), shall be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, uplift, physical contact with the hazardous wastes to which they are exposed, climatic conditions and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of the equipment with containment walls. The unit shall be designed so that it has sufficient structural strength to prevent collapse or other failure. All surfaces to be in contact with hazardous wastes shall be chemically compatible with those wastes. The department will consider standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirements of this paragraph. If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for lightweight doors and windows that meet both of the following criteria:

1. They provide an effective barrier against fugitive dust emissions under sub. (3)(a)4.

2. The unit is designed and operated in a fashion that assures that wastes will not actually come in contact with these openings.

(c) Incompatible hazardous wastes or treatment reagents may not be placed in the unit or its secondary containment system if they could cause the unit or secondary containment system to leak, corrode or otherwise fail.

(d) A containment building shall have a primary barrier designed to withstand the movement of personnel, waste and handling equipment in the unit during the operating life of the unit and appropriate for the physical and chemical characteristics of the waste to be managed.

(2) For a containment building used to manage hazardous wastes containing free liquids or treated with free liquids (the presence of which is determined by the paint filter test, a visual examination or other appropriate means), the owner or operator shall include all of the following:

(a) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier (e.g., a geomembrane covered by a concrete wear surface).

(b) A liquid collection and removal system to minimize the accumulation of liquid on the primary barrier of the containment building in compliance with both of the following:

1. The primary barrier shall be sloped to drain liquids to the associated collection system.

2. Liquids and waste shall be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time.

(c) A secondary containment system including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that is capable of detecting failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

1. The requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum, both of the following:

a. Constructed with a bottom slope of one percent or more.

b. Constructed of a granular drainage material with a hydraulic conductivity of $1x10^{-2}$ cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of $3x10^{5}$ m^2/sec or more.

2. If treatment is to be conducted in the building, an area in which the treatment will be conducted shall be designed to prevent the release of liquids, wet materials or liquid aerosols to other portions of the building.

3. The secondary containment system shall be constructed of materials that are chemically resistant to the waste and liquids managed in the containment building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying materials and by any equipment used in the containment building. (Containment buildings can serve as secondary containment systems for tanks placed within the building under certain conditions. A containment building can serve as an external liner system for a tank, provided it meets the requirements of s. NR 664.0193(4)(a). In addition, the containment building shall meet the requirements of s. NR 664.0193(2) and (3)(a) and (b) to be considered an acceptable secondary containment system for a tank.)

(3) Owners or operators of all containment buildings shall do all of the following:

(a) Use controls and practices to ensure containment of the hazardous waste within the unit; and, at a minimum, do all of the following:

1. Maintain the primary barrier to be free of significant cracks, gaps, corrosion or other deterioration that could cause hazardous waste to be released from the primary barrier.

2. Maintain the level of the stored or treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded.

3. Take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area shall be designated to decontaminate equipment and any rinsate shall be collected and properly managed.

4. Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions (see 40 CFR part 60, appendix A, Method 22—Visual

Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares, incorporated by reference in s. NR 660.11**)**. In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) shall be operated and maintained with sound air pollution control practices (see s. NR 439.055 for guidance). This state of no visible emissions shall be maintained effectively at all times during routine operating and maintenance conditions, including when vehicles and personnel are entering and exiting the unit.

(b) Obtain certification by a qualified registered professional engineer that the containment building design meets the requirements of subs. (1) and (2) and this subsection. For units placed into operation prior to June 1, 1995, this certification shall be placed in the facility's operating record (on-site files for generators who are not formally required to have operating records) no later than July 31, 1995. After June 1, 1995, PE certification shall be required prior to operation of the unit.

(c) Throughout the active life of the containment building, if the owner or operator detects a condition that could lead to or has caused a release of hazardous waste, repair the condition promptly, in accordance with all of the following procedures:

1. Upon detection of a condition that has led to a release of hazardous waste (e.g., upon detection of leakage from the primary barrier), the owner or operator shall do all of the following:

a. Enter a record of the discovery in the facility operating record.

b. Immediately remove the portion of the containment building affected by the condition from service.

c. Determine what steps must be taken to repair the containment building, remove any leakage from the secondary collection system and establish a schedule for accomplishing the cleanup and repairs.

d. Within 7 days after the discovery of the condition, notify the department of the condition, and within 14 working days provide a written notice to the department with a description of the steps taken to repair the containment building and the schedule for accomplishing the work.

2. The department will review the information submitted, make a determination regarding whether the containment building must be removed from service completely or partially until repairs and cleanup are complete and notify the owner or operator of the determination and the underlying rationale in writing.

3. Upon completing all repairs and cleanup the owner or operator shall notify the department in writing and provide a verification, signed by a qualified, registered professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with subd. 1.d.

(d) Inspect and record in the facility's operating record, at least once every 7 days, data gathered from monitoring equipment and leak detection equipment as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

(4) For containment buildings that contain areas both with and without secondary containment, the owner or operator shall do all of the following:

(a) Design and operate each area according to the requirements in subs. (1) to (3).

(b) Take measures to prevent the release of liquids or wet materials into areas without secondary containment.

(c) Maintain in the facility's operating log a written description of the operating procedures used to maintain the integrity of areas without secondary containment.

(5) Notwithstanding any other provision of this subchapter the department may waive requirements for secondary containment for a licensed containment building where the owner or operator demonstrates that the only free liquids in the unit are limited amounts of dust suppression liquids required to meet occupational health and safety requirements, and where containment of managed wastes and liquids can be assured without a secondary containment system.

NR 664.1102 Closure and long-term care. (1) At closure of a containment building, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components (liners, etc.,) contaminated subsoils and structures and equipment contaminated with waste and leachate,

and manage them as hazardous waste unless s. NR 661.03(4) applies. The closure plan, closure activities, cost estimates for closure and financial responsibility for containment buildings shall meet all of the requirements specified in subchs. G and H.

(2) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures and equipment as required in sub. (1), the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, the owner or operator shall close the facility and perform long-term care in accordance with the closure and long-term care requirements that apply to landfills (s. NR 664.0310). In addition, for the purposes of closure, long-term care and financial responsibility, the containment building is then considered to be a landfill, and the owner or operator shall meet all of the requirements for landfills specified in subchs. G and H.

Subchapter EE —Hazardous Waste Munitions and Explosives Storage

Note: Depending on explosive hazards, hazardous waste munitions and explosives may also be managed in other types of storage units, including containment buildings (subch. DD), tanks (subch. J) or containers (subch. I). See s. NR 666.205 for storage of waste military munitions.

NR 664.1200 Applicability. The requirements of this subchapter apply to owners or operators who store munitions and explosive hazardous wastes, except as s. NR 664.0001 provides otherwise.

NR 664.1201 Design and operating standards. (1) Hazardous waste munitions and explosives storage units shall be designed and operated with containment systems, controls and monitoring, that do all of the following:

(a) Minimize the potential for detonation or other means of release of hazardous waste, hazardous constituents, hazardous decomposition products or contaminated run-off to the soil, groundwater, surface water and atmosphere.

(b) Provide a primary barrier, which may be a container (including a shell) or tank, designed to contain the hazardous waste.

(c) For wastes stored outdoors, provide that the waste and containers will not be in standing precipitation.

(d) For liquid wastes, provide a secondary containment system that assures that any released liquids are contained and promptly detected and removed from the waste area, or vapor detection system that assures that any released liquids or vapors are promptly detected and an appropriate response taken(e.g., additional containment, such as overpacking, or removal from the waste area).

(e) Provide monitoring and inspection procedures that assure the controls and containment systems are working as designed and that releases that may adversely impact human health or the environment are not escaping from the unit.

(2) Hazardous waste munitions and explosives stored under this subchapter may be stored in one of the following:

(a) *Earth-covered magazines*. Earth-covered magazines shall be all of the following:

1. Constructed of waterproofed, reinforced concrete or structural steel arches, with steel doors that are kept closed when not being accessed.

2. Designed and constructed to do all of the following:

a. Be of sufficient strength and thickness to support the weight of any explosives or munitions stored and any equipment used in the unit.

b. Provide working space for personnel and equipment in the unit.

c. Withstand movement activities that occur in the unit.

3. Located and designed, with walls and earthen covers that direct an explosion in the unit in a safe direction, so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(b) *Above-ground magazines*. Above-ground magazines shall be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(c) *Outdoor or open storage areas*. Outdoor or open storage areas shall be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(3) Hazardous waste munitions and explosives shall be stored in accordance with a standard operating procedure specifying procedures to ensure safety, security and environmental protection. If these procedures serve the same purpose as the security and inspection requirements of s. NR 664.0014, the preparedness and prevention procedures of subch. C and the contingency plan and emergency procedures requirements of subch. D, then these procedures shall be used to fulfill those requirements.

(4) Hazardous waste munitions and explosives shall be packaged to ensure safety in handling and storage.

(5) Hazardous waste munitions and explosives shall be inventoried at least annually.

(6) Hazardous waste munitions and explosives and their storage units shall be inspected and monitored as necessary to ensure explosives safety and to ensure that there is no migration of contaminants out of the unit.

NR 664.1202 Closure and long-term care. (1) At closure of a magazine or unit which stored hazardous waste under this subchapter, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste, and manage them as hazardous waste unless s. NR 661.03(4) applies. The closure plan, closure activities, cost estimates for closure and financial responsibility for magazines or units shall meet all of the requirements specified in subchs. G and H, except that the owner or operator may defer closure of the unit as long as it remains in service as a munitions or explosives magazine or storage unit.

(2) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures and equipment as required in sub. (1), the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, the owner or operator shall close the facility and perform long-term care in accordance with the closure and long-term care requirements that apply to landfills (s. NR 664.0310).

APPENDIX I
RECORDKEEPING INSTRUCTIONS

The recordkeeping provisions of s. NR 664.0073 specify that an owner or operator shall keep a written operating record at the facility. This appendix provides additional instructions for keeping portions of the operating record. See s. NR 664.0073(2) for additional recordkeeping requirements. The following information shall be recorded, as it becomes available, and maintained in the operating record until closure of the facility in the following manner:

Records of each hazardous waste received, treated, stored or disposed of at the facility which include all of the following:

(1) A description by its common name and the EPA hazardous waste numbers from ch. NR 661 which apply to the waste. The waste description also shall include the waste's physical form, i.e., liquid, sludge, solid or contained gas. If the waste is not listed in subch. D of ch. NR 661, the description also shall include the process that produced it (for example, solid filter cake from production of___, EPA hazardous waste number W051).

Each hazardous waste listed in subch. D of ch. NR 661, and each hazardous waste characteristic defined in subch. C of ch. NR 661, has a 4-digit EPA hazardous waste number assigned to it. This number shall be used for recordkeeping and reporting purposes. Where a hazardous waste contains more than one listed hazardous waste, or where more than one hazardous waste characteristic applies to the waste, the waste description shall include all applicable EPA hazardous waste numbers.

(2) The estimated or manifest-reported weight, or volume and density, where applicable, in one of the units of measure specified in Table 1.

TABLE 1

Unit of measure	Code [1]

WA-10-05

Gallons.....	G

1991

WA-10-05

Gallons per Hour	E

1992

WA-10-05

Gallons per Day.....	U

1993

WA-10-05

Liters.....	L

1994

WA-10-05

Liters per Hour	H
1995	

WA-10-05

Liters per Day ..

V

1996

WA-10-05

Short Tons per Hour	D

1997

WA-10-05

Metric Tons per Hour	W

1998

WA-10-05

Short Tons per Day.....	N

1999

WA-10-05

Metric Tons per Day.....	S

2000

WA-10-05

Pounds per Hour	J

2001

WA-10-05

Kilograms per Hour	R

2002

WA-10-05

Cubic Yards.....	Y

2003

WA-10-05

Cubic Meters ...

C

2004

WA-10-05

Acres.....

B

2005

WA-10-05

Acre-feet..... A

2006

WA-10-05

Hectares .....

Q

2007

WA-10-05

Hectare-meter ..

F

2008

WA-10-05

Btu's per Hour .

I

2009

[1] Single digit symbols are used here for data processing purposes.

(3) The methods (by handling codes as specified in Table 2) and dates of treatment, storage or disposal.

Table 2. —Handling Codes for Treatment, Storage and Disposal Methods

Enter the following handling codes that most closely represent the techniques used at the facility to treat, store or dispose of each quantity of hazardous waste received.

(a) Storage

S01 Container (barrel, drum, etc.)
S02 Tank
S03 Waste Pile
S04 Surface Impoundment
S05 Drip Pad
S06 Containment Building (Storage)
S99 Other Storage (specify)

(b) Treatment

1. Thermal Treatment—

T06 Liquid injection incinerator
T07 Rotary kiln incinerator
T08 Fluidized bed incinerator
T09 Multiple hearth incinerator
T10 Infrared furnace incinerator
T11 Molten salt destructor
T12 Pyrolysis
T13 Wet air oxidation
T14 Calcination
T15 Microwave discharge
T18 Other (specify)

2. Chemical Treatment—

T19 Absorption mound
T20 Absorption field
T21 Chemical fixation
T22 Chemical oxidation
T23 Chemical precipitation
T24 Chemical reduction
T25 Chlorination
T26 Chlorinolysis
T27 Cyanide destruction
T28 Degradation
T29 Detoxification
T30 Ion exchange
T31 Neutralization
T32 Ozonation

T33 Photolysis
T34 Other (specify)

3. Physical Treatment—

a. Separation of components:

T35 Centrifugation
T36 Clarification
T37 Coagulation
T38 Decanting
T39 Encapsulation
T40 Filtration
T41 Flocculation
T42 Flotation
T43 Foaming
T44 Sedimentation
T45 Thickening
T46 Ultrafiltration
T47 Other (specify)

b. Removal of Specific Components:

T48 Absorption-molecular sieve
T49 Activated carbon
T50 Blending
T51 Catalysis
T52 Crystallization
T53 Dialysis
T54 Distillation
T55 Electrodialysis
T56 Electrolysis
T57 Evaporation
T58 High gradient magnetic separation
T59 Leaching
T60 Liquid ion exchange
T61 Liquid-liquid extraction
T62 Reverse osmosis
T63 Solvent recovery
T64 Stripping
T65 Sand filter
T66 Other (specify)

4. Biological Treatment

T67 Activated sludge
T68 Aerobic lagoon
T69 Aerobic tank
T70 Anaerobic tank
T71 Composting
T72 Septic tank

T73 Spray irrigation
T74 Thickening filter
T75 Trickling filter
T76 Waste stabilization pond
T77 Other (specify)

5. Boilers and Industrial Furnaces

T80 Boiler
T81 Cement Kiln
T82 Lime Kiln
T83 Aggregate Kiln
T84 Phosphate Kiln
T85 Coke Oven
T86 Blast Furnace
T87 Smelting, Melting or Refining Furnace
T88 Titanium Dioxide Chloride Process Oxidation Reactor
T89 Methane Reforming Furnace
T90 Pulping Liquor Recovery Furnace
T91 Combustion Device Used in the Recovery of Sulfur Values from Spent Sulfuric Acid
T92 Halogen Acid Furnaces
T93 Other Industrial Furnaces Listed in s. NR 660.10 (specify)

6. Other Treatment

T94 Containment Building (Treatment)

(c) Disposal

D79 Underground Injection
D80 Landfill

D82 Ocean Disposal
D83 Surface Impoundment (to be closed as a landfill)
D99 Other Disposal (specify)

(d) Miscellaneous (Subch. X)

X01 Open Burning or Open Detonation
X02 Mechanical Processing
X03 Thermal Unit
X04 Geologic Repository
X99 Other Subch. X (specify)

APPENDIX IV
COCHRAN'S APPROXIMATION TO THE BEHRENS-FISHER STUDENTS' T-TEST

Using all the available background data (n_b readings), calculate the background mean (X_b) and background variance (s_b2). For the single monitoring well under investigation (n_m reading), calculate the monitoring mean (X_m) and monitoring variance (s_m2).

For any set of data (X_1, X_2, . . ., X_n) the mean is calculated by:

$$\overline{X} = \frac{X_1 + X_2 \cdots + X_n}{n}$$

and the variance is calculated by:

$$s^2 = \frac{\left(X_1 - \overline{X}\right)^2 + \left(X_2 - \overline{X}\right)^2 \cdots + \left(X_n - \overline{X}\right)^2}{n-1}$$

where ”n” denotes the number of observations in the set of data.

The t-test uses these data summary measures to calculate a t-statistic (t*) and a comparison t-statistic (t_c). The t* value is compared to the t_c value and a conclusion reached as to whether there has been a statistically significant change in any indicator parameter.

The t-statistic for all parameters except pH and similar monitoring parameters is:

$$t^* = \frac{X_m - \overline{X}_s}{\sqrt{\frac{S_m^2}{n_m} + \frac{S_b^2}{n_b}}}$$

If the value of this t-statistic is negative then there is no significant difference between the monitoring data and background data. It should be noted that significantly small negative values may be indicative of a failure of the assumption made for test validity or errors have been made in collecting the background data.

The t-statistic (t_c), against which t* will be compared, necessitates finding t_b and t_m from standard (one-tailed) tables where,

t_b=t-tables with (n_b-1) degrees of freedom, at the 0.05 level of significance.

t_m=t-tables with (n_m-1) degrees of freedom, at the 0.05 level of significance.

Finally, the special weightings W_b and W_m are defined as:

$$W_B = \frac{s_b^2}{n_b} \quad and \quad W_m = \frac{s_m^2}{n_m}$$

and so the comparison t-statistic is:

$$t_c = \frac{W_b t_b + W_m t_m}{W_b + W_m}$$

The t-statistic (t*) is now compared with the comparison t-statistic (t_c) using the following decision-rule:

If *t* is equal to or larger than* t_c, then conclude that there most likely *has been a significant increase* in this specific parameter.

If *t* is less than* t_c, then conclude that most likely *there has not been a change* in this specific parameter.

The t-statistic for testing pH and similar monitoring parameters is constructed in the same manner as previously described except the negative sign (if any) is discarded and the caveat concerning the negative value is ignored. The standard (2-tailed) tables are used in the construction t_c for pH and similar monitoring parameters.

If t* is equal to or larger than t_c, then conclude that there most likely *has been a significant increase* (if the initial t* had been negative, this would imply a significant decrease). If t* is less than t_c, then conclude that there most likely has been no change.

A further discussion of the test may be found in *Statistical Methods* (6th Edition, Section 4.14) by G. W. Snedecor and W. G. Cochran, or *Principles and Procedures of Statistics* (1st Edition, Section 5.8) by R. G. D. Steel and J. H. Torrie.

STANDARD T—TABLES 0.05 LEVEL OF SIGNIFICANCE

WA-10-05

Degrees of freedom	t-values (one-tail)	t-values (2-tail)

2015

WA-10-05

1	6.314	12.706

2016

WA-10-05		
2	2.920	4.303

2017

WA-10-05		
3	2.353	3.182

2018

WA-10-05		
4	2.132	2.776

2019

WA-10-05		
5	2.015	2.571

2020

WA-10-05		
6	1.943	2.447

2021

WA-10-05		
7	1.895	2.365

2022

WA-10-05		
8	1.860	2.306

2023

WA-10-05		
9	1.833	2.262

2024

WA-10-05		
10	1.812	2.228

2025

WA-10-05		
11	1.796	2.201

2026

WA-10-05		
12	1.782	2.179

WA-10-05		
13	1.771	2.160

2028

WA-10-05		
14	1.761	2.145

2029

WA-10-05		
15	1.753	2.131

2030

WA-10-05		
16	1.746	2.120

WA-10-05		
17	1.740	2.110

WA-10-05		
18	1.734	2.101

WA-10-05		
19	1.729	2.093

WA-10-05		
20	1.725	2.086

2035

WA-10-05

21	1.721	2.080

2036

WA-10-05

22	1.717	2.074

2037

WA-10-05

23	1.714	2.069

WA-10-05

24	1.711	2.064

WA-10-05		
25	1.708	2.060

2040

WA-10-05		
30	1.697	2.042

WA-10-05

40	1.684	2.021

Adopted from Table III of ”Statistical Tables for Biological, Agricultural, and Medical Research” (1947, R. A. Fisher and F. Yates).

APPENDIX V
EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes or gases or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage and disposal facilities, and to enforcement and license granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator shall, as the rules require, adequately analyze that person’s wastes in order to avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) , neutralizes them (e.g., a strong acid mixed with a strong base) or controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

WA-10-05

Group 1-A	Group 1-B

WA-10-05

Acetylene sludge	Acid sludge

2045

WA-10-05

Alkaline caustic liquids	Acid and water

2046

WA-10-05

Alkaline cleaner

Battery acid

2047

WA-10-05

Alkaline corrosive liquids	Chemical cleaners

2048

WA-10-05

Alkaline corrosive battery fluid	Electrolyte, acid

2049

WA-10-05

Caustic wastewater

Etching acid liquid or solvent

2050

WA-10-05

Lime sludge and other corrosive alkalies

2051

WA-10-05

Lime wastewater

Pickling liquor and other corrosive acids

2052

WA-10-05

Lime and water	Spent acid

2053

WA-10-05

Spent caustic

Spent mixed acid

2054

WA-10-05

Spent sulfuric acid

2055

WA-10-05

Potential consequences: Heat generation; violent reaction.

WA-10-05

Group 2-A	Group 2-B

2057

WA-10-05

Aluminum	Any waste in Group 1-A or 1-B

WA-10-05
Calcium

2060

WA-10-05
Lithium

2061

WA-10-05
Magnesium

2062

WA-10-05
Potassium

2063

WA-10-05
Sodium

2064

WA-10-05

Zinc powder

2065

WA-10-05

Other reactive metals and metal hydrides

2066

WA-10-05

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

WA-10-05

Group 3-A	Group 3-B

WA-10-05

Alcohols	Any concentrated waste in Group 1-A or 1-B

WA-10-05

Water	Calcium

2070

WA-10-05

Lithium

2071

WA-10-05

Metal hydrides

2072

WA-10-05

Potassium

2073

WA-10-05

SO_2Cl_2, $SOCl_2$,
PCl_3,
CH_3SiCl_3

2074

WA-10-05

Other
water-reactive
waste

2075

WA-10-05

Potential consequences: Fire, explosion or heat generation; generation of flammable or toxic gases.

WA-10-05

Group 4-A	Group 4-B

Alcohols	Concentrated Group 1-A or 1-B wastes

WA-10-05 Aldehydes	Group 2-A wastes

WA-10-05

Halogenated hydrocarbons

2080

WA-10-05

Nitrated hydrocarbons

2081

WA-10-05

Unsaturated hydrocarbons

2082

WA-10-05

Other reactive organic compounds and solvents

WA-10-05

Potential consequences: Fire, explosion or violent reaction.

WA-10-05

Group 5-A	Group 5-B

2085

WA-10-05

Spent cyanide and sulfide solutions	Group 1-B wastes

2086

WA-10-05

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

WA-10-05

Group 6-A	Group 6-B

Chlorates	Acetic acid and other organic acids

WA-10-05 Chlorine	Concentrated mineral acids

2090

WA-10-05 Chlorites	Group 2-A wastes

2091

WA-10-05	Chromic acid	Group 4-A wastes

WA-10-05

Hypochlorites

Other flammable and combustible wastes

2093

WA-10-05
Nitrates

2094

WA-10-05

Nitric acid, fuming

2095

WA-10-05

Other strong oxidizers

2099

WA-10-05

Potential consequences: Fire, explosion or violent reaction.

Note: The source of this appendix is "Law, Regulations, and Guidelines for Handling of Hazardous Waste", California department of health, February 1975.

APPENDIX VI
COMPOUNDS WITH HENRY'S LAW CONSTANT LESS THAN 0.1 Y/X

Compound name	CAS No.

Acetaldol	107-89-1

WA-10-05

Acetamide	60-35-5

WA-10-05

2-Acetylaminofluorene	53-96-3

WA-10-05

3-Acetyl-5-hydroxypiperidine.

2105

WA-10-05

3-Acetylpiperidine	618-42-8

WA-10-05

1-Acetyl-2-thiourea.....	591-08-2

WA-10-05

Acrylamide.....	79-06-1

WA-10-05

Acrylic acid	79-10-7

WA-10-05

Adenine 73-24-5

WA-10-05

Adipic acid	124-04-9

WA-10-05

Adiponitrile	111-69-3

WA-10-05

Alachlor	15972-60-8

WA-10-05

Aldicarb	116-06-3

WA-10-05

Ametryn 834-12-8

2115

WA-10-05

4-Aminobiphenyl	92-67-1

WA-10-05

4-Aminopyridine.....	504-24-5

WA-10-05

Aniline	62-53-3

WA-10-05

o-Anisidine.....	90-04-0

WA-10-05

Anthraquinone 84-65-1

WA-10-05

Atrazine.....	1912-24-9

WA-10-05

Benzenearsonic acid.....	98-05-5

WA-10-05

Benzenesulfonic acid	98-11-3

WA-10-05

Benzidine	92-87-5

WA-10-05

Benzo(a)anthracene.....	56-55-3

WA-10-05

Benzo(k)fluoranthene	207-08-9

WA-10-05

Benzoic acid	65-85-0

WA-10-05

Benzo(g,h,i)perylene.....	191-24-2

Benzo(a)pyrene	50-32-8

WA-10-05

Benzyl alcohol	100-51-6

WA-10-05

gamma-BHC	58-89-9

WA-10-05

Bis(2-ethylhexyl)phthalate.....	117-81-7

WA-10-05

Bromochloromethyl acetate.

2133

WA-10-05

Bromoxynil	1689-84-5

WA-10-05

Butyric acid	107-92-6

WA-10-05

Caprolactam (hexahydro-2H-azepin-2-one)	105-60-2

WA-10-05

Catechol (o-dihydroxybenzene).....	120-80-9

WA-10-05

Cellulose	9004-34-6

WA-10-05
Cell wall.

WA-10-05

Chlorhydrin (3-Chloro-1,2-propanediol)	96-24-2

WA-10-05

Chloroacetic acid	79-11-8

WA-10-05

2-Chloroacetophenone	93-76-5

WA-10-05

p-Chloroaniline	106-47-8

WA-10-05

p-Chlorobenzophenone	134-85-0

WA-10-05

Chlorobenzilate	510-15-6

WA-10-05

p-Chloro-m-cresol (6-chloro-m-cresol)	59-50-7

WA-10-05

3-Chloro-2,5-diketopyrrolidine.

WA-10-05

Chloro-1,2-ethane diol.

WA-10-05

4-Chlorophenol	106-48-9

WA-10-05

Chlorophenol polymers (2-chlorophenol & 4-chlorophenol)	95-57-8 & 106-48-9

WA-10-05

1-(o-Chlorophenyl)thiourea	5344-82-1

WA-10-05

Chrysene	218-01-9

WA-10-05

Citric acid.....	77-92-9

WA-10-05

Creosote	8001-58-9

2154

WA-10-05

m-Cresol.....	108-39-4

2155

WA-10-05

o-Cresol.....	95-48-7

WA-10-05

p-Cresol.....	106-44-5

WA-10-05

Cresol (mixed isomers)	1319-77-3

WA-10-05

4-Cumylphenol	27576-86-9

WA-10-05

Cyanide	57-12-5

2160

WA-10-05

4-Cyanomethyl benzoate.

WA-10-05

Diazinon.....	333-41-5

Dibenzo(a,h)anthracene	53-70-3

Dibutylphthalate.....	84-74-2

WA-10-05

2,5-Dichloroaniline (N,N'-dichloroaniline)	95-82-9

WA-10-05

2,6-Dichlorobenzonitrile11	1194-65-6

WA-10-05

2,6-Dichloro-4-nitroaniline	99-30-9

WA-10-05

2,5-Dichlorophenol	333-41-5

WA-10-05

3,4-Dichlorotetrahydrofuran.

WA-10-05

Dichlorvos (DDVP)	62-73-7

WA-10-05

Diethanolamine	111-42-2

WA-10-05

N,N-Diethylaniline.....	91-66-7

WA-10-05

Diethylene glycol	111-46-6

WA-10-05

Diethylene glycol dimethyl ether (dimethyl Carbitol)	111-96-6

WA-10-05

Diethylene glycol monobutyl ether (butyl Carbitol).....	112-34-5

WA-10-05

Diethylene glycol monoethyl ether acetate (Carbitol acetate)	112-15-2

WA-10-05

Diethylene glycol monoethyl ether (Carbitol Cellosolve)	111-90-0

WA-10-05

Diethylene glycol monomethyl ether (methyl Carbitol)	111-77-3

WA-10-05

N,N'-Diethylhydrazine	1615-80-1

WA-10-05

Diethyl (4-methylumbelliferyl) thionophosphate	299-45-6

WA-10-05

Diethyl phosphorothioate.....	126-75-0

WA-10-05

N,N'-Diethylpropionamide	15299-99-7

WA-10-05

Dimethoate.....	60-51-5

WA-10-05

2,3-Dimethoxystrychnidin-10-one	357-57-3

WA-10-05

4-Dimethylaminoazobenzene	60-11-7

WA-10-05

7,12-Dimethylbenz(a)anthracene	57-97-6

WA-10-05

3,3-Dimethylbenzidine.....	119-93-7

WA-10-05

Dimethylcarbamoyl chloride	79-44-7

WA-10-05

Dimethyldisulfide	624-92-0

WA-10-05

Dimethylformamide	68-12-2

WA-10-05

1,1-Dimethylhydrazine	57-14-7

WA-10-05

Dimethylphthalate	131-11-3

WA-10-05

Dimethylsulfone.....	67-71-0

WA-10-05

Dimethylsulfoxide	67-68-5

4,6-Dinitro-o-cresol	534-52-1

WA-10-05

1,2-Diphenylhydrazine.....	122-66-7

WA-10-05

Dipropylene glycol (1,1'-oxydi-2-propanol)	110-98-5

WA-10-05

Endrin.....	72-20-8

WA-10-05

Epinephrine	51-43-4

WA-10-05

mono-Ethanolamine	141-43-5

WA-10-05

Ethyl carbamate (urethane)	51-79-6

WA-10-05

Ethylene glycol	107-21-1

2202

WA-10-05

Ethylene glycol monobutyl ether (butyl Cellosolve)	111-76-2

2203

WA-10-05

Ethylene glycol monoethyl ether (Cellosolve).....	110-80-5

WA-10-05

Ethylene glycol monoethyl ether acetate (Cellosolve acetate)	111-15-9

2205

WA-10-05

Ethylene glycol monomethyl ether (methyl Cellosolve)	109-86-4

WA-10-05

Ethylene glycol monophenyl ether (phenyl Cellosolve).....	122-99-6

2207

WA-10-05

Ethylene glycol monopropyl ether (propyl Cellosolve).....	2807-30-9

WA-10-05

Ethylene thiourea (2-imidazolidinethione)	96-45-7

WA-10-05

4-Ethylmorpholine	100-74-3

2210

WA-10-05

3-Ethylphenol.....	620-17-7

2211

WA-10-05

Fluoroacetic acid, sodium salt.....	62-74-8

WA-10-05

Formaldehyde	50-00-0

WA-10-05

Formamide	75-12-7

WA-10-05

Formic acid	64-18-6

2215

WA-10-05

Fumaric acid	110-17-8

WA-10-05

Glutaric acid.....	110-94-1

WA-10-05

Glycerin (Glycerol)	56-81-5

WA-10-05

Glycidol	556-52-5

WA-10-05

Glycinamide	598-41-4

WA-10-05

Glyphosate	1071-83-6

WA-10-05

Guthion 86-50-0

2222

WA-10-05

Hexamethylene-1,6-diisocyanate (1,6-diisocyanatohexane)	822-06-0

WA-10-05

Hexamethyl phosphoramide	680-31-9

WA-10-05

Hexanoic acid	142-62-1

WA-10-05

Hydrazine..... 302-01-2

WA-10-05

Hydrocyanic acid	74-90-8

2227

WA-10-05

Hydroquinone	123-31-9

WA-10-05

Hydroxy-2-propionitrile (hydracrylonitrile)	109-78-4

WA-10-05

Indeno (1,2,3-cd) pyrene.....	193-39-5

WA-10-05

Lead acetate	301-04-2

WA-10-05

Lead subacetate (lead acetate, monobasic)	1335-32-6

WA-10-05

Leucine.....	61-90-5

WA-10-05

Malathion	121-75-5

WA-10-05

Maleic acid.....	110-16-7

WA-10-05

Maleic anhydride	108-31-6

WA-10-05

Mesityl oxide	141-79-7

WA-10-05

Methane sulfonic acid	75-75-2

WA-10-05

Methomyl	16752-77-5

WA-10-05

p-Methoxyphenol	150-76-5

WA-10-05

Methyl acrylate	96-33-3

2241

WA-10-05

4,4’-Methylene-bis-(2-chloroaniline)	101-14-4

WA-10-05

4,4’-Methylenediphenyl diisocyanate (diphenyl methane diisocyanate).....	101-68-8

WA-10-05

4,4’-Methylenedianiline.....	101-77-9

2244

WA-10-05

Methylene diphenylamine (MDA).

WA-10-05

5-Methylfurfural	620-02-0

WA-10-05

Methylhydrazine	60-34-4

WA-10-05

Methyliminoacetic acid.

WA-10-05

Methyl methane sulfonate.....	66-27-3

WA-10-05

1-Methyl-2-methoxyaziridine.

2250

WA-10-05

Methylparathion	298-00-0

WA-10-05

Methyl sulfuric acid (sulfuric acid, dimethyl ester)	77-78-1

WA-10-05

4-Methylthiophenol.....	106-45-6

WA-10-05

Monomethylformamide (N-methylformamide)	123-39-7

WA-10-05

Nabam	142-59-6

2255

WA-10-05

alpha-Naphthol.....	90-15-3

WA-10-05

beta-Naphthol.....	135-19-3

WA-10-05

alpha-Naphthylamine	134-32-7

WA-10-05

beta-Naphthylamine	91-59-8

WA-10-05

Neopentyl glycol (dimethylolpropane)	126-30-7

WA-10-05

Niacinamide	98-92-0

WA-10-05

o-Nitroaniline	88-74-4

WA-10-05

Nitroglycerin	55-63-0

WA-10-05

2-Nitrophenol	88-75-5

WA-10-05

4-Nitrophenol	100-02-7

N-Nitrosodimethylamine	62-75-9

WA-10-05

Nitrosoguanidine.....	674-81-7

WA-10-05

N-Nitroso-n-methylurea.....	684-93-5

WA-10-05

N-Nitrosomorpholine (4-nitrosomorpholine)	59-89-2

WA-10-05

Oxalic acid	144-62-7

WA-10-05

Parathion	56-38-2

WA-10-05

Pentaerythritol.....	115-77-5

WA-10-05

Phenacetin	62-44-2

WA-10-05

Phenol	108-95-2

2274

WA-10-05

Phenylacetic acid	103-82-2

WA-10-05

m-Phenylene diamine.....	108-45-2

WA-10-05

o-Phenylene diamine.....	95-54-5

2277

WA-10-05

p-Phenylene diamine.....	106-50-3

WA-10-05

Phenyl mercuric acetate	62-38-4

WA-10-05

Phorate 298-02-2

WA-10-05

Phthalic anhydride	85-44-9

WA-10-05

alpha-Picoline (2-methyl pyridine)	109-06-8

WA-10-05

1,3-Propane sulfone	1120-71-4

2283

beta-Propiolactone 57-57-8

WA-10-05

Propoxur (Baygon)..... 114-26-1

WA-10-05

Propylene glycol	57-55-6

WA-10-05

Pyrene	129-00-0

WA-10-05

Pyridinium bromide	39416-48-3

WA-10-05

Quinoline 91-22-5

WA-10-05

Quinone (p-benzoquinone)	106-51-4

WA-10-05

Resorcinol	108-46-3

WA-10-05

Simazine.....	122-34-9

2292

WA-10-05

Sodium acetate	127-09-3

2293

WA-10-05

Sodium formate.....	141-53-7

WA-10-05

Strychnine	57-24-9

2295

WA-10-05

Succinic acid	110-15-6

WA-10-05

Succinimide	123-56-8

WA-10-05

Sulfanilic acid	121-47-1

WA-10-05

Terephthalic acid.....	100-21-0

2299

WA-10-05

Tetraethyldithiopyrophosphate	3689-24-5

WA-10-05

Tetraethylenepentamine	112-57-2

WA-10-05

Thiofanox.....	39196-18-4

WA-10-05

Thiosemicarbazide	79-19-6

WA-10-05

2,4-Toluenediamine	95-80-7

2304

WA-10-05

2,6-Toluenediamine	823-40-5

2305

WA-10-05

3,4-Toluenediamine	496-72-0

WA-10-05

2,4-Toluene diisocyanate	584-84-9

2307

WA-10-05

p-Toluic acid	99-94-5

WA-10-05

m-Toluidine	108-44-1

WA-10-05

1,1,2-Trichloro-1,2,2-trifluoroethane.....	76-13-1

WA-10-05

Triethanolamine	102-71-6

WA-10-05

Triethylene glycol dimethyl ether	112-49-2

2312

WA-10-05

Tripropylene glycol.....	24800-44-0

2313

WA-10-05
Warfarin 81-81-2

WA-10-05

3,4-Xylenol (3,4-dimethylphenol)	95-65-8

APPENDIX IX
GROUNDWATER MONITORING LIST [1]

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Sug-geste d meth-ods [5]	PQL (ig/L) [6]

Acenaphthene.....	83-32-9	Acenaphthylene, 1,2-dihydro-	8100	200
			8270	10
Acenaphthylene	208-96-8	Acenaphthylene	8100	200
			8270	10

WA-10-05

Acetone	67-64-1	2-Propanone	8240	100

2319

WA-10-05

Acetophenone	98-86-2	Ethanone, 1-phenyl-.....	8270	10

2320

WA-10-05

Acetonitrile; Methyl cyanide ..	75-05-8	Acetonitrile	8015	100

2321

WA-10-05

2-Acetylaminofluorene; 2-AAF	53-96-3	Acetamide, N-9H-fluoren-2-yl-	8270	10

2322

WA-10-05

Acrolein	107-02-8	2-Propenal.....	8030	5
			8240	5
Acrylonitrile.....	107-13-1	2-Propenenitrile	8030	5
			8240	5

WA-10-05

Aldrin.....	309-00-2	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4 a,5,8,8a-hexahydro-(1á,4á, 4aâ, 5á,8á,8aâ)-	8080 8270	0.05 10

2324

WA-10-05

Allyl chloride	107-05-1	1-Propene, 3-chloro-	8010 8240	5 100

WA-10-05

4-Aminobiphenyl	92-67-1	[1,1'-Biphenyl]- 4-amine	8270	10

2326

WA-10-05

Aniline	62-53-3	Benzenamine.....	8270	10

2327

WA-10-05

Anthracene	120-12-7	Anthracene	8100	200
			8270	10
Antimony	(Total)	Antimony	6010	300
			7040	2,000
			7041	30

WA-10-05

Aramite	140-57-8	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl) phenoxy]-1-methylethyl ester	8270	10

WA-10-05

Arsenic	(Total)	Arsenic	6010	500
			7060	10
			7061	20

2330

WA-10-05

Barium	(Total)	Barium	6010	20
			7080	1,000

2331

WA-10-05

Benzene.....	71-43-2	Benzene.....	8020 8240	2 5

2332

WA-10-05

Benzo[a]anthracene; Benzanthracene	56-55-3	Benz[a]anthracene.....	8100 8270	200 10

2333

WA-10-05

Benzo[b]fluoranthene	205-99-2	Benz[e]acephenanthrylene.....	8100 8270	200 10

2334

WA-10-05

Benzo[k]fluoranthene	207-08-9	Benzo[k]fluoranthene	8100 8270	200 10

2335

WA-10-05

Benzo[ghi]perylene.....	191-24-2	Benzo[ghi]perylene.....	8100 8270	200 10

WA-10-05

Benzo[a]pyrene.....	50-32-8	Benzo[a]pyrene.....	8100 8270	200 10

2337

WA-10-05

Benzyl alcohol	100-51-6	Benzenemethanol.....	8270	20

WA-10-05

Beryllium	(Total)	Beryllium	6010	3
			7090	50
			7091	2

WA-10-05

alpha-BHC	319-84-6	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1á,2á,3â,4á,5â,6â)-	8080 8250	0.05 10

2340

WA-10-05

beta-BHC	319-85-7	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1á,2â,3á,4â,5á,6â)-	8080 8250	0.05 40

2341

WA-10-05

delta-BHC	319-86-8	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1á,2á,3á,4â,5á,6â)-	8080 8250	0.1 30

WA-10-05

gamma-BHC; Lindane.....	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1á,2á,3â,4á,5á,6â)-	8080 8250	0.05 10

2343

WA-10-05

Bis(2-chloroethoxy)methane...	111-91-1	Ethane, 1,1'-[methylenebis(oxy)] bis [2-chloro-	8270	10

2344

WA-10-05

Bis(2-chloroethyl)ether.....	111-44-4	Ethane, 1,1'-oxybis[2-chloro-.....	8270	10

2345

Bis(2-chloro-1-methylethyl) ether; 2,2'- Di-chlorodiisopropyl ether	108-60-1	Propane, 2,2'-oxybis[1-chloro-.....	8010 8270	100 10

WA-10-05

Bis(2-ethylhexyl) phthalate.....	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester	8060 8270	20 10

2347

Bromodichloromethane.....	75-27-4	Methane, bromodichloro-	8010 8240	1 5

WA-10-05

Bromoform; Tribromomethane	75-25-2	Methane, tribromo-	8010 8240	2 5

2349

WA-10-05

4-Bromophenyl phenyl ether ..	101-55-3	Benzene, 1-bromo-4-phenoxy-	8270	10

2350

Butyl benzyl phthalate; Benzyl butyl phthalate	85-68-7	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester	8060 8270	5 10

WA-10-05

Cadmium.....	(Total)	Cadmium.....	6010	40
			7130	50
			7131	1

2352

WA-10-05

Carbon disulfide.....	75-15-0	Carbon disulfide.....	8240	5

2353

WA-10-05

Carbon tetrachloride.....	56-23-5	Methane, tetrachloro-.....	8010 8240	1 5

2354

WA-10-05

Chlordane.....	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3, 3a,4,7,7a- hexahydro-	8080 8250	0.1 10

2355

WA-10-05

p-Chloroaniline	106-47-8	Benzenamine, 4-chloro-.....	8270	20

WA-10-05

Chlorobenzene	108-90-7	Benzene, chloro-	8010 8020 8240	2 2 5

2357

Chlorobenzilate.....	510-15-6	Benzeneacetic acid, 4-chloro-á-(4-chlorophenyl)-á-hydroxy-, ethyl ester	8270	10

WA-10-05

p-Chloro-m-cresol.....	59-50-7	Phenol, 4-chloro-3-methyl-.....	8040 8270	5 20

Chloroethane; Ethyl chloride	75-00-3	Ethane, chloro-	8010 8240	5 10

Chloroform.....	67-66-3	Methane, trichloro-	8010 8240	0.5 5

WA-10-05

2-Chloronaphthalene.....	91-58-7	Naphthalene, 2-chloro-	8120 8270	10 10

2-Chlorophenol	95-57-8	Phenol, 2-chloro-	8040 8270	5 10

WA-10-05

4-Chlorophenyl phenyl ether ..	7005-72-3	Benzene, 1-chloro-4-phenoxy-	8270	10

2364

WA-10-05

Chloroprene	126-99-8	1,3-Butadiene, 2-chloro-	8010 8240	50 5

WA-10-05

Chromium	(Total)	Chromium	6010	70
			7190	500
			7191	10

WA-10-05

Chrysene	218-01-9	Chrysene	8100 8270	200 10

WA-10-05

Cobalt.....	(Total)	Cobalt.....	6010	70
			7200	500
			7201	10

2368

WA-10-05

Copper.....	(Total)	Copper.....	6010	60
			7210	200

2369

WA-10-05

m-Cresol.....	108-39-4	Phenol, 3-methyl-.....	8270	10

2370

WA-10-05

o-Cresol.....	95-48-7	Phenol, 2-methyl-.....	8270	10

2371

WA-10-05

p-Cresol.....	106-44-5	Phenol, 4-methyl-.....	8270	10

WA-10-05

Cyanide	57-12-5	Cyanide	9010	40

WA-10-05

2,4-D; 2,4-Dichlorophenoxyacetic acid	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	8150	10

2374

4,4’-DDD	72-54-8	Benzene	8080	0.1
		1,1’-(2,2-dichloroethylidene) bis[4-chloro-	8270	10

WA-10-05

4,4’-DDE.....	72-55-9	Benzene, 1,1’-(dichloroethenylidene) bis[4-chloro-	8080 8270	0.05 10

2376

WA-10-05

4,4’-DDT.....	50-29-3	Benzene, 1,1’-(2,2,2-trichloroethylidene) bis[4-chloro-	8080 8270	0.1 10

2377

WA-10-05

Diallate.....	2303-16-4	Carbamothioic acid, bis(1-methylethyl)- , S-(2,3-dichloro-2-propenyl) ester	8270	10

2378

WA-10-05

Dibenz[a,h]anthracene	53-70-3	Dibenz[a,h]anthracene	8100 8270	200 10

WA-10-05

Dibenzofuran	132-64-9	Dibenzofuran	8270	10

2380

Dibromochloromethane; Chlorodibromomethane	124-48-1	Methane, dibromochloro-	8010	1
			8240	5
1,2-Dibromo-3-chloropropane; DBCP	96-12-8	Propane, 1,2-dibromo-3-chloro-	8010	100
			8240	5
			8270	10
1,2-Dibromoethane; Ethylene dibromide	106-93-4	Ethane, 1,2-dibromo-	8010	10
			8240	5
Di-n-butyl phthalate.....	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester	8060	5
			8270	10
o-Dichlorobenzene.....	95-50-1	Benzene, 1,2-dichloro-.....	8010	2
			8020	5
			8120	10
			8270	10
m-Dichlorobenzene.....	541-73-1	Benzene, 1,3-dichloro-.....	8010	5
			8020	5
			8120	10
			8270	10
p-Dichlorobenzene.....	106-46-7	Benzene, 1,4-dichloro-.....	8010	2
			8020	5
			8120	15
			8270	10

3,3'-Dichlorobenzidine	91-94-1	[1,1'-Biphenyl]- 4,4'- diamine, 3,3'-dichloro-	8270	20

WA-10-05

trans-1,4-Dichloro-2-butene....	110-57-6	2-Butene, 1,4-dichloro-, (E)-	8240 8010 8240	5 10 5

2383

WA-10-05

Dichlorodifluoromethane.....	75-71-8	Methane, dichlorodifluoro-.....		

WA-10-05

1,1-Dichloroethane.....	75-34-3	Ethane, 1,1-dichloro-	8010 8240	1 5

2385

WA-10-05

1,2-Dichloroethane;	107-06-2	Ethane, 1,2-dichloro-	8010	0.5
Ethylene dichloride			8240	5
1,1-Dichloroethylene;	75-35-4	Ethene, 1,1-dichloro-	8010	1
Vinylidene chloride			8240	5
trans-1,2-Dichloroethylene	156-60-5	Ethene, 1,2-dichloro-, (E)-	8010	1
			8240	5
2,4-Dichlorophenol	120-83-2	Phenol, 2,4-dichloro-	8040	5
			8270	10

WA-10-05

2,6-Dichlorophenol	87-65-0	Phenol, 2,6-dichloro-	8270	10

2387

WA-10-05

1,2-Dichloropropane	78-87-5	Propane, 1,2-dichloro-	8010 8240	0.5 5
cis-1,3-Dichloropropene	10061-01-5	1-Propene, 1,3-dichloro-, (Z)-.....	8010 8240	20 5
trans-1,3-Dichloropropene	10061-02-6	1-Propene, 1,3-dichloro-, (E)-.....	8010 8240	5 5

Dieldrin	60-57-1	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a ,3, 6,6a,7,7a- octahydro-, (1aá,2â,2aá,3â,6â,6aá,7â, 7aá)-	8080 8270	0.05 10

WA-10-05

Diethyl phthalate.....	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester	8060 8270	5 10

WA-10-05

O,O-Diethyl O-2-pyrazinyl phosphorothioate; Thionazin	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	8270	10

2391

Dimethoate.....	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester	8270	10

WA-10-05

p-(Dimethylamino) azobenzene	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-	8270	10

2393

7,12-Dimethylbenz[a] anthracene	57-97-6	Benz[a]anthracene, 7,12-dimethyl-	8270	10

3,3'-Dimethylbenzidine	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	8270	10

alpha, alpha-Dimethylphenethylamine	122-09-8	Benzeneethanamine, á,á-dimethyl-	8270	10

2,4-Dimethylphenol	105-67-9	Phenol, 2,4-dimethyl-.....	8040 8270	5 10
Dimethyl phthalate.....	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester	8060 8270	5 10

WA-10-05

m-Dinitrobenzene	99-65-0	Benzene, 1,3-dinitro-	8270	10

4,6-Dinitro-o-cresol	534-52-1	Phenol, 2-methyl-4,6-dinitro-	8040 8270	150 50
2,4-Dinitrophenol.....	51-28-5	Phenol, 2,4-dinitro-	8040 8270	150 50
2,4-Dinitrotoluene.....	121-14-2	Benzene, 1-methyl-2,4-dinitro-.....	8090 8270	0.2 10
2,6-Dinitrotoluene.....	606-20-2	Benzene, 2-methyl-1,3-dinitro-.....	8090 8270	0.1 10
Dinoseb; DNBP; 2-sec-Butyl- 4,6-dinitrophenol	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	8150 8270	1 10
Di-n-octyl phthalate	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester	8060 8270	30 10

WA-10-05

1,4-Dioxane.....	123-91-1	1,4-Dioxane.....	8015	150

2400

WA-10-05

Diphenylamine.....	122-39-4	Benzenamine, N-phenyl-	8270	10

2401

WA-10-05

Disulfoton	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl]ester	8140 8270	2 10

WA-10-05

Endosulfan I.....	959-98-8	6,9-Methano-2,4,3-benzodioxathiepin,6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-,3-oxide,(3á,5aâ,6á,9 á,9aâ)-	8080 8250	0.1 10

WA-10-05

Endosulfan II.....	33213-65-9	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3á,5aá,6â,9â, 9aá)-	8080	0.05

2404

Endosulfan sulfate.....	1031-07-8	6,9-Methano-2,4,3-benzodioxathiepin,6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-,3,3-dioxide	8080 8270	0.5 10

Endrin.....	72-20-8	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a, 7,7a- octahydro-, (1aá,2â, 2aâ,3á,6á,6aâ,7â, 7aá)-	8080 8250	0.1 10
Endrin aldehyde	7421-93-4	1,2,4-Methenocyclopenta[cd] pentalene-5-carboxaldehyde,2,2a,3,3,4,7-hexachlorodecahydro-, (1á,2â,2aâ,4â,4aâ,5â,6aâ, 6bâ,7R*)-	8080 8270	0.2 10
Ethylbenzene.....	100-41-4	Benzene, ethyl-	8020 8240	2 5
Ethyl methacrylate	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester	8015 8240 8270	10 5 10

WA-10-05

Ethyl methanesulfonate.....	62-50-0	Methanesulfonic acid, ethyl ester	8270	10

2407

WA-10-05

Famphur.....	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl] phenyl]-O,O-dimethyl ester	8270	10

WA-10-05

Fluoranthene	206-44-0	Fluoranthene	8100	200
			8270	10
Fluorene	86-73-7	9H-Fluorene	8100	200
			8270	10

WA-10-05

Heptachlor.....	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	8080 8270	0.05 10

Heptachlor epoxide	1024-57-3	2,5-Methano-2H-indeno[1,2-b] oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a,-hexahydro-,(1aá,1bâ,2á,5á, 5aâ,6â,6aá)	8080 8270	1 10
Hexachlorobenzene.....	118-74-1	Benzene, hexachloro-.....	8120 8270	0.5 10
Hexachlorobutadiene	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	8120 8270	5 10
Hexachlorocyclopentadiene....	77-47-4	1,3-Cyclopentadiene,1,2,3,4,5,5-hexachloro-	8120 8270	5 10
Hexachloroethane	67-72-1	Ethane, hexachloro-	8120 8270	0.5 10

Hexachlorophene	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-	8270	10

WA-10-05

Hexachloropropene.....	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-	8270	10

WA-10-05

2-Hexanone.....	591-78-6	2-Hexanone.....	8240	50

2414

WA-10-05

Indeno(1,2,3-cd)pyrene.....	193-39-5	Indeno[1,2,3-cd]pyrene.....	8100 8270	200 10

WA-10-05

Isobutyl alcohol.....	78-83-1	1-Propanol, 2-methyl-.....	8015	50

2416

WA-10-05

Isodrin	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4 a,5,8,8a hexahydro-(1á, 4á, 4aâ,5â, 8â,8aâ)-	8270	10

WA-10-05

Isophorone	78-59-1	2-Cyclohexen-1-one, 3,5,5-trimethyl-	8090 8270	60 10

WA-10-05

Isosafrole.....	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-	8270	10

Kepone.....	143-50-0	1,3,4-Metheno-2H-cyclobuta-[cd] pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-	8270	10

WA-10-05

Lead	(Total)	Lead	6010	40
			7420	1,000
			7421	10

WA-10-05

Mercury.....	(Total)	Mercury.....	7470	2

2422

WA-10-05

Methacrylonitrile	126-98-7	2-Propenenitrile, 2-methyl-.....	8015 8240	5 5

WA-10-05

Methapyrilene	91-80-5	1,2,Ethanediamine, N,N-dimethyl-N'-2- pyridinyl-N'-(2-thienylmethyl)-	8270	10

WA-10-05

Methoxychlor.....	72-43-5	Benzene, 1,1'-(2,2,2,trichloroethylidene) bis[4-methoxy-	8080 8270	2 10

Methyl bromide; Bromomethane	74-83-9	Methane, bromo-.....	8010 8240	20 10

Methyl chloride; Chloromethane	74-87-3	Methane, chloro-.....	8010 8240	1 10

WA-10-05

3-Methylcholanthrene.....	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	8270	10

Methylene bromide; Dibromomethane	74-95-3	Methane, dibromo-.....	8010 8240	15 5

WA-10-05

Methylene chloride; Dichloromethane	75-09-2	Methane, dichloro-.....	8010 8240	5 5

WA-10-05

Methyl ethyl ketone; MEK	78-93-3	2-Butanone.....	8015 8240	10 100
Methyl iodide; Iodomethane ...	74-88-4	Methane, iodo-	8010 8240	40 5
Methyl methacrylate	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester	8015 8240	2 5

Methyl methanesulfonate.....	66-27-3	Methanesulfonic acid, methyl ester	8270	10

WA-10-05

2-Methylnaphthalene	91-57-6	Naphthalene, 2-methyl-.....	8270	10

WA-10-05

Methyl parathion; Parathion methyl	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester	8140 8270	0.5 10

WA-10-05

4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1	2-Pentanone, 4-methyl-.....	8015	5
			8240	50
Naphthalene	91-20-3	Naphthalene	8100	200
			8270	10

WA-10-05

1,4-Naphthoquinone.....	130-15-4	1,4-Naphthalenedione	8270	10

WA-10-05

1-Naphthylamine	134-32-7	1-Naphthalenamine.....	8270	10

WA-10-05

2-Naphthylamine	91-59-8	2-Naphthalenamine.....	8270	10

WA-10-05

Nickel.....	(Total)	Nickel.....	6010	50
			7520	400

WA-10-05

o-Nitroaniline.....	88-74-4	Benzenamine, 2-nitro-.....	8270	50

WA-10-05

m-Nitroaniline.....	99-09-2	Benzenamine, 3-nitro-.....	8270	50

WA-10-05

p-Nitroaniline.....	100-01-6	Benzenamine, 4-nitro-.....	8270	50

WA-10-05

Nitrobenzene	98-95-3	Benzene, nitro-	8090	40
			8270	10
o-Nitrophenol	88-75-5	Phenol, 2-nitro-	8040	5
			8270	10
p-Nitrophenol	100-02-7	Phenol, 4-nitro-	8040	10
			8270	50

4-Nitroquinoline 1-oxide	56-57-5	Quinoline, 4-nitro-, 1-oxide	8270	10

WA-10-05

N-Nitrosodi-n-butylamine.....	924-16-3	1-Butanamine, N-butyl-N-nitroso-	8270	10

2445

N-Nitrosodiethylamine	55-18-5	Ethanamine, N-ethyl-N-nitroso-. ...	8270	10

N-Nitrosodimethylamine	62-75-9	Methanamine, N-methyl-N-nitroso-	8270	10

N-Nitrosodiphenylamine.....	86-30-6	Benzenamine, N-nitroso-N-phenyl-.....	8270	10

WA-10-05

N-Nitrosodipropylamine; Di-n- propylnitrosamine	621-64-7	1-Propanamine, N-nitroso-N-propyl-	8270	10

WA-10-05

N-Nitrosomethylethylamine ...	10595-95-6	Ethanamine, N-methyl-N-nitroso- .	8270	10

2450

WA-10-05

N-Nitrosomorpholine.....	59-89-2	Morpholine, 4-nitroso-.....	8270	10

WA-10-05

N-Nitrosopiperidine	100-75-4	Piperidine, 1-nitroso-	8270	10

WA-10-05

N-Nitrosopyrrolidine.....	930-55-2	Pyrrolidine, 1-nitroso-.....	8270	10

WA-10-05

5-Nitro-o-toluidine.....	99-55-8	Benzenamine, 2-methyl-5-nitro-....	8270	10

WA-10-05

Parathion	56-38-2	Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester	8270	10

WA-10-05

Polychlorinated biphenyls; PCBs	See Note 7	1,1'-Biphenyl, chloro derivatives ..	8080 8250	50 100

2456

WA-10-05

Polychlorinated dibenzo-p-dioxins; PCDDs	See Note 8	Dibenzo[b,e][1,4]dioxin, chloro derivatives	8280	0.01

2457

WA-10-05

Polychlorinated dibenzofurans; PCDFs	See Note 9	Dibenzofuran, chloro derivatives…	8280	0.01

2458

WA-10-05

Pentachlorobenzene	608-93-5	Benzene, pentachloro-.....	8270	10

WA-10-05

Pentachloroethane.....	76-01-7	Ethane, pentachloro-	8240 8270	5 10

WA-10-05

Pentachloronitrobenzene.....	82-68-8	Benzene, pentachloronitro-.....	8270	10

WA-10-05

Pentachlorophenol.....	87-86-5	Phenol, pentachloro-	8040 8270	5 50

WA-10-05

Phenacetin.....	62-44-2	Acetamide, N-(4-ethoxyphenyl)	8270	10

WA-10-05

Phenanthrene.....	85-01-8	Phenanthrene.....	8100	200
			8270	10
Phenol	108-95-2	Phenol	8040	1
			8270	10

WA-10-05

p-Phenylenediamine.....	106-50-3	1,4-Benzenediamine.....	8270	10

2465

Phorate	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	8140 8270	2 10

WA-10-05

2-Picoline.....	109-06-8	Pyridine, 2-methyl-	8240 8270	5 10

WA-10-05

Pronamide	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	8270	10

Propionitrile; Ethyl cyanide	107-12-0	Propanenitrile	8015	60
			8240	5
Pyrene	129-00-0	Pyrene	8100	200
			8270	10
Pyridine	110-86-1	Pyridine	8240	5
			8270	10

WA-10-05

Safrole.....	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-.....	8270	10

WA-10-05

Selenium	(Total)	Selenium	6010	750
			7740	20
			7741	20
Silver.....	(Total)	Silver.....	6010	70
			7760	100

WA-10-05

Silvex; 2,4,5-TP	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	8150	2

WA-10-05

Styrene	100-42-5	Benzene, ethenyl-.....	8020 8240	1 5

WA-10-05

Sulfide.....	18496-25-8	Sulfide.....	9030	10,000

2474

WA-10-05

2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-	8150	2

2475

WA-10-05

2,3,7,8-TCDD; 2,3,7,8-Tetrachlorodibenzo-p- dioxin	1746-01-6	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro-	8280	0.005

2476

WA-10-05

1,2,4,5-Tetrachlorobenzene	95-94-3	Benzene, 1,2,4,5-tetrachloro-.....	8270	10

2477

WA-10-05

1,1,1,2-Tetrachloroethane	630-20-6	Ethane, 1,1,1,2-tetrachloro-	8010	5
			8240	5
1,1,2,2-Tetrachloroethane	79-34-5	Ethane, 1,1,2,2-tetrachloro-	8010	0.5
			8240	5

WA-10-05

Tetrachloroethylene; Perchloroethylene; Tetrachloroethene	127-18-4	Ethene, tetrachloro-.....	8010 8240	0.5 5

WA-10-05

2,3,4,6-Tetrachlorophenol.....	58-90-2	Phenol, 2,3,4,6-tetrachloro-	8270	10

WA-10-05

Tetraethyl dithiopyrophosphate; Sulfotepp	3689-24-5	Thiodiphosphoric acid ($[(HO)_2P(S)]_2$ O), tetraethyl ester	8270	10

2481

WA-10-05

Thallium.....	(Total)	Thallium.....	6010	400
			7840	1,000
			7841	10

WA-10-05

Tin	(Total)	Tin	7870	8,000

2483

WA-10-05

Toluene	108-88-3	Benzene, methyl-	8020 8240	2 5

WA-10-05

o-Toluidine.....	95-53-4	Benzenamine, 2-methyl-.....	8270	10

2485

WA-10-05

Toxaphene.....	8001-35-2	Toxaphene.....	8080	2
			8250	10

WA-10-05

1,2,4-Trichlorobenzene	120-82-1	Benzene, 1,2,4-trichloro-	8270	10

2487

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1,1,1-Trichloroethane; Methylchloroform	71-55-6	Ethane, 1,1,1-trichloro-.....	8240	5

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1,1,2-Trichloroethane.....	79-00-5	Ethane, 1,1,2-trichloro-.....	8010 8240	0.2 5

WA-10-05

Trichloroethylene; Trichloroethene	79-01-6	Ethene, trichloro-	8010 8240	1 5

2490

WA-10-05

Trichlorofluoromethane	75-69-4	Methane, trichlorofluoro-.....	8010 8240	10 5

WA-10-05

2,4,5-Trichlorophenol	95-95-4	Phenol, 2,4,5-trichloro-	8270	10

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2,4,6-Trichlorophenol	88-06-2	Phenol, 2,4,6-trichloro-	8040	5
			8270	10
1,2,3-Trichloropropane	96-18-4	Propane, 1,2,3-trichloro-	8010	10
			8240	5

WA-10-05

O,O,O-Triethyl phosphorothioate	126-68-1	Phosphorothioic acid, O,O,O-triethyl ester	8270	10

WA-10-05

sym-Trinitrobenzene.....	99-35-4	Benzene, 1,3,5-trinitro-.....	8270	10

WA-10-05

Vanadium.....	(Total)	Vanadium.....	6010	80
			7910	2,000
			7911	40

WA-10-05

Vinyl acetate	108-05-4	Acetic acid, ethenyl ester	8240	5

Vinyl chloride	75-01-4	Ethene, chloro-	8010	2
			8240	10
Xylene (total)	1330-20-7	Benzene, dimethyl-	8020	5
			8240	5
Zinc	(Total)	Zinc	6010	20
			7950	50

[1]The rule requirements pertain only to the list of substances. The right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6.

[2]Common names are those widely used in government regulations, scientific publications and commerce; synonyms exist for many chemicals.

[3]Chemical Abstracts Service registry number. Where ''Total'' is entered, all species in the groundwater that contain this element are included.

[4]CAS index names are those used in the 9th Cumulative Index.

[5]Suggested methods refer to analytical procedure numbers used in EPA SW-846, ''Test Methods for Evaluating Solid Waste'', incorporated by reference in s. NR 660.11. Analytical details can be found in SW-846 and in documentation on file with EPA. The packed column gas chromatography methods 8010, 8020, 8030, 8040, 8060, 8080, 8090, 8110, 8120, 8140, 8150, 8240 and 8250 were promulgated methods through update IIB of SW-846 and, as of update III, EPA has replaced these methods with ''capillary column GC methods'', as the suggested methods.

[6]Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. CAUTION: The PQL values in many cases are based only on a general estimate for and not on a determination for individual compounds. PQLs are not a part of the rule.

[7]Polychlorinated biphenyls (CAS RN 1336-36-3). This category contains congener chemicals, including constituents of Aroclor-1016 (CAS RN 12674-11-2), Aroclor-1221 (CAS RN 11104-28-2), Aroclor-1232 (CAS RN 11141-16-5), Aroclor-1242 (CAS RN 53469-21-9), Aroclor-1248 (CAS RN 12672-29-6), Aroclor-1254 (CAS RN 11097-69-1) and Aroclor-1260 (CAS RN 11096-82-5). The PQL shown is an average value for PCB congeners.

[8]This category contains congener chemicals, including tetrachlorodibenzo-p-dioxins (see also 2,3,7,8-TCDD), pentachlorodibenzo-p-dioxins and hexachlorodibenzo-p-dioxins. The PQL shown is an average value for PCDD congeners.

[9]This category contains congener chemicals, including tetrachlorodibenzofurans, pentachlorodibenzofurans and hexachlorodibenzofurans. The PQL shown is an average value for PCDF congeners.

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INTERIM LICENSE HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITY STANDARDS

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http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1030 Applicability.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1031 Definitions.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1032 Standards: process vents.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1033 Standards: closed-vent systems and control devices.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1034 Test methods and procedures.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1035 Recordkeeping requirements.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1

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http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1050 Applicability.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1051 Definitions.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1052 Standards: pumps in light liquid service.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1053 Standards: compressors.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1054 Standards: pressure relief devices in gas or vapor service.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1055 Standards: sampling connection systems.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1056 Standards: open-ended valves or lines.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1057 Standards: valves in gas or vapor service or in light liquid service.

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http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1058 Standards: pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service and flanges and other connectors.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1059 Standards: delay of repair.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1060 Standards: closed-vent systems and control devices.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1061 Alternative standards for valves in gas or vapor service or in light liquid service: percentage of valves allowed to leak.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1062 Alternative standards for valves in gas or vapor service or in light liquid service: skip period leak detection and repair.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1063 Test methods and procedures.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1064 Recordkeeping requirements.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1

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http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1080 Applicability.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1081 Definitions.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1082 Schedule for implementation of air emission standards.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1083 Standards: general.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1084 Waste determination procedures.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1085 Standards: tanks.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1086 Standards: surface impoundments.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1087 Standards: containers.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1088 Standards: closed-vent systems and control devices.

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http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1089 Inspection and monitoring requirements.
http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1NR 665.1090 Recordkeeping requirements.

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APPENDIX III —EPA INTERIM PRIMARY DRINKING WATER STANDARDS
APPENDIX IV —TESTS FOR SIGNIFICANCE
APPENDIX V —EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE
APPENDIX VI —COMPOUNDS WITH HENRY'S LAW CONSTANT LESS THAN 0.1 Y/X

Subchapter A —General

Note: After the effective date of ch. NR 670, the treatment, storage and disposal of hazardous waste is prohibited except according to a license. Section 291.25(4), Stats., provides for the continued operation of an existing facility under an interim license, until final administrative disposition of the owner's and operator's operating license application is made.

NR 665.0001 Purpose, scope and applicability. (1) The purpose of this chapter is to establish minimum state standards that define the acceptable management of hazardous waste during the period of the interim license and until certification of final closure or, if the facility is subject to long-term care requirements, until long-term care responsibilities are fulfilled.

(2) Except as provided in s. NR 665.1080(2), the standards of this chapter, and of ss. NR 664.0552, 664.0553 and 664.0554, apply to owners and operators of facilities that treat, store or dispose of hazardous waste who have fully complied with the interim license requirements of s. 291.25(4), Stats., and s. NR 670.010 until either an operating license is issued under s. 291.25, Stats., or until applicable closure and long-term care responsibilities under this chapter are fulfilled, and to those owners and operators of facilities in existence on November 19, 1980 who have failed to provide timely notification as required by s. 291.05(1), Stats., and s. NR 660.07 or failed to file part A of the EPA hazardous waste permit application as required by s. NR 670.010(5) and (7). These standards apply to all treatment, storage and disposal of hazardous waste at these facilities after the effective date of this chapter … [revisor inserts date], except as specifically provided otherwise in this chapter or ch. NR 661 and s. NR 662.220.

(3) The requirements of this chapter do not apply to any of the following:

(a) A person disposing of hazardous waste by means of ocean disposal subject to a permit issued under 33 USC 1401 to 1445.

Note: This chapter does apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea, as provided in sub. (2). Title 33 USC 1401 to 1445 is also known as the ocean dumping portion of the federal marine protection, research and sanctuaries act.

(c) The owner or operator of a POTW which treats, stores or disposes of hazardous waste according to the requirements in s. NR 670.001(3)(b)9.

(e) The owner or operator of a facility licensed or registered by the department to dispose of either of the following:

1. Municipal or industrial solid waste, if the only hazardous waste the facility disposes of is from very small quantity generators and the facility has been approved by the department to accept hazardous waste from very small quantity generators.

2. Household and very small quantity generator waste, if the facility complies with the requirements of ch. NR 666 subch. HH.

Note: The specific requirements for solid waste landfills accepting hazardous waste from very small quantity generators are contained in s. NR 506.155. Very small quantity generators have the option of ensuring delivery of their hazardous waste to certain solid waste disposal facilities under s. NR 662.220(6)(c)4. and 5. and (7)(c)4. and 5.

(f) The owner or operator of a facility managing recyclable materials described in s. NR 661.06(1)(b), (c) and (d) (except to the extent they are referred to in subch. C, F, G or H of ch. NR 666, or ch. NR 679).

(g) A generator accumulating waste on-site in compliance with s. NR 662.034 or 662.192 (except to the extent the requirements are included in s. NR 662.034 or 662.192), or treating waste in containers or tanks, provided the requirements of s. NR 662.034, 662.192 or 662.220 are met.

(h) A farmer disposing of waste pesticides from the farmer's own use in compliance with s. NR 662.070.

(i) The owner or operator of a totally enclosed treatment facility, as defined in s. NR 660.10.

(j) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in s. NR 660.10, provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 high TOC subcategory defined in s. NR 668.40, the table "Treatment Standards for Hazardous Wastes"), or reactive (D003) waste, to remove the characteristic before land disposal, the owner or operator shall comply with s. NR 665.0017(2).

(k)1. Except as provided in subd. 2., a person engaged in treatment or containment activities during immediate response to any of the following situations:

a. A discharge of a hazardous waste.

b. An imminent and substantial threat of a discharge of a hazardous waste.

c. A discharge of a material which, when discharged, becomes a hazardous waste.

d. An immediate threat to human health, public safety, property or the environment, from the known or suspected presence of military munitions, other explosive material or an explosive device, as determined by an explosive or munitions emergency response specialist as defined in s. NR 660.10.

2. An owner or operator of a facility otherwise regulated by this chapter shall comply with all applicable requirements of subchs. C and D.

3. Any person who is covered by subd. 1. and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this chapter and chs. NR 200 to 210, 212 to 214 and 216 for those activities.

4. In the case of an explosives or munitions emergency response, if a federal, state, tribal or local official acting within the scope of that person's responsibilities, or an explosives or munitions emergency response specialist, determines that immediate removal of the material or waste is necessary to protect human health or the environment, that official or specialist may authorize the removal of the material or waste by transporters who do not have EPA identification numbers or hazardous waste transportation licenses and without the preparation of a manifest. In the case of emergencies involving military munitions, the responding military emergency response specialist's organizational unit shall retain records for 3 years identifying the dates of the response, the responsible persons responding, the type and description of material addressed and its disposition.

(L) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of s. NR 662.030 at a transfer facility for a period of 10 days or less.

(m) The addition of absorbent material to waste in a container (as defined in s. NR 660.10) or the addition of waste to the absorbent material in a container provided that these actions occur at the time waste is first placed in the containers; and ss. NR 665.0017(2), 665.0171 and 665.0172 are complied with.

(n) Universal waste handlers and universal waste transporters (as defined in s. NR 660.10) handling any of the following wastes. These handlers are regulated under ch. NR 673, when handling any of the following universal wastes:

1. Batteries as described in s. NR 673.02.
2. Pesticides as described in s. NR 673.03.
3. Thermostats as described in s. NR 673.04.
4. Lamps as described in s. NR 673.05.

(4) EPA hazardous waste numbers F020, F021, F022, F023, F026 and FO27 may not be managed at facilities regulated under this chapter unless any of the following apply:

(a) The wastewater treatment sludge is generated in a surface impoundment as part of the plant's wastewater treatment system.

(b) The waste is stored in tanks or containers.

(c) The waste is stored or treated in waste piles that meet the requirements of s. NR 664.0250(3) as well as all other applicable requirements of subch. L.

(d) The waste is burned in incinerators that are certified pursuant to the standards and procedures in s. NR 665.0352.

(e) The waste is burned in facilities that thermally treat the waste in a device other than an incinerator and that are certified pursuant to the standards and procedures in s. NR 665.0383.

(5) The requirements of this chapter apply to owners or operators of all facilities which treat, store or dispose of hazardous waste referred to in ch. NR 668, and the ch. NR 668 standards are considered material conditions or requirements of the interim license standards in this chapter.

(6) Section NR 666.205 identifies when the requirements of this chapter apply to the storage of military munitions classified as solid waste under s. NR 666.202. The treatment and disposal of hazardous waste military munitions are subject to the applicable licensing, procedural and technical standards in chs. NR 660 to 670.

NR 665.0004 Imminent danger action. Notwithstanding any other provisions of this chapter, enforcement actions may be brought pursuant to s. 291.85, Stats.

Subchapter B —General Facility Standards

NR 665.0010 Applicability. This subchapter applies to owners and operators of all hazardous waste facilities, except as s. NR 665.0001 provides otherwise.

NR 665.0011 Identification number. Every facility owner or operator shall apply to the department for an EPA identification number according to the procedures in s. NR 660.07.

NR 665.0012 Required notices. (1)(a) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source shall notify the regional administrator in writing at least 4 weeks in advance of the date of the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(b) The owner or operator of a recovery facility that has arranged to receive hazardous waste subject to subch. H of ch. NR 662 shall provide a copy of the tracking document bearing all required signatures to the notifier, to the:

Office of Enforcement and Compliance Assurance

WA-10-05

Office of Compliance; Enforcement Planning, Targeting and Data Division (2222A)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

and to the competent authorities of all other concerned countries within 3 working days of receipt of the shipment. The original of the signed tracking document shall be maintained at the facility for at least 3 years.

(2) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the long-term care period, the owner or operator shall notify the new owner or operator in writing of the requirements of this chapter and ch. NR 670. (Also see s. NR 670.072.)

Note: An owner's or operator's failure to notify the new owner or operator of the requirements of this chapter in no way relieves the new owner or operator of that person's obligation to comply with all applicable requirements.

NR 665.0013 General waste analysis. (1)(a) Before an owner or operator treats, stores or disposes of any hazardous wastes, or nonhazardous wastes if applicable under s. NR 665.0113(4), the owner or operator shall obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis shall contain all the information which must be known to treat, store or dispose of the waste according to this chapter and ch. NR 668.

1. Chemical and physical samples shall be analyzed by a laboratory certified or registered under ch. NR 149, except for field analyses for pH, specific conductance and temperature.

(b) The analysis may include data developed under ch. NR 661 and s. NR 662.220, and existing published or documented data on the hazardous waste or on waste generated from similar processes.

Note: For example, the facility's records of analyses performed on the waste before the effective date of these rules …[revisor insert date], or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with par. (a). The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part of the information required by par. (a), except as otherwise specified in s. NR 668.07(2) and (3). If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.

(c) The analysis shall be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis shall be repeated when any of the following occurs:

1. The owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous wastes or non-hazardous wastes, if applicable, under s. NR 665.0113(4) has changed.

2. For off-site facilities, the results of the inspection required in par. (d) indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(d) The owner or operator of an off-site facility shall inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(2) The owner or operator shall develop and follow a written waste analysis plan which describes the procedures which the owner or operator will carry out to comply with sub. (1). The owner or operator shall keep this plan at the facility. At a minimum, the plan shall specify all of the following:

(a) The parameters for which each hazardous waste, or non-hazardous waste if applicable under s. NR 665.0113(4), will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with sub. (1)).

(b) The test methods which will be used to test for these parameters.

(c) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using any of the following:

1. One of the sampling methods described in Appendix I of ch. NR 661.
2. An equivalent sampling method.

Note: See s. NR 660.20(3) for related discussion.

(d) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date.

(e) For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply.

(f) Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods specified in ss. NR 665.0200, 665.0225, 665.0252, 665.0273, 665.0314, 665.0341, 665.0375, 665.0402, 665.1034(4), 665.1063(4), 665.1084 and 668.07.

(g) For surface impoundments exempted from land disposal restrictions under s. NR 668.04(1), the procedures and schedule for all of the following:

1. The sampling of impoundment contents.
2. The analysis of test data.
3. The annual removal of residues which are not delisted under s. NR 660.22 or which exhibit a characteristic of hazardous waste and meet any of the following criteria:

a.The residues do not meet applicable treatment standards of subch. D of ch. NR 668.

b. Where no treatment standards have been established, any of the following applies:

1) The residues are prohibited from land disposal under s. NR 668.32 or 42 USC 6924(d).

2) The residues are prohibited from land disposal under s. NR 668.33(6).

(h) For owners and operators seeking an exemption to the air emission standards of subch. CC according to s. NR 665.1083, any of the following:

1. If direct measurement is used for the waste determination, the procedures and schedules for waste sampling and analysis, and the results of the analysis of test data to verify the exemption.
2. If knowledge of the waste is used for the waste determination, any information prepared by the facility owner or operator or by the generator of the hazardous waste, if the waste is received from off-site, that is used as the basis for knowledge of the waste.

(3) For off-site facilities, the waste analysis plan required in sub. (2) shall also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan shall describe all of the following:

(a) The procedures which will be used to determine the identity of each movement of waste managed at the facility.

(b) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(c) The procedures that the owner or operator of an off-site landfill receiving containerized hazardous waste will use to determine whether a hazardous waste generator or treater has added a biodegradable sorbent to the waste in the container.

NR 665.0014 Security. (1) The owner or operator shall prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of the facility, unless all of the following conditions are met:

(a) Physical contact with the waste, structures or equipment with the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility.

(b) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this chapter.

(2) Unless exempt under sub. (1)(a) and (b), a facility shall have any of the following:

(a) A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility.

(b) All of the following:

1. An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility.

2. A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance or controlled roadway access to the facility).

Note: The requirements of this subsection are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of par. (a) or (b).

(3) Unless exempt under sub. (1)(a) and (b), a sign with the legend, ”Danger—Unauthorized Personnel Keep Out,” shall be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend shall be written in English and in any other language predominant in the area surrounding the facility, and shall be legible from a distance of at least 25 feet. Existing signs with a legend other than ”Danger—Unauthorized Personnel Keep Out” may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

Note: See s. NR 665.0117(2) for discussion of security requirements at disposal facilities during the long-term care period.

NR 665.0015 General inspection requirements. (1) The owner or operator shall inspect the facility for malfunctions and deterioration, operator errors and discharges which may be causing, or may lead to, release of hazardous waste constituents to the environment or a threat to human health. The owner or operator shall conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(2)(a) The owner or operator shall develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting or responding to environmental or human health hazards.

(b) The owner or operator shall keep this schedule at the facility.

(c) The schedule shall identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).

(d) The frequency of inspection may vary for the items on the schedule. However, the frequency should be based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, shall be inspected daily when in use. At a minimum, the inspection schedule shall include the items and frequencies called for in ss. NR 665.0174, 665.0193, 665.0195, 665.0226, 665.0260, 665.0278, 665.0304, 665.0347, 665.0377, 665.0403, 665.1033, 665.1052, 665.1053, 665.1058 and 665.1084 to 665.1090, where applicable.

(3) The owner or operator shall remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action shall be taken immediately.

(4) The owner or operator shall record inspections in an inspection log or summary and shall keep these records for at least 3 years from the date of inspection. At a minimum, these records shall include the date and time of the inspection, the name of the inspector, a notation of the observations made and the date and nature of any repairs or other remedial actions.

NR 665.0016 Personnel training. (1)(a) Facility personnel shall successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this chapter. The owner or operator shall ensure that this program includes all the elements described in the document required under sub. (4)(c).

(b) This program shall be directed by a person trained in hazardous waste management procedures, and shall include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(c) At a minimum, the training program shall be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment and emergency systems, including, where applicable, all of the following:

1. Procedures for using, inspecting, repairing and replacing facility emergency and monitoring equipment.
2. Key parameters for automatic waste feed cut-off systems.
3. Communications or alarm systems.
4. Response to fires or explosions.
5. Response to groundwater contamination incidents.
6. Shutdown of operations.

(2) Facility personnel shall successfully complete the program required in sub. (1) within 6 months after the effective date of these rules…[revisor insert date]or 6 months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these rules…[revisor insert date] may not work in unsupervised positions until they have completed the training requirements of sub. (1).

(3) Facility personnel shall take part in an annual review of the initial training required in sub. (1).

(4) The owner or operator shall maintain all of the following documents and records at the facility:

(a) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job.

(b) A written job description for each position listed under par. (a). This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but shall include the requisite skill, education or other qualifications, and duties of facility personnel assigned to each position.

(c) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under par. (a).

(d) Records that document that the training or job experience required under subs. (1), (2) and (3) has been given to, and completed by, facility personnel.

(5) Training records on current personnel shall be kept until closure of the facility. Training records on former employees shall be kept for at least 3 years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

NR 665.0017 General requirements for ignitable, reactive or incompatible wastes. (1) The owner or operator shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste shall be separated and protected from sources of ignition or reaction including, but not limited to, open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions) and radiant heat. While ignitable or reactive waste is being handled, the owner or operator shall confine smoking and open flame to specially designated locations. "No Smoking" signs shall be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(2) Where specifically required by other sections of this chapter, the treatment, storage or disposal of ignitable or reactive waste, and the mixture or commingling of incompatible wastes, or incompatible wastes and materials, shall be conducted so that it does not do any of the following:

(a) Generate extreme heat or pressure, fire or explosion or violent reaction.

(b) Produce uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health.

(c) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions.

(d) Damage the structural integrity of the device or facility containing the waste.

(e) Through other like means threaten human health or the environment.

NR 665.0018 Location standards. The placement of any hazardous waste in a salt dome, salt bed formation, underground mine or cave, wetland, or critical habitat is prohibited.

NR 665.0019 Construction quality assurance program. (1) CQA PROGRAM. (a) A construction quality assurance (CQA) program is required for all surface impoundment, waste pile and landfill units that are required to comply with ss. NR 665.0221(1), 665.0254 and 665.0301(1). The program shall ensure that the constructed unit meets or exceeds all design criteria and specifications in the interim license. The program shall be developed and implemented under the direction of a CQA officer who is a registered professional engineer.

(b) The CQA program shall address all of the following physical components, where applicable:

1. Foundations.
2. Dikes.
3. Low-permeability soil liners.
4. Geomembranes (flexible membrane liners).
5. Leachate collection and removal systems and leak detection systems.
6. Final cover systems.

(2) WRITTEN CQA PLAN. Before construction begins on a unit subject to the CQA program under sub. (1), the owner or operator shall develop a written CQA plan. The plan shall identify steps that will be used to monitor and document the quality of materials and the condition and manner of their installation. The CQA plan shall include all of the following:

(a) Identification of applicable units, and a description of how they will be constructed.

(b) Identification of key personnel in the development and implementation of the CQA plan, and CQA officer qualifications.

(c) A description of inspection and sampling activities for all unit components identified in sub. (1)(b), including observations and tests that will be used before, during and after construction to ensure that the construction materials and the installed unit components meet the design specifications. The description shall cover sampling size and locations, frequency of testing, data evaluation procedures, acceptance and rejection criteria for construction materials, plans for implementing corrective measures and data or other information to be recorded and retained in the operating record under s. NR 665.0073.

(3) CONTENTS OF PROGRAM. (a) The CQA program shall include observations, inspections, tests and measurements sufficient to ensure all of the following:

1. Structural stability and integrity of all components of the unit identified in sub. (1)(b).
2. Proper construction of all components of the liners, leachate collection and removal system, leak detection system and final cover system, according to interim license specifications and good engineering practices, and proper installation of all components (e.g., pipes) according to design specifications.
3. Conformity of all materials used with design and other material specifications under ss. NR 664.0221, 664.0251 and 664.0301.

(b) The CQA program shall include test fills for compacted soil liners, using the same compaction methods as in the full-scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of ss. NR 664.0221(3)(a), 664.0251(3)(a) and 664.0301(3)(a) in the field. Compliance with the hydraulic conductivity requirements shall be verified by using in-situ testing on the constructed test fill. The test fill requirement is waived where data are sufficient to show that a

constructed soil liner meets the hydraulic conductivity requirements of ss. NR 664.0221(3)(a), 664.0251(3)(a) and 664.0301(3)(a) in the field.

(4) CERTIFICATION. The owner or operator of units subject to s. NR 665.0019 shall submit to the department by certified mail or hand delivery, at least 30 days prior to receiving waste, a certification signed by the CQA officer that the CQA plan has been successfully carried out and that the unit meets the requirements of s. NR 665.0221(1), 665.0254 or 665.0301(1). The owner or operator may receive waste in the unit after 30 days from the department's receipt of the CQA certification unless the department determines in writing that the construction is not acceptable, extends the review period for a maximum of 30 more days or seeks additional information from the owner or operator during this period. Documentation supporting the CQA officer's certification shall be furnished to the department upon request.

Subchapter C —Preparedness and Prevention

NR 665.0030 Applicability. This subchapter applies to owners and operators of all hazardous waste facilities, except as s. NR 665.0001 provides otherwise.

NR 665.0031 Maintenance and operation of facility. Facilities shall be maintained and operated to minimize the possibility of a fire, explosion or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water which could threaten human health or the environment.

NR 665.0032 Required equipment. All facilities shall be equipped with all of the following, unless none of the hazards posed by waste handled at the facility could require any of the following particular kinds of equipment:

(1) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.

(2) A device, such as a telephone (immediately available at the scene of operations) or a hand-held 2-way radio, capable of summoning emergency assistance from local police departments, fire departments or state or local emergency response teams.

(3) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas or dry chemicals), spill control equipment and decontamination equipment.

(4) Water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers or water spray systems.

NR 665.0033 Testing and maintenance of equipment. All facility communications or alarm systems, fire protection equipment, spill control equipment and decontamination equipment, where required, shall be tested and maintained as necessary to assure its proper operation in time of emergency.

NR 665.0034 Access to communications or alarm system. (1) Whenever hazardous waste is being poured, mixed, spread or otherwise handled, all personnel involved in the operation shall have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required under s. NR 665.0032.

(2) If there is ever just one employee on the premises while the facility is operating, that employee shall have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held 2-way radio, capable of summoning external emergency assistance, unless such a device is not required under s. NR 665.0032.

NR 665.0035 Required aisle space. The owner or operator shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment and

decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

NR 665.0037 Arrangements with local authorities. (1) The owner or operator shall attempt to make all of the following arrangements, as appropriate for the type of waste handled at the facility and the potential need for the services of these organizations:

(a) Arrangements to familiarize police, fire departments and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility and possible evacuation routes.

(b) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority.

(c) Agreements with state emergency response teams, emergency response contractors and equipment suppliers.

(d) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions or releases at the facility.

(2) Where state or local authorities decline to enter into these arrangements, the owner or operator shall document the refusal in the operating record.

Subchapter D —Contingency Plan and Emergency Procedures

NR 665.0050 Applicability. This subchapter applies to owners and operators of all hazardous waste facilities, except as s. NR 665.0001 provides otherwise.

NR 665.0051 Purpose and implementation of contingency plan. (1) The owner or operator shall have a contingency plan for the facility. The contingency plan shall be designed to minimize hazards to human health or the environment from fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water.

(2) The provisions of the plan shall be carried out immediately whenever there is a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

NR 665.0052 Content of contingency plan. (1) The contingency plan shall describe the actions facility personnel must take to comply with ss. NR 665.0051 and 665.0056 in response to fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water at the facility.

(2) If the owner or operator has already prepared a spill prevention, control and countermeasures (SPCC) plan according to 40 CFR part 112 or 300, or some other emergency or contingency plan, the owner or operator need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this chapter.

(3) The plan shall describe arrangements agreed to by local police departments, fire departments, hospitals, contractors and state and local emergency response teams to coordinate emergency services, pursuant to s. NR 665.0037.

(4) The plan shall list names, addresses and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see s. NR 665.0055), and this list shall be kept up to date. Where more than one person is listed, one shall be named as primary emergency coordinator and others shall be listed in the order in which they will assume responsibility as alternates.

(5) The plan shall include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external) and

decontamination equipment), where this equipment is required. This list shall be kept up to date. In addition, the plan shall include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(6) The plan shall include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan shall describe the signal or signals to be used to begin evacuation, evacuation routes and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

NR 665.0053 Copies of contingency plan. A copy of the contingency plan and all revisions to the plan shall be:

(1) Maintained at the facility.

(2) Submitted to all local police departments, fire departments, hospitals and state and local emergency response teams that may be called upon to provide emergency services.

NR 665.0054 Amendment of contingency plan. The contingency plan shall be reviewed, and immediately amended, if necessary, whenever any of the following occurs:

(1) Applicable rules or the facility interim license are revised.

(2) The plan fails in an emergency.

(3) The facility changes—in its design, construction, operation, maintenance or other circumstances—in a way that materially increases the potential for fires, explosions or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency.

(4) The list of emergency coordinators changes.

(5) The list of emergency equipment changes.

NR 665.0055 Emergency coordinator. At all times, there shall be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator shall be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility and the facility layout. In addition, this person shall have the authority to commit the resources needed to carry out the contingency plan.

Note: The emergency coordinator's responsibilities are more fully spelled out in s. NR 665.0056. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of wastes handled by the facility, and type and complexity of the facility.

NR 665.0056 Emergency procedures. (1) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or a designee when the emergency coordinator is on call) shall immediately do all of the following:

(a) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel.

(b) Notify appropriate state or local agencies with designated response roles if their help is needed.

(2) Whenever there is a release, fire or explosion, the emergency coordinator shall immediately identify the character, exact source, amount and areal extent of any released materials. The emergency coordinator may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

(3) Concurrently, the emergency coordinator shall assess possible hazards to human health or the environment that may result from the release, fire or explosion. This assessment shall consider both direct and indirect effects of the release, fire or explosion (e.g., the effects of any toxic, irritating or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

(4) If the emergency coordinator determines that the facility has had a release, fire or explosion which could threaten human health, or the environment, outside the facility, that person shall report the findings according to all of the following:

(a) If the emergency coordinator's assessment indicates that evacuation of local areas may be advisable, the emergency coordinator shall immediately notify appropriate local authorities. The emergency coordinator shall be available to help appropriate officials decide whether local areas should be evacuated.

(b) The emergency coordinator shall immediately notify either the government official designated as the on-scene coordinator for that geographical area (in the applicable regional contingency plan under 40 CFR part 300), or the national response center (using its 24-hour toll free number 800/424-8802) and the division of emergency government (using its 24-hour toll free number 800/943-0003). The report shall include all of the following:

1. Name and telephone number of reporter.
2. Name and address of facility.
3. Time and type of incident (e.g., release, fire).
4. Name and quantity of materials involved, to the extent known.
5. The extent of injuries, if any.
6. The possible hazards to human health or the environment, outside the facility.

(5) During an emergency, the emergency coordinator shall take all reasonable measures necessary to ensure that fires, explosions and releases do not occur, recur or spread to other hazardous waste at the facility. These measures shall include, where applicable, stopping processes and operations, collecting and containing released waste and removing or isolating containers.

(6) If the facility stops operations in response to a fire, explosion or release, the emergency coordinator shall monitor for leaks, pressure buildup, gas generation or ruptures in valves, pipes or other equipment, wherever this is appropriate.

(7) Immediately after an emergency, the emergency coordinator shall provide for treating, storing or disposing of recovered waste, contaminated soil or surface water or any other material that results from a release, fire or explosion at the facility.

Note: Unless the owner or operator can demonstrate, according to s. NR 661.03(3) or (4), that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it according to all applicable requirements of chs. NR 662 and 663 and this chapter.

(8) The emergency coordinator shall ensure all of the following, in the affected areas of the facility:

(a) No waste that may be incompatible with the released material is treated, stored or disposed of until cleanup procedures are completed.

(b) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(9) The owner or operator shall notify the department, and appropriate state and local authorities, that the facility is in compliance with sub. (8) before operations are resumed in the affected areas of the facility.

(10) The owner or operator shall note in the operating record the time, date and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, the owner or operator shall submit a written report on the incident to the department. The report shall include all of the following:

(a) Name, address and telephone number of the owner or operator.

(b) Name, address and telephone number of the facility.

(c) Date, time and type of incident (e.g., fire, explosion).

(d) Name and quantity of materials involved.

(e) The extent of injuries, if any.

(f) An assessment of actual or potential hazards to human health or the environment, where this is applicable.

(g) Estimated quantity and disposition of recovered material that resulted from the incident.

Subchapter E —Manifest System, Recordkeeping and Reporting

NR 665.0070 Applicability. This subchapter applies to owners and operators of both on-site and off-site facilities, except as s. NR 665.0001 provides otherwise. Sections NR 665.0071, 665.0072 and 665.0076 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources, and to owners and operators of off-site facilities with respect to waste military munitions exempted from manifest requirements under s. NR 666.203(1).

NR 665.0071 Use of manifest system. (1) If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or an agent, shall do all of the following:

(a) Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received.

(b) Note any significant discrepancies in the manifest (as defined in s. NR 665.0072(1)) on each copy of the manifest.

Note: The department does not intend that the owner or operator of a facility whose procedures under s. NR 665.0013(3) include waste analysis shall perform that analysis before signing the manifest and giving it to the transporter. Section NR 665.0072(2), however, requires reporting an unreconciled discrepancy discovered during later analysis.

(c) Immediately give the transporter at least one copy of the signed manifest.

(d) Within 30 days after the delivery:

1. Send one copy of the manifest to the generator.

4. Send one copy of the manifest to the department in an electronic format specified by the department.

(e) Retain at the facility a copy of each manifest for at least 3 years from the date of delivery.

(f) Pay a manifest fee for each manifest submitted, as designated in Appendix II of ch. NR 670. The department will bill each facility annually for accumulated manifest review fees.

(2) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification and signatures), the owner or operator, or an agent, shall do all of the following:

(a) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received.

(b) Note any significant discrepancies (as defined in s. NR 665.0072(1)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper.

Note: The department does not intend that the owner or operator of a facility whose procedures under s. NR 665.0013(3) include waste analysis shall perform that analysis before signing the shipping paper and giving it to the transporter. Section NR 665.0072(2), however, requires reporting an unreconciled discrepancy discovered during later analysis.

(c) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received).

(d) Within 30 days after the delivery, send one copy of the signed and dated manifest to the generator and one copy to the department.. However, if the manifest has not been received within 30 days after delivery, the owner or operator, or an agent, shall send a copy of the shipping paper signed and dated to the generator.

Note: Section NR 662.023(3) requires the generator to send 3 copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment).

(e) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least 3 years from the date of delivery.

(f) Pay a manifest fee for each manifest submitted, as designated in Appendix II of ch. NR 670. The department will bill each facility annually for accumulated manifest review fees.

(3) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility shall comply with the requirements of ch. NR 662.

Note: The provisions of s. NR 662.034 or 662.192 are applicable to the on-site accumulation of hazardous wastes by generators. Therefore, the provisions of s. NR 662.034 or 662.192 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.

(4) Within 3 working days of the receipt of a shipment subject to subch. H of ch. NR 662, the owner or operator of facility shall provide a copy of the tracking document bearing all required signatures to the notifier, to the:

Office of Enforcement and Compliance Assurance
Office of Compliance; Enforcement Planning, Targeting and Data Division (2222A)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

and to competent authorities of all other concerned countries. The original copy of the tracking document shall be maintained at the facility for at least 3 years from the date of signature.

NR 665.0072 Manifest discrepancies. (1) Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are, for bulk waste, variations greater than 10% in weight, and for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(2) Upon discovering a significant discrepancy, the owner or operator shall attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator shall immediately submit to the department a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

NR 665.0073 Operating record. (1) The owner or operator shall keep a written operating record at the facility.

(2) All of the following information shall be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

(a) A description and the quantity of each hazardous waste received, and the methods and dates of its treatment, storage or disposal at the facility as required by Appendix I.

(b) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste shall be recorded on a map or diagram of each cell or disposal area. For all facilities, this information shall include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest.

Note: See ss. NR 665.0119, 665.0279 and 665.0309 for related requirements.

(c) Records and results of waste analysis, waste determinations and trial tests performed as specified in ss. NR 665.0013, 665.0200, 665.0225, 665.0252, 665.0273, 665.0314, 665.0341, 665.0375, 665.0402, 665.1034, 665.1063, 665.1084, 668.04(1) and 668.07.

(d) Summary reports and details of all incidents that require implementing the contingency plan as specified in s. NR 665.0056(10).

(e) Records and results of inspections as required by s. NR 665.0015(4) (except these data need be kept only 3 years).

(f) Monitoring, testing or analytical data, and corrective action where required by subch. F and by ss. NR 665.0019, 665.0090, 665.0094, 665.0191, 665.0193, 665.0195, 665.0222, 665.0223, 665.0226, 665.0255, 665.0259, 665.0260, 665.0276, 665.0278, 665.0280(4)(a), 665.0302 to 665.0304, 665.0347, 665.0377, 665.1034(3) to(6), 665.1035, 665.1063(4) to (9), 665.1064 and 665.1083 to 665.1090.

Note: As required by s. NR 665.0094, monitoring data at disposal facilities shall be kept throughout the long-term care period.

(g) All closure cost estimates under s. NR 665.0142 and, for disposal facilities, all long-term care cost estimates under s. NR 665.0144.

(h) Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to s. NR 668.05, monitoring data required pursuant to a petition under s. NR 668.06 and the applicable notice required by a generator under s. NR 668.07(1).

(i) For an off-site treatment facility, a copy of the notice required by the generator or the owner or operator under s. NR 668.07.

(j) For an on-site treatment facility, the information contained in the notice (except the manifest number) required by the generator or the owner or operator under s. NR 668.07.

(k) For an off-site land disposal facility, a copy of the notice required by the generator or the owner or operator of a treatment facility under s. NR 668.07.

(L) For an on-site land disposal facility, the information contained in the notice (except the manifest number) required by the generator or the owner or operator of a treatment facility under s. NR 668.07.

(m) For an off-site storage facility, a copy of the notice required by the generator or the owner or operator under s. NR 668.07.

(n) For an on-site storage facility, the information contained in the notice (except the manifest number) required by the generator or the owner or operator of a treatment facility under s. NR 668.07.

NR 665.0074 Availability, retention and disposition of records. (1) All records, including plans, required under this chapter shall be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee or representative of the department.

(2) The retention period for all records required under this chapter is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the department.

(3) A copy of records of waste disposal locations and quantities under s. NR 665.0073(2)(b) shall be submitted to the department and local land authority upon closure of the facility (see s. NR 665.0119).

NR 665.0075 Annual report. The owner or operator shall prepare and submit a single copy of a annual report to the department by March 1 of each year. The annual report shall be submitted on department forms, shall cover facility activities during the previous calendar year and shall, at a minimum, include all of the following information:

(1) The EPA identification number, name and address of the facility.

(2) The calendar year covered by the report.

(3) For off-site facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year. For imported shipments, the report shall give the name and address of the foreign generator.

(4) A description and the quantity of each hazardous waste the facility received during the year. For off-site facilities, this information shall be listed by EPA identification number of each generator.

(5) The method of treatment, storage or disposal for each hazardous waste.

(6) Monitoring data under s. NR 665.0094(1)(b)2. and 3. and (2)(b), where required.

(7) The most recent closure cost estimate under s. NR 665.0142, and, for disposal facilities, the most recent long-term care cost estimate under s. NR 665.0144.

(8) For generators who treat, store or dispose of hazardous waste on-site, a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.

(9) For generators who treat, store or dispose of hazardous waste on-site, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent the information is available for the years prior to 1984.

(10) The certification signed by the owner or operator of the facility or an authorized representative.

Note: The annual report forms may be obtained from: http://dnr.wi.gov/org/aw/air/emission/crs/index.htm , or by E-mail: waste.management If a facility accepts for treatment, storage or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper as described in s. NR 663.20(5)(b), and if the waste is not excluded from the manifest requirement by s. NR 662.220, then the owner or operator shall prepare and submit a report to the department within 15 days after receiving the waste. The report shall be designated "Unmanifested Waste Report" and include all of the following information: @dnr.state.wi.us , phone (608) 266-2111 or Fax (608) 267-2768.

NR 665.0076 Unmanifested waste report.

(1) The EPA identification number, name and address of the facility.

(2) The date the facility received the waste.

(3) The EPA identification number, name and address of the generator and the transporter, if available.

(4) A description and the quantity of each unmanifested hazardous waste the facility received.

(5) The method of treatment, storage or disposal for each hazardous waste.

(6) The certification signed by the owner or operator of the facility or an authorized representative.

(7) A brief explanation of why the waste was unmanifested, if known.

Note: Very small quantity hazardous waste generators are excluded from regulation under this chapter and are not required to use a manifest. Where a facility receives unmanifested hazardous wastes, the department suggests that the owner or operator obtain from each generator a certification that the generator qualifies for exclusion. Otherwise, the department suggests that the owner or operator file an unmanifested waste report for the hazardous waste movement.

NR 665.0077 Additional reports. In addition to submitting the annual and unmanifested waste reports described in ss. NR 665.0075 and 665.0076, the owner or operator shall also report all of the following to the department:

(1) Releases, fires and explosions as specified in s. NR 665.0056(10).

(2) Groundwater contamination and monitoring data as specified in ss. NR 665.0093 and 665.0094.

(3) Facility closure as specified in s. NR 665.0115.

(4) Other information as required by subchs. AA, BB and CC.

Subchapter F — Groundwater Monitoring

NR 665.0090 Applicability.

(1) By August 1, 1982, the owner or operator of a surface impoundment or landfill facility which is used to manage hazardous waste shall implement a groundwater monitoring program capable of determining the facility's impact on the quality of groundwater in the uppermost aquifer underlying the facility, except as s. NR 665.0001 and sub. (3) provide otherwise.

(2) Except as subs. (3) and (4) provide otherwise, the owner or operator shall install, operate and maintain a groundwater monitoring system which meets the requirements of s. NR 665.0091 and chs. NR 140 and 141, and shall comply with ss. NR 665.0092 to 665.0094. This groundwater monitoring program shall be carried out during the active life of the facility, and for disposal facilities, during the long-term care period as well.

(3) All or part of the groundwater monitoring requirements of this subchapter may be waived if the owner or operator can demonstrate that there is a low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to water supply wells (domestic, industrial or agricultural) or to surface water. This demonstration shall be in writing, and shall be kept at the facility. This demonstration shall be certified by a qualified geologist or geotechnical engineer and shall establish all of the following:

(a) The potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer, by an evaluation of all of the following:

1. A water balance of precipitation, evapotranspiration, runoff and infiltration.

2. Unsaturated zone characteristics (i.e., geologic materials, physical properties and depth to groundwater).

(b) The potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water, by an evaluation of all of the following:

1. Saturated zone characteristics (i.e., geologic materials, physical properties and rate of groundwater flow).

2. The proximity of the facility to water supply wells or surface water.

(4) If an owner or operator assumes (or knows) that groundwater monitoring of indicator parameters in accordance with ss. NR 665.0091 and 665.0092 would show statistically significant increases (or decreases in the case of pH) when evaluated under s. NR 665.0093(2), the owner or operator may install, operate and maintain an alternate groundwater monitoring system (other than the one described in ss. NR 665.0091 and 665.0092). If the owner or operator decides to use an alternate groundwater monitoring system, the owner or operator shall do all of the following:

(a) By August 1, 1982, submit to the department a specific plan, certified by a qualified geologist or geotechnical engineer, which satisfies the requirements of s. NR 665.0093(4)(c), for an alternate groundwater monitoring system.

(b) By August 1, 1982, initiate the determinations specified in s. NR 665.0093(4)(d).

(c) Prepare and submit a written report in accordance with s. NR 665.0093(4)(e).

(d) Continue to make the determinations specified in s. NR 665.0093(4)(d) on a quarterly basis until final closure of the facility.

(e) Comply with the recordkeeping and reporting requirements in s. NR 665.0094(2).

(5) The groundwater monitoring requirements of this subchapter may be waived with respect to any surface impoundment that is used to neutralize wastes which are hazardous solely because they exhibit the corrosivity characteristic under s. NR 661.22 or are listed as hazardous wastes in subch. D of ch. NR 661 only for this reason, and contains no other hazardous wastes, if the owner or operator can demonstrate that there is no potential for migration of hazardous wastes from the impoundment. The demonstration shall establish, based upon consideration of the characteristics of the wastes and the impoundment, that the corrosive wastes will be neutralized to the extent that they no longer meet the corrosivity characteristic before they can migrate out of the impoundment. The demonstration shall be in writing and shall be certified by a qualified professional.

(6) The department may replace all or part of the requirements of this subchapter applying to a regulated unit (as defined in s. NR 664.0090), with alternative requirements developed for groundwater monitoring set out in an approved closure or long-term care plan or in an enforceable document (as defined in s. NR 670.001(3)(g)), where the department determines that all of the following apply:

(a) A regulated unit is situated among solid waste management units (or areas of concern), a release has occurred and both the regulated unit and one or more solid waste management units (or areas of concern) are likely to have contributed to the release.

(b) It is not necessary to apply the requirements of this subchapter because the alternative requirements will protect human health and the environment. The alternative standards for the regulated unit shall meet the requirements of s. NR 664.0101(1).

NR 665.0091 Groundwater monitoring system. (1) A groundwater monitoring system shall be capable of yielding groundwater samples for analysis and shall consist of all of the following:

(a) Monitoring wells (at least one) installed hydraulically upgradient (i.e., in the direction of increasing static head) from the limit of the waste management area. Their number, locations and depths shall be sufficient to yield groundwater samples that are all of the following:

1. Representative of background groundwater quality in the uppermost aquifer near the facility.

2. Not affected by the facility.

(b) Monitoring wells (at least 3) installed hydraulically downgradient (i.e., in the direction of decreasing static head) at the limit of the waste management area. Their number, locations and depths shall ensure that they immediately detect any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

(c) The facility owner or operator may demonstrate that an alternate hydraulically downgradient monitoring well location will meet all of the following criteria. The demonstration shall be in writing and kept at the facility. The demonstration shall be certified by a qualified groundwater scientist and establish that all of the following apply:

1. An existing physical obstacle prevents monitoring well installation at the hydraulically downgradient limit of the waste management area.

2. The selected alternate downgradient location is as close to the limit of the waste management area as practical.

3. The location ensures detection that, given the alternate location, is as early as possible of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

4. Lateral expansion, new or replacement units are not eligible for an alternate downgradient location under this paragraph.

(2) Separate monitoring systems for each waste management component of a facility are not required provided that provisions for sampling upgradient and downgradient water quality will detect any discharge from the waste management area.

(a) In the case of a facility consisting of only one surface impoundment or landfill, the waste boundary (perimeter) describes the waste management area.

(b) In the case of a facility consisting of more than one surface impoundment or landfill, an imaginary boundary line which circumscribes the several waste management components describes the waste management area.

(3) All monitoring wells shall be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing shall be screened or perforated, and packed with gravel or sand where necessary, to enable sample collection at depths where appropriate aquifer flow zones exist. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth shall be sealed with a suitable material (e.g., cement grout or bentonite slurry) to prevent contamination of samples and the groundwater.

NR 665.0092 Sampling and analysis. (1) The owner or operator shall obtain and analyze samples from the installed groundwater monitoring system. The owner or operator shall develop and follow a groundwater sampling and analysis plan. Chemical and physical samples shall be analyzed by a laboratory certified or registered under ch. NR 149, except for field analyses for pH, specific conductance and temperature. The owner or operator shall keep this plan at the facility. The plan shall include procedures and techniques for all of the following:

(a) Sample collection.

(b) Sample preservation and shipment.

(c) Analytical procedures.

(d) Chain of custody control.

Note: See "Procedures Manual For Ground-water Monitoring At Solid Waste Disposal Facilities," EPA-530/SW-611, and "Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020, for discussions of sampling and analysis procedures.

(2) The owner or operator shall determine the concentration or value of all of the following parameters in groundwater samples in accordance with subs. (3) and (4):

(a) Parameters characterizing the suitability of the groundwater as a drinking water supply, as specified in Appendix III.

(b) All of the following parameters establishing groundwater quality:

1. Chloride.
2. Iron.
3. Manganese.
4. Phenols.
5. Sodium.
6. Sulfate.

Note: These parameters are to be used as a basis for comparison in the event a groundwater quality assessment is required under s. NR 665.0093(4).

(c) All of the following parameters used as indicators of groundwater contamination:

1. pH.
2. Specific conductance.
3. Total organic carbon.
4. Total organic halogen.

(3)(a) For all monitoring wells, the owner or operator shall establish initial background concentrations or values of all parameters specified in sub. (2). The owner or operator shall do this quarterly for one year.

(b) For each of the indicator parameters specified in sub. (2)(c), at least 4 replicate measurements shall be obtained for each sample and the initial background arithmetic mean and variance shall be determined by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained from upgradient wells during the first year.

(4) After the first year, all monitoring wells shall be sampled and the samples analyzed with the following frequencies:

(a) Samples collected to establish groundwater quality shall be obtained and analyzed for the parameters specified in sub. (2)(b) at least annually.

(b) Samples collected to indicate groundwater contamination shall be obtained and analyzed for the parameters specified in sub. (2)(c) at least semi-annually.

(5) Elevation of the groundwater surface at each monitoring well shall be determined each time a sample is obtained.

NR 665.0093 Preparation, evaluation and response. (1) By August 1, 1982, the owner or operator shall prepare an outline of a groundwater quality assessment program. The outline shall describe a more comprehensive groundwater monitoring program (than that described in ss. NR 665.0091 and 665.0092) capable of determining all of the following:

(a) Whether hazardous waste or hazardous waste constituents have entered the groundwater.

(b) The rate and extent of migration of hazardous waste or hazardous waste constituents in the groundwater.

(c) The concentrations of hazardous waste or hazardous waste constituents in the groundwater.

(2) For each indicator parameter specified in s. NR 665.0092(2)(c), the owner or operator shall calculate the arithmetic mean and variance, based on at least 4 replicate measurements on each sample, for each well monitored in accordance with s. NR 665.0092(4)(b), and compare these results with its initial background arithmetic mean. The comparison shall consider individually each of the wells in the monitoring system, and shall use the Student's t-test at the 0.01 level of significance (see Appendix IV) to determine statistically significant increases (and decreases, in the case of pH) over initial background.

(3)(a) If the comparisons for the upgradient wells made under sub. (2) show a significant increase (or pH decrease), the owner or operator shall submit this information in accordance with s. NR 665.0094(1)(b)2.

(b) If the comparisons for downgradient wells made under sub. (2) show a significant increase (or pH decrease), the owner or operator shall then immediately obtain additional groundwater samples from those downgradient wells where a significant difference was detected, split the samples in 2 and obtain analyses of all additional samples to determine whether the significant difference was a result of laboratory error.

(4)(a) If the analyses performed under sub. (3)(b) confirm the significant increase (or pH decrease), the owner or operator shall provide written notice to the department—within 7 days of the date of the confirmation—that the facility may be affecting groundwater quality.

(b) Within 15 days after the notification under par. (a), the owner or operator shall develop and submit to the department a specific plan, based on the outline required under sub. (1) and certified by a qualified geologist or geotechnical engineer, for a groundwater quality assessment program at the facility.

(c) The plan to be submitted under s. NR 665.0090(4)(a) or (b) shall specify all of the following:

1. The number, location and depth of wells.

2. Sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility.

3. Evaluation procedures, including any use of previously-gathered groundwater quality information.

4. A schedule of implementation.

(d) The owner or operator shall implement the groundwater quality assessment plan which satisfies the requirements of par. (c), and, at a minimum, determine all of the following:

1. The rate and extent of migration of the hazardous waste or hazardous waste constituents in the groundwater.

2. The concentrations of the hazardous waste or hazardous waste constituents in the groundwater.

(e) The owner or operator shall make the first determination under par. (d) as soon as technically feasible, and, within 15 days after that determination, submit to the department a written report containing an assessment of the groundwater quality.

(f) If the owner or operator determines, based on the results of the first determination under par. (d), that no hazardous waste or hazardous waste constituents from the facility have entered the groundwater, then the owner or operator may reinstate the indicator evaluation program described in s. NR 665.0092 and sub. (2). If the owner or operator reinstates the indicator evaluation program, the owner or operator shall so notify the department in the report submitted under par. (e).

(g) If the owner or operator determines, based on the first determination under par. (d), that hazardous waste or hazardous waste constituents from the facility have entered the groundwater, then the owner or operator:

1. Shall continue to make the determinations required under par. (d) on a quarterly basis until final closure of the facility, if the groundwater quality assessment plan was implemented prior to final closure of the facility.

2. May cease to make the determinations required under par. (d), if the groundwater quality assessment plan was implemented during the long-term care period.

(5) Notwithstanding any other provision of this subchapter, any groundwater quality assessment to satisfy the requirements of sub. (4)(d) which is initiated prior to final closure of the facility shall be completed and reported in accordance with sub. (4)(e).

(6) Unless the groundwater is monitored to satisfy the requirements of sub. (4)(d), at least annually the owner or operator shall evaluate the data on groundwater surface elevations obtained under s. NR 665.0092(5) to determine whether the requirements under s. NR 665.0091(1) for locating the monitoring wells continues to be satisfied. If the evaluation shows that s. NR 665.0091(1) is no longer satisfied, the owner or operator shall immediately modify the number, location or depth of the monitoring wells to bring the groundwater monitoring system into compliance with s. NR 665.0091(1).

NR 665.0094 Recordkeeping and reporting. (1) Unless the groundwater is monitored to satisfy the requirements of s. NR 665.0093(4)(d), the owner or operator shall do all of the following:

(a) Keep records of the analyses required in s. NR 665.0092(3) and (4), the associated groundwater surface elevations required in s. NR 665.0092(5) and the evaluations required in s. NR 665.0093(2) throughout the active life of the facility, and, for disposal facilities, throughout the long-term care period as well.

(b) Report all of the following groundwater monitoring information to the department:

1. During the first year when initial background concentrations are being established for the facility: Concentrations or values of the parameters listed in s. NR 665.0092(2)(a) for each groundwater monitoring well within 15 days after completing each quarterly analysis. The owner or operator shall separately identify for each monitoring well any parameters whose concentration or value has been found to exceed the maximum contaminant levels listed in Appendix III.

2. Annually: Concentrations or values of the parameters listed in s. NR 665.0092(2)(c) for each groundwater monitoring well, along with the required evaluations for these parameters under s. NR 665.0093(2). The owner or operator shall separately identify any significant differences from initial background found in the upgradient wells, in accordance with s. NR 665.0093(3)(a). During the active life of the facility, this information shall be submitted no later than March 1 following each calendar year.

3. No later than March 1 following each calendar year: Results of the evaluations of groundwater surface elevations under s. NR 665.0093(6), and a description of the response to that evaluation, where applicable.

(2) If the groundwater is monitored to satisfy the requirements of s. NR 665.0093(4)(d), the owner or operator shall do all of the following:

(a) Keep records of the analyses and evaluations specified in the plan, which satisfies the requirements of s. NR 665.0093(4)(c), throughout the active life of the facility, and, for disposal facilities, throughout the long-term care period as well.

(b) Annually, until final closure of the facility, submit to the department a report containing the results of the groundwater quality assessment program which includes, but is not limited to, the calculated (or measured) rate of migration of hazardous waste or hazardous waste constituents in the groundwater during the reporting period. This information shall be submitted no later than March 1 following each calendar year.

Subchapter G —Closure and Long-Term Care

NR 665.0110 Applicability. Except as s. NR 665.0001 provides otherwise:

(1) Sections NR 665.0111 to 665.0115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities.

(2) Sections NR 665.0116 to 665.0120 (which concern long-term care) apply to the owners and operators of all of the following:

(a) All hazardous waste disposal facilities.

(b) Waste piles and surface impoundments for which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to the facilities in s. NR 665.0228 or 665.0258.

(c) Tank systems that are required under s. NR 665.0197 to meet requirements for landfills.

(d) Containment building that are required under s. NR 665.1102 to meet the requirements for landfills.

(3) Section NR 665.0121 applies to owners and operators of units that are subject to the requirements of s. NR 670.001(3)(g) and are regulated under an enforceable document (as defined in s. NR 670.001(3)(g)).

(4) The department may replace all or part of the requirements of this subchapter (and the unit-specific standards in s. NR 665.0111(3)) applying to a regulated unit (as defined in s. NR 664.0090), with alternative requirements for closure set out in an approved closure or long-term care plan, or in an enforceable document (as defined in s. NR 670.001(3)(g)), where the department determines both of the following conditions are met:

(a) A regulated unit is situated among solid waste management units (or areas of concern), a release has occurred and both the regulated unit and one or more solid waste management units (or areas of concern) are likely to have contributed to the release.

(b) It is not necessary to apply the closure requirements of this subchapter (or those referenced in this subchapter) because the alternative requirements will protect human health and the environment, and will satisfy the closure performance standard of s. NR 665.0111(1) and (2).

NR 665.0111 Closure performance standard. The owner or operator shall close the facility in a manner that does all of the following:

(1) Minimizes the need for further maintenance.

(2) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.

(3) Complies with the closure requirements of this subchapter, including, but not limited to, the requirements of ss. NR 665.0197, 665.0228, 665.0258, 665.0310, 665.0351, 665.0381, 665.0404 and 665.1102.

(4) Meets, in the case of a landfill or surface impoundment, applicable requirements in ch. NR 140 and applicable soil cleanup standards in ch. NR 720 or meets the applicable closure requirements of sub. (2) or (3), whichever are more stringent.

NR 665.0112 Closure plan; amendment of plan. (1) WRITTEN PLAN. By February 1, 1982, or by 6 months after the effective date of the rule that first subjects a facility to provisions of this section, the owner or operator of a hazardous waste management facility shall have a written closure plan. Until final closure is completed and certified in accordance with s. NR 665.0115, a copy of the most current plan shall be furnished to the department upon request, including request by mail. In addition, for facilities without approved plans, it shall also be provided during site inspections, on the day of inspection, to any officer, employee or representative of the department.

(2) CONTENT OF PLAN. The plan shall identify steps necessary to perform partial or final closure of the facility, or both, at any point during its active life. The closure plan shall include, at least all of the following:

(a) A description of how each hazardous waste management unit at the facility will be closed in accordance with s. NR 665.0111.

(b) A description of how final closure of the facility will be conducted in accordance with s. NR 665.0111. The description shall identify the maximum extent of the operation which will be unclosed during the active life of the facility.

(c) An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial and final closure, including, but not limited to methods for removing, transporting, treating, storing or disposing of all hazardous waste, identification of and the types of off-site hazardous waste management units to be used, if applicable.

(d) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures and soils during partial and final closure including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils and criteria for determining the extent of decontamination necessary to satisfy the closure performance standard.

(e) A detailed description of other activities necessary during the partial and final closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, groundwater monitoring, leachate collection and run-on and run-off control.

(f) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule shall include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover shall be included.).

(g) An estimate of the expected year of final closure for facilities that use trust funds to demonstrate financial assurance under s. NR 665.0143 or 665.0145 and whose remaining operating life is less than 20 years, and for facilities without approved closure plans.

(h) For facilities where the department has applied alternative requirements at a regulated unit under s. NR 665.0090(6), 665.0110(4) or 665.0140(4), either the alternative requirements applying to the regulated unit, or a reference to the enforceable document containing those alternative requirements.

(3) AMENDMENT OF PLAN. The owner or operator may amend the closure plan at any time prior to the notification of partial or final closure of the facility. An owner or operator with an approved closure plan shall submit a written request to the department to authorize a change to the approved closure plan. The written request shall include a copy of the amended closure plan for approval by the department.

(a) The owner or operator shall amend the closure plan under any of the following circumstances:

1. Changes in operating plans or facility design affect the closure plan.

2. There is a change in the expected year of closure, if applicable.

3. In conducting partial or final closure activities, unexpected events require a modification of the closure plan.

4. The owner or operator requests the department to apply alternative requirements to a regulated unit under s. NR 665.0090(6), 665.0110(4) or 665.0140(4).

(b) The owner or operator shall amend the closure plan at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator shall amend the closure plan no later than 30 days after the unexpected event. This paragraph also applies to owners or operators of surface impoundments and waste piles who intended to

remove all hazardous wastes at closure, but are required to close as landfills in accordance with s. NR 665.0310.

(c) An owner or operator with an approved closure plan shall submit the modified plan to the department at least 60 days prior to the proposed change in facility design or operation, or no more than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event has occurred during the partial or final closure period, the owner or operator shall submit the modified plan no more than 30 days after the unexpected event. This paragraph also applies to owners or operators of surface impoundments and waste piles who intended to remove all hazardous wastes at closure but are required to close as landfills in accordance with s. NR 665.0310. If the amendment to the plan is a class 2 or 3 modification according to the criteria in s. NR 670.042, the modification to the plan will be approved according to the procedures in sub. (4)(d).

(d) The department may request modifications to the plan under the conditions described in par. (a). An owner or operator with an approved closure plan shall submit the modified plan within 60 days of the request from the department, or within 30 days if the unexpected event occurs during partial or final closure. If the amendment is considered a class 2 or 3 modification according to the criteria in s. NR 670.042, the modification to the plan will be approved in accordance with the procedures in sub. (4)(d).

(4) NOTIFICATION OF PARTIAL CLOSURE AND FINAL CLOSURE. (a) The owner or operator shall notify the department in writing of the intent to close the facility at least 180 days prior to the partial or final closure of a hazardous waste facility. The owner or operator shall submit the closure plan to the department at least 180 days prior to the date on which the owner or operator expects to begin closure of the first surface impoundment, waste pile, or landfill unit, or final closure if it involves such a unit, whichever is earlier. The owner or operator shall submit the closure plan to the department at least 45 days prior to the date on which the owner or operator expects to begin partial or final closure of a boiler or industrial furnace. The owner or operator shall submit the closure plan to the department at least 45 days prior to the date on which the owner or operator expects to begin final closure of a facility with only tanks, container storage or incinerator units.

(b) The date when the owner or operator ”expects to begin closure” shall be either of the following:

1. Within 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes, or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous waste. If the owner or operator of a hazardous waste management unit can demonstrate to the department that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and the owner or operator has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all interim license requirements, the department may approve an extension to this one-year limit.

2. For units meeting the requirements of s. NR 665.0113(4), no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of nonhazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional nonhazardous wastes, no later than one year after the date on which the unit received the most recent volume of nonhazardous wastes. If the owner or operator can demonstrate to the department that the hazardous waste management unit has the capacity to receive additional nonhazardous wastes and the owner or operator has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable interim license requirements, the department may approve an extension to this one-year limit.

(c) The owner or operator shall submit its closure plan to the department no later than 15 days after either of the following:

1. Denial, suspension or revocation of an interim license except when an operating license is issued simultaneously with revocation of an interim license.

2. Issuance of a judicial decree or department order to cease receiving hazardous wastes or close.

(d) The department will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the plan and request modifications to the plan no later than 30 days from the date of the notice. The department will also, in response to a request or at its own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning a closure plan. The department will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the 2 notices may be combined.) The department will approve, modify or disapprove the plan within 90 days of its receipt. If the department does not approve the plan, it shall provide the owner or operator with a detailed written statement of reasons for the refusal and the owner or operator shall modify the plan or submit a new plan for approval within 30 days after receiving the written statement. The department will approve or modify this plan in writing within 60 days. If the department modifies the plan, this modified plan becomes the approved closure plan. The department shall assure that the approved plan is consistent with ss. NR 665.0111, this section and 665.0113 to 665.0115 and the applicable requirements of subch. F and ss. NR 665.0197, 665.0228, 665.0258, 665.0310, 665.0351, 665.0381, 665.0404 and 664.1102. A copy of the modified plan with a detailed statement of reasons for the modifications shall be mailed to the owner or operator.

(5) REMOVAL OF WASTES AND DECONTAMINATION OR DISMANTLING OF EQUIPMENT. Nothing in this section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

NR 665.0113 Closure; time allowed for closure. (1) Within 90 days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with all applicable requirements in subs. (4) and (5), at a hazardous waste management unit or facility, or within 90 days after approval of the closure plan, whichever is later, the owner or operator shall treat, remove from the unit or facility or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The department may approve a longer period if the owner or operator demonstrates that the conditions in pars. (a) and (b) are met:

(a) Either of the following applies:

1. The activities required to comply with this subsection will, of necessity, take longer than 90 days to complete.

2. All of the following apply:

a. The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the facility owner or operator complies with subs. (4) and (5).

b. There is a reasonable likelihood that the owner or operator or another person will recommence operation of the hazardous waste management unit or the facility within one year.

c. Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site.

(b) The owner or operator has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable interim license requirements.

(2) The owner or operator shall complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with all applicable requirements in subs. (4) and (5), at the hazardous waste management unit or facility, or 180 days after approval of the closure plan, if that is later. The department may approve an extension to the closure period if the owner or operator demonstrates that the conditions in pars. (a) and (b) are met:

(a) Either of the following applies:

1. The partial or final closure activities will, of necessity, take longer than 180 days to complete.

2. All of the following apply:

a. The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the facility owner or operator complies with subs. (4) and (5).

b. There is reasonable likelihood that the owner or operator or another person will recommence operation of the hazardous waste management unit or the facility within one year.

c. Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site.

(b) The owner or operator has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable interim license requirements.

(3) The demonstrations referred to in subs. (1)(a) and (2)(a) shall be made as follows:

(a) The demonstrations in sub. (1)(a) shall be made at least 30 days prior to the expiration of the 90-day period in sub. (1).

(b) The demonstration in sub. (2)(a) shall be made at least 30 days prior to the expiration of the 180-day period in sub. (2), unless the owner or operator is otherwise subject to the deadlines in sub. (4).

(4) The department may allow an owner or operator to receive non-hazardous wastes in a landfill, or surface impoundment unit after the final receipt of hazardous wastes at that unit if all the following conditions are met:

(a) The owner or operator submits an amended feasibility and plan of operation report, or a feasibility and plan of operation report, if not previously required, and demonstrates that all the following criteria are met:

1. The unit has the existing design capacity as indicated on the part A application to receive non-hazardous wastes.

2. There is a reasonable likelihood that the owner or operator or another person will receive non-hazardous wastes in the unit within one year after the final receipt of hazardous wastes.

3. The non-hazardous wastes will not be incompatible with any remaining wastes in the unit or with the facility design and operating requirements of the unit or facility under this chapter.

4. Closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility.

5. The owner or operator is operating and will continue to operate in compliance with all applicable interim license requirements.

(b) The feasibility and plan of operation report includes an amended waste analysis plan, groundwater monitoring and response program, human exposure assessment required under 42 USC 6939a and closure and long-term care plans, and updated cost estimates and demonstrations of financial assurance for closure and long-term care as necessary and appropriate to reflect any changes due to the presence of hazardous constituents in the non-hazardous wastes, and changes in closure activities, including the expected year of closure if applicable under s. NR 665.0112(2)(g), as a result of the receipt of non-hazardous wastes following the final receipt of hazardous wastes.

(c) The feasibility and plan of operation report is amended, as necessary and appropriate, to account for the receipt of non-hazardous wastes following receipt of the final volume of hazardous wastes.

(d) The feasibility and plan of operation report and the demonstrations referred to in pars. (a) and (b) are submitted to the department no later than 180 days prior to the date on which the owner or operator of the facility receives the known final volume of hazardous wastes, or no later than 90 days after the effective date of this section … [revisor inserts date], whichever is later.

(5) In addition to the requirements in sub. (4), an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in 42 USC 6924(o)(1) and 6925(j)(1) or 42 USC 6924(o)(2) or (3) or 6925(j)(2), (3), (4) or (13) shall do all of the following:

(a) Submit with the feasibility and plan of operation report both of the following:

1. A contingent corrective measures plan.

2. A plan for removing hazardous wastes in compliance with par. (b).

(b) Remove all hazardous wastes from the unit by removing all hazardous liquids and removing all hazardous sludges to the extent practicable without impairing the integrity of the liners, if any.

(c) Removal of hazardous wastes shall be completed no later than 90 days after the final receipt of hazardous wastes. The department may approve an extension to this deadline if the owner or operator demonstrates that the removal of hazardous wastes will, of necessity, take longer than the allotted period to complete and that an extension will not pose a threat to human health and the environment.

(d) If a release that is a statistically significant increase (or decrease in the case of pH) in hazardous constituents over background levels is detected in accordance with the requirements in subch. F, the owner or operator of the unit:

1. Shall implement corrective measures in accordance with the approved contingent corrective measures plan required by par. (a) no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later.

2. May receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action.

3. May be required by the department to implement corrective measures in less than one year or to cease receipt of wastes until corrective measures have been implemented if necessary to protect human health and the environment.

(e) During the period of corrective action, the owner or operator shall provide semi-annual reports to the department that describe the progress of the corrective action program, compile all groundwater monitoring data and evaluate the effect of the continued receipt of non-hazardous wastes on the effectiveness of the corrective action.

(f) The department may require the owner or operator to commence closure of the unit if the owner or operator fails to implement corrective action measures in accordance with the approved contingent corrective measures plan within one year as required in par. (d), or fails to make substantial progress in implementing corrective action and achieving the facility's background levels.

(g) If the owner or operator fails to implement corrective measures as required in par. (d), or if the department determines that substantial progress has not been made pursuant to par. (f), the department shall:

1. Notify the owner or operator in writing that the owner or operator shall begin closure in accordance with the deadlines in subs. (1) and (2) and provide a detailed statement of reasons for this determination.

2. Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

3. If the department receives no written comments, the decision will become final 5 days after the close of the comment period. The department will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, shall be submitted within 15 days of the final notice and that closure shall begin in accordance with the deadlines in subs. (1) and (2).

4. If the department receives written comments on the decision, it shall make a final decision within 30 days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice, a detailed statement of reasons for the final decision. If the department determines that substantial progress has not been made, closure shall be initiated in accordance with the deadlines in subs. (1) and (2).

5. The final determinations made by the department under subds. 3. and 4. are not subject to administrative appeal.

NR 665.0114 Disposal or decontamination of equipment, structures and soils. During the partial and final closure periods, all contaminated equipment, structures and soil shall be properly disposed of, or

decontaminated unless specified otherwise in s. NR 665.0197, 665.0228, 665.0258 or 665.0310. By removing all hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and shall handle that hazardous waste in accordance with all applicable requirements of ch. NR 662.

NR 665.0115 Certification of closure. Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile and landfill unit, and within 60 days of completion of final closure, the owner or operator shall submit to the department, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification shall be signed by the owner or operator and by an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification shall be furnished to the department upon request until the department releases the owner or operator from the financial assurance requirements for closure under s. NR 665.0143(10).

NR 665.0116 Survey plat. No later than the submission of the certification of closure of each hazardous waste disposal unit, an owner or operator shall submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the department, a survey plat indicating the location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat shall be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use shall contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit according to the applicable rules of this subchapter.

NR 665.0117 Long-term care and use of property. (1)(a) Long-term care for each hazardous waste management unit subject to the requirements of this section and ss. NR 665.0118 to 665.0120 shall begin after completion of closure of the unit and continue for a minimum of 40 years after that date. It shall consist of at least both of the following:

1. Monitoring and reporting in accordance with the requirements of subchs. F, K, L and N.

2. Maintenance and monitoring of waste containment systems in accordance with the requirements of subchs. F, K, L and N.

(b) Any time preceding closure of a hazardous waste management unit subject to long-term care requirements or final closure, or any time during the long-term care period for a particular hazardous waste disposal unit, the department may extend the long-term care period applicable to the hazardous waste management unit or facility, if the department finds that the extended period is necessary to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

(2) The department may require, at partial and final closure, continuation of any of the security requirements of s. NR 665.0014 during part or all of the long-term care period under either of the following circumstances:

(a) Hazardous wastes may remain exposed after completion of partial or final closure.

(b) Access by the public or domestic livestock may pose a hazard to human health.

(3) Post-closure use of property on or in which hazardous wastes remain after partial or final closure may never be allowed to disturb the integrity of the final cover, liners or any other components of the containment system, or the function of the facility's monitoring systems, unless the department finds that either of the following applies:

(a) The disturbance is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment.

(b) The disturbance is necessary to reduce a threat to human health or the environment.

(4) All long-term care activities shall be in accordance with the provisions of the approved long-term care plan as specified in s. NR 665.0118.

NR 665.0118 Long-term care plan; amendment of plan (1) WRITTEN PLAN. By February 1, 1982, the owner or operator of a hazardous waste disposal unit shall have a written long-term care plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous wastes at closure shall prepare a long-term care plan and submit it to the department within 90 days of the date that the owner or operator or department determines that the hazardous waste management unit or facility must be closed as a landfill, subject to the requirements of ss. NR 665.0117, this section, 665.0119 and 665.0120.

(2) AVAILABILITY OF PLAN. Until final closure of the facility, a copy of the most current long-term care plan shall be furnished to the department upon request, including request by mail. In addition, for facilities without approved long-term care plans, it shall also be provided during site inspections, on the day of inspection, to any officer, employee or representative of the department. After final closure has been certified, the person or office specified in sub. (3)(c) shall keep the approved long-term care plan during the long-term care period.

(3) CONTENT OF PLAN. For each hazardous waste management unit subject to the requirements of this section, the long-term care plan shall identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least all of the following:

(a) A description of the planned monitoring activities and frequencies at which they will be performed to comply with subchs. F, K, L and N during the long-term care period.

(b) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure both of the following:

1. The integrity of the cap and final cover or other containment systems in accordance with the requirements of subchs. K, L and N.

2. The function of the monitoring equipment in accordance with the requirements of subchs. F, K, L and N.

(c) The name, address and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the long-term care period.

(d) For facilities subject to s. NR 665.0121, provisions that satisfy the requirements of s. NR 665.0121(1)(a) and (c).

(e) For facilities where the department has applied alternative requirements at a regulated unit under s. NR 665.0090(6), 665.0110(4) or 665.0140(4), either the alternative requirements that apply to the regulated unit, or a reference to the enforceable document containing those requirements.

(4) AMENDMENT OF PLAN. The owner or operator may amend the long-term care plan any time during the active life of the facility or during the long-term care period. An owner or operator with an approved long-term care plan shall submit a written request to the department to authorize a change to the approved plan. The written request shall include a copy of the amended long-term care plan for approval by the department.

(a) The owner or operator shall amend the long-term care plan whenever any of the following occurs:

1. Changes in operating plans or facility design affect the long-term care plan.

2. Events which occur during the active life of the facility, including partial and final closures, affect the long-term care plan.

3. The owner or operator requests the department to apply alternative requirements to a regulated unit under s. NR 665.0090(6), 665.0110(4) or 665.0140(4).

(b) The owner or operator shall amend the long-term care plan at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the long-term care plan.

(c) An owner or operator with an approved long-term care plan shall submit the modified plan to the department at least 60 days prior to the proposed change in facility design or operation, or no more than

60 days after an unexpected event has occurred which has affected the long-term care plan. If an owner or operator of a surface impoundment or a waste pile who intended to remove all hazardous wastes at closure in accordance with s. NR 665.0228(1) or 665.0258(1) is required to close as a landfill in accordance with s. NR 665.0310, the owner or operator shall submit a long-term care plan within 90 days of the determination by the owner or operator or department that the unit must be closed as a landfill. If the amendment to the long-term care plan is a class 2 or 3 modification according to the criteria in s. NR 670.042, the modification to the plan will be approved according to the procedures in sub. (6).

(d) The department may request modifications to the plan under the conditions described in par. (a). An owner or operator with an approved long-term care plan shall submit the modified plan no later than 60 days of the request from the department. If the amendment to the plan is considered a class 2 or 3 modification according to the criteria in s. NR 670.042, the modifications to the long-term care plan will be approved in accordance with the procedures in sub. (6). If the department determines that an owner or operator of a surface impoundment or waste pile who intended to remove all hazardous wastes at closure must close the facility as a landfill, the owner or operator shall submit a long-term care plan for approval to the department within 90 days of the determination.

(5) SUBMITTAL OF PLAN. The owner or operator of a facility with hazardous waste management units subject to these requirements shall submit its long-term care plan to the department at least 180 days before the date the owner or operator expects to begin partial or final closure of the first hazardous waste disposal unit. The date the owner or operator ”expects to begin closure” of the first hazardous waste disposal unit shall be either within 30 days after the date on which the hazardous waste management unit receives the known final volume of hazardous waste or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous wastes. The owner or operator shall submit the long-term care plan to the department no later than 15 days after either of the following:

(a) Denial, suspension or revocation of an interim license (except when an operating license is issued to the facility simultaneously with revocation of an interim license).

(b) Issuance of a judicial decree or department order to cease receiving wastes or close.

(6) REVIEW OF PLAN. The department will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the long-term care plan and request modifications to the plan no later than 30 days from the date of the notice. The department will also, in response to a request or at its own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning a long-term care plan. The department will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the 2 notices may be combined.) The department shall approve, modify or disapprove the plan within 90 days of its receipt. If the department does not approve the plan, it shall provide the owner or operator with a detailed written statement of reasons for the refusal and the owner or operator shall modify the plan or submit a new plan for approval within 30 days after receiving the written statement. The department will approve or modify this plan in writing within 60 days. If the department modifies the plan, this modified plan becomes the approved long-term care plan. The department shall ensure that the approved long-term care plan is consistent with ss. NR 665.0117, this section, 665.0119 and 665.0120. A copy of the modified plan with a detailed statement of reasons for the modifications shall be mailed to the owner or operator.

(7) MODIFICATION OF PLAN. The long-term care plan and length of the long-term care period may be modified any time prior to the end of the long-term care period in either of the following 2 ways:

(a) The owner or operator or any member of the public may petition the department to extend or reduce the long-term care period applicable to a hazardous waste management unit or facility based on cause, or alter the requirements of the long-term care period based on cause.

1. The petition shall include evidence demonstrating either of the following:

a. The secure nature of the hazardous waste management unit or facility makes the long-term care requirements unnecessary or supports reduction of the long-term care period specified in the current long-term care plan (e.g., leachate or groundwater monitoring results, characteristics of the wastes, application of advanced technology or alternative disposal, treatment or re-use techniques indicate that the facility is secure).

b. The requested extension in the long-term care period or alteration of long-term care requirements is necessary to prevent threats to human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

2. The department will consider these petitions only when they present new and relevant information not previously considered by the department. Whenever the department is considering a petition, it will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice. The department will also, in response to a request or at its own discretion, hold a public hearing whenever a hearing might clarify one or more issues concerning the long-term care plan. The department will give the public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for written public comments, and the 2 notices may be combined.) After considering the comments, the department will issue a final determination, based upon the criteria set forth in this paragraph.

3. If the department denies the petition, it will send the petitioner a brief written response giving a reason for the denial.

(b) The department may tentatively decide to modify the long-term care plan if it deems it necessary to prevent threats to human health and the environment. The department may propose to extend or reduce the long-term care period applicable to a hazardous waste management unit or facility based on cause or alter the requirements of the long-term care period based on cause.

1. The department will provide the owner or operator and the affected public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice and the opportunity for a public hearing as in par. (a)2. After considering the comments, the department will issue a final determination.

2. The department will base its final determination upon the same criteria as required for petitions under par. (a)1. A modification of the long-term care plan may include, where appropriate, the temporary suspension rather than permanent deletion of one or more long-term care requirements. At the end of the specified period of suspension, the department would then determine whether the requirements should be permanently discontinued or reinstated to prevent threats to human health and the environment.

NR 665.0119 Long-term care notices. (1) No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator shall submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the department, a record of the type, location and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before July 1, 1985, the owner or operator shall identify the type, location and quantity of the hazardous wastes to the best of the owner or operator's knowledge and in accordance with any records the owner or operator has kept.

(2) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator shall do both of the following:

(a) Record, in accordance with ch. 706. Stats., a notation on the deed to the facility property, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the property of all of the following:

1. The land has been used to manage hazardous wastes.

2. Its use is restricted under the rules in this subchapter.

3. The survey plat and record of the type, location and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by s. NR 665.0116 and sub. (1) have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the department.

(b) Submit a certification signed by the owner or operator that the owner or operator has recorded the notation specified in par. (a) and a copy of the document in which the notation has been placed, to the department.

(3) If the owner or operator or any subsequent owner of the land upon which a hazardous waste disposal unit was located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, and all contaminated structures, equipment and soils, the owner or operator shall request a modification to the approved long-term care plan in accordance with the requirements of s. NR 665.0118(7). The owner or operator shall demonstrate that the removal of hazardous wastes will satisfy the criteria of s. NR 665.0117(3). By removing hazardous waste, the owner or operator may become a generator of hazardous waste and shall manage it in accordance with all applicable requirements of chs. NR 660 to 673. If the owner or operator is granted approval to conduct the removal activities, the owner or operator may request that the department approve either of the following:

(a) The removal of the notation on the deed to the facility property or other instrument normally examined during title search.

(b) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

NR 665.0120 Certification of completion of long-term care. No later than 60 days after the completion of the established long-term care period for each hazardous waste disposal unit, the owner or operator shall submit to the department, by registered mail, a certification that the long-term care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved long-term care plan. The owner or operator and an independent registered professional engineer shall sign the certification. Documentation supporting the independent registered professional engineer's certification shall be furnished to the department upon request until the department releases the owner or operator from the financial assurance requirements for long-term care under s. NR 665.0145(10).

NR 665.0121 Long-term care requirements for facilities that obtain enforceable documents in lieu of long-term care licenses. (1) Owners and operators who are subject to the requirement to obtain a long-term care license under s. NR 670.001(3), but who obtain enforceable documents in lieu of long-term care licenses, as provided under s. NR 670.001(3)(g), shall comply with all of the following requirements:

(a) The requirements to submit information about the facility in s. NR 670.028.

(b) The requirements for facility-wide corrective action in s. NR 664.0101.

(c) The requirements of ss. NR 664.0091 to 664.0100.

(2)(a) The department, in issuing enforceable documents under this section in lieu of licenses, will assure a meaningful opportunity for public involvement which, at a minimum, includes public notice and opportunity for public comment as follows:

1. When the department becomes involved in a remediation at the facility as a regulatory or enforcement matter.

2. On the proposed preferred remedy and the assumptions upon which the remedy is based, in particular those related to land use and site characterization.

3. At the time of a proposed decision that remedial action is complete at the facility. These requirements shall be met before the department may consider that the facility has met the requirements of s. NR 670.001(3)(g), unless the facility qualifies for a modification to these public involvement procedures under par. (b) or (c).

(b) If the department determines that even a short delay in the implementation of a remedy would adversely affect human health or the environment, the department may delay compliance with the requirements of par. (a) and implement the remedy immediately. However, the department shall assure involvement of the public at the earliest opportunity, and, in all cases, upon making the decision that additional remedial action is not needed at the facility.

(c) The department may allow a remediation initiated prior to the effective date of this section … [revisor inserts date] to substitute for corrective action required under a long-term care license even if the public involvement requirements of par. (a) have not been met so long as the department assures that notice and comment on the decision that no further remediation is necessary to protect human health and the environment takes place at the earliest reasonable opportunity after the effective date of this section … [revisor inserts date].

Subchapter H —Financial Requirements

NR 665.0140 Applicability. (1) The requirements of ss. NR 665.0142, 665.0143, 665.0147 and 665.0148 apply to owners or operators of all hazardous waste facilities, except as provided otherwise in this section or in s. NR 665.0001.

(2) The requirements of ss. NR 665.0144 and 665.0146 apply only to owners and operators of one or more of the following:

(a) Disposal facilities.

(b) Tank systems that are required under s. NR 664.0197 to meet the requirements for landfills.

(c) Containment buildings that are required under s. NR 665.1102 to meet the requirements for landfills.

(3) States and the federal government are exempt from the requirements of s. NR 665.0147.

(4) The department may replace all or part of the requirements of this subchapter applying to a regulated unit with alternative requirements for financial assurance set out in the license or in an enforceable document (as defined in s. NR 670.001(3)(g)), where the department does all of the following:

(a) Prescribes alternative requirements for the regulated unit under s. NR 665.0090(6) or 665.0110(4) or both.

(b) Determines that it is not necessary to apply the requirements of this subchapter because the alternative financial assurance requirements will protect human health and the environment.

NR 665.0141 Definitions. When used in this subchapter, the following terms have the meanings given below.

(1) "Captive insurance company" means a closely-held company owned by one or more organizations, parents, whose original purpose was and may continue to be, to insure some or all of the risks of shareholders or affiliated organizations.

(2) "Closure plan" means the plan for closure prepared in accordance with the requirements of s. NR 665.0112.

(3) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with s. NR 665.0142(1) to (3).

(4) "Current long-term care cost estimate" means the most recent of the estimates prepared in accordance with s. NR 665.0144(1) to (3).

(5) "Parent corporation" means a corporation which directly owns at least 50% of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.

(6) "Long-term care plan" means the plan for long-term care prepared in accordance with the requirements of ss. NR 665.0117 to 665.0120.

(7) The following terms are used in the specifications for the financial tests for liability coverage. The definitions are intended to assist in the understanding of this chapter and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

(a) "Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

(b) "Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

(c) "Current liabilities" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

(d) "Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with ch. NR 815.

(e) "Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

(f) "Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

(g) "Net working capital" means current assets minus current liabilities.

(h) "Net worth" has the meaning given in s. 289.41(1)(c), Stats.

(i) "Tangible net worth" means the tangible assets that remain after deducting liabilities. The assets would not include intangibles such as goodwill and rights to patents or royalties.

(8) In the liability insurance requirements, the terms "bodily injury" and "property damage" shall have the meanings given these terms by applicable state law. However, these terms do not include those liabilities which, consistent with standard industry practice, are excluded from coverage in liability policies for bodily injury and property damage. The department intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of this chapter and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

(a) "Accidental occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

(b) "Legal defense costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

(c) "Nonsudden accidental occurrence" means an occurrence which takes place over time and involves continuous or repeated exposure.

(d) "Sudden accidental occurrence" means an occurrence which is not continuous or repeated in nature.

(9) "Substantial business relationship" means the extent of a business relationship necessary under applicable state law to make a guarantee contract issued incident to that relationship valid and enforceable. A substantial business relationship shall arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the department.

NR 665.0142 Cost estimate for closure. (1) The owner or operator shall have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in ss. NR 665.0111 to 665.0115 and applicable closure requirements in ss. NR 665.0197, 665.0228, 665.0258, 665.0310, 665.0351, 665.0381, 665.0404 and 665.1102.

(a) The estimate shall equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see s. NR 665.0112(2)).

(b) The closure cost estimate shall be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent corporation nor a subsidiary of the owner or operator. The owner or operator may use costs for on-site disposal if the owner or operator can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(c) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or non-hazardous wastes if applicable under s. NR 665.0113(4), facility structures or equipment, land or other assets associated with the facility at the time of partial or final closure.

(d) The owner or operator may not incorporate a zero cost for hazardous wastes, or non-hazardous wastes if applicable under s. NR 665.0113(4), that might have economic value.

(2) During the active life of the facility, the owner or operator shall adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with s. NR 665.0143. For owners and operators of disposal facilities using the net worth test, the closure cost estimate shall be updated for inflation as required under s. 289.41(5)(d), Stats. The adjustment may be made by recalculating the closure cost estimate in current dollars, or by using an inflation factor derived from the most recent implicit price deflator for gross domestic product published by the U.S. department of commerce in its *Survey of Current Business,* as specified in pars. (a) and (b). The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

(a) The first adjustment shall be made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(b) Subsequent adjustments shall be made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(3) During the active life of the facility, the owner or operator shall revise the closure cost estimate no later than 30 days after a revision has been made to the closure plan which increases the cost of closure. If the owner or operator has an approved closure plan, the closure cost estimate shall be revised no later than 30 days after the department has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate shall be adjusted for inflation as specified in sub. (2).

(4) The owner or operator shall keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with subs. (1) to (3) and, when this estimate has been adjusted in accordance with sub. (2), the latest adjusted closure cost estimate.

NR 665.0143 Financial assurance for closure. By June 1, 1984, an owner or operator of each facility shall establish financial assurance for closure of the facility. The owner or operator shall choose from the options as specified in subs. (1) to (7).

(1) CLOSURE TRUST FUND. (a) An owner or operator may satisfy the requirements of this section by establishing a closure trust fund which conforms to the requirements of this subsection and submitting an originally signed duplicate of the trust agreement to the department. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(b) The wording of the trust agreement shall be identical to the wording on the department form specified in s. NR 664.0151(1)(a) and the trust agreement shall be accompanied by a formal certification of acknowledgment as specified in s. NR 664.0151(1)(b). Schedule A of the trust agreement shall be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

(c) Payments into the trust fund shall be made annually by the owner or operator over the 20 years beginning on June 1, 1984 or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter. For the purposes of this section, this period is referred to as the ”pay-in period.” The payments into the closure trust fund shall be made as follows:

1. The first payment shall be made by June 1, 1984, except as provided in par. (e). The first payment shall be at least equal to the current closure cost estimate, except as provided in sub. (8), divided by the number of years in the pay-in period.

2. Subsequent payments shall be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund and Y is the number of years remaining in the pay-in period.

(d) The owner or operator may accelerate payments into the trust fund or may deposit the full amount of the current closure cost estimate at the time the fund is established. However, the owner or operator shall maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in par. (c).

(e) If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this section, the first payment shall be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made as specified in par. (c).

(f) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator shall compare the new estimate with the trustee’s most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(g) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the department for release of the amount in excess of the current closure cost estimate.

(h) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, the owner or operator may submit a written request to the department for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(i) Within 60 days after receiving a request from the owner or operator for release of funds as specified in par. (g) or (h), the department will instruct the trustee to release to the owner or operator funds as the department specifies in writing.

(j) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the department. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. No later than 60 days after receiving bills for partial or final closure activities, the department will instruct the trustee to make reimbursements in those amounts as the department specifies in writing, if the department determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the department has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, the department may withhold reimbursements of amounts as the department deems prudent until the department determines, in accordance with sub. (10) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the department does not instruct the trustee to make the reimbursements, the department will provide to the owner or operator a detailed written statement of reasons.

(k) The department will agree to termination of the trust when one of the following applies:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (10).

(2) SURETY BOND GUARANTEEING PAYMENT INTO A CLOSURE TRUST FUND . (a) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this subsection and submitting the bond to the department. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. department of the treasury.

(b) The wording of the surety bond shall be identical to the wording on the department form specified in s. NR 664.0151(2).

(c) The owner or operator who uses a surety bond to satisfy the requirements of this section shall also establish a standby trust fund. Under the terms of the bond, all payments made shall be deposited by the surety directly into the standby trust fund in accordance with instructions from the department. This standby trust fund must meet the requirements specified in sub. (1) except for all of the following:

1. An originally signed duplicate of the trust agreement must be submitted to the department with the surety bond.

2. Until the standby trust fund is funded pursuant to the requirements of this section, all of the following are not required:

a. Payments into the trust fund as specified in sub. (1).

b. Updating of Schedule A of the trust agreement (see Form 4430-022) to show current closure cost estimates.

c. Annual valuations as required by the trust agreement.

d. Notices of nonpayment as required by the trust agreement.

(d) The bond must guarantee that the owner or operator shall do any of the following:

1. Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility.

2. Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the department becomes final, or within 15 days after an order to begin final closure is issued.

3. Provide alternate financial assurance as specified in this section, and obtain the department's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the department of a notice of cancellation of the bond from the surety.

(e) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(f) The penal sum of the bond shall be in an amount at least equal to the current closure cost estimate, except as provided in sub. (8).

(g) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the department.

(h) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the department, as evidenced by the return receipts. Not less than 30 days prior to the expiration of the 120-day notice period, the owner shall deliver to the department a replacement bond or other proof of financial responsibility under this section, in the absence of which all storage, treatment or

disposal operations shall immediately cease and the bond shall remain in effect as long as any obligation of the owner remains for closure.

(i) The owner or operator may cancel the bond if the department has given prior written consent based on the receipt of evidence of alternate financial assurance as specified in this section.

(3) CLOSURE LETTER OF CREDIT. (a) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable letter of credit which conforms to the requirements of this subsection and submitting the letter to the department. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

(b) The wording of the letter of credit shall be identical to the wording on the department form specified in s. NR 664.0151(4).

(d) The letter of credit shall be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution and date, and providing the following information: The EPA identification number, name and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(e) The letter of credit shall be irrevocable and issued for a period of at least one year. The letter of credit shall provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the department by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the department have received the notice, as evidenced by the return receipts.

(f) The letter of credit shall be issued in an amount at least equal to the current closure cost estimate, except as provided in sub. (8).

(g) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, shall either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the department.

(h) Following a final administrative determination by the department that the owner or operator has failed to perform final closure in accordance with the approved closure plan when required to do so, the department may draw on the letter of credit.

(i) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of the alternate assurance from the department within 90 days after receipt by both the owner or operator and the department of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the department will draw on the letter of credit. The department may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any extension the department will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of the assurance from the department.

(j) The department will authorize the release of the letter of credit when any of the following apply:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (10).

(4) CLOSURE INSURANCE. (a) An owner or operator may satisfy the requirements of this section by obtaining closure insurance which conforms to the requirements of this subsection and submitting a certificate of the insurance to the department. By June 1, 1984 the owner or operator shall submit to the department a letter from an insurer stating that the insurer is considering issuance of closure insurance conforming to the requirements of this subsection to the owner or operator. By August 30, 1984, the

owner or operator shall submit the certificate of insurance to the department or establish other financial assurance as specified in this section. At a minimum, the insurer shall be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states. The department, after conferring with the Wisconsin insurance commissioner, shall determine the acceptability of a surplus lines or captive insurance company to provide coverage for proof of financial responsibility. The department shall ask the insurance commissioner to provide a financial analysis of the insurer including a recommendation as to the insurer's ability to provide the required coverage. The department may require a periodic review of the acceptability of a surplus lines or captive insurance company.

(b) The wording of the certificate of insurance shall be identical to the wording on the department form specified in s. NR 664.0151(5).

(c) The closure insurance policy shall be issued for a face amount at least equal to the current closure cost estimate, except as provided in sub. (8). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(d) The closure insurance policy shall guarantee that funds will be available to close the facility whenever final closure occurs. The policy shall also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the department, to the party or parties as the department specifies.

(e) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the department. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the department will instruct the insurer to make reimbursements in the amounts as the department specifies in writing if the department determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the department has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, the department may withhold reimbursement of the amounts as the department deems prudent until the department determines, in accordance with sub. (10), that the owner or operator is no longer required to maintain financial assurance for final closure of the particular facility. If the department does not instruct the insurer to make the reimbursements, the department will provide to the owner or operator a detailed written statement of reasons.

(f) The owner or operator shall maintain the policy in full force and effect until the department consents to termination of the policy by the owner or operator as specified in par. (j). Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of this chapter, warranting a remedy as the department deems necessary. The violation will be deemed to begin upon receipt by the department of a notice of future cancellation, termination or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(g) Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. The assignment may be conditional upon consent of the insurer, provided the consent is not unreasonably refused.

(h) The policy shall provide that the insurer may not cancel, terminate or fail to renew the policy unless a replacement insurance policy or other proof of financial responsibility under this section is provided to the department by the owner or operator. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If the insurer elects to cancel, terminate or fail to renew the policy, the insurer shall provide notice by certified mail to the owner or operator and the department not less than 120 days prior to the proposed cancellation

date. Cancellation, termination or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the department and the owner or operator, as evidenced by the return receipts. Cancellation, termination or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration any of the following apply:

1. The department deems the facility abandoned.

2. An interim license is denied, suspended or revoked.

3. Closure is ordered by the department or a U.S. district court or other court of competent jurisdiction.

4. The owner or operator is named as debtor in a voluntary or involuntary bankruptcy proceeding under 11 USC.

5. The premium due is paid.

(i) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, shall either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the department.

(j) The department will give written consent to the owner or operator that the owner or operator may terminate the insurance policy when any of the following apply:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (10).

(5) NET WORTH TEST FOR CLOSURE. (a) An owner or operator of a disposal facility may use the net worth test to provide financial responsibility if all of the following are met:

1. Only a company that meets the definition in s. 289.41(1)(b), Stats., may use the net worth method of providing proof of financial responsibility.

2. The owner or operator shall comply with the net worth test requirements of s. 289.41(4), (6) and (7), Stats., and the minimum security requirements of s. 289.41 (9), Stats., whichever are applicable.

(b) For companies with more than one facility, the total cost of compliance for all facilities shall be used to determine the net worth to closure and long-term care cost ratio.

(6) CLOSURE DEPOSIT WITH THE DEPARTMENT. An owner may deposit cash, certificates of deposit or U.S. government securities with the department. . The deposit must be accompanied by a signed duplicate original of Form 4430-028 as specified in s. NR 664.0151(14). The amount of the deposit shall be determined according to s. NR 665.0142 and shall be submitted as part of the interim license application. Cash deposits placed with the department shall be segregated and invested in an interest bearing account. All interest payments shall be accumulated in the account. The department shall have the right to use part or all of the funds to carry out the closure requirements of the written closure plan or the applicable requirements in s. NR 665.0112 if the owner fails to do so.

(7) CLOSURE ESCROW ACCOUNT. (a) An owner or operator may satisfy the requirements of this section by establishing a closure escrow account which conforms to the requirements of this subsection and submitting an originally signed duplicate of the escrow agreement to the department. An owner or operator of a new facility shall submit the originally signed duplicate of the escrow agreement to the department at least 60 days before the date on which hazardous waste is first received for treatment, storage or disposal. The escrow agent shall be an entity which has the authority to act as an escrow agent, and the escrow account shall be established with a bank or financial institution which is examined and regulated by the state or a federal agency.

(b) The wording of the escrow agreement shall be identical to the wording on the department form specified in s. NR 664.0151(6)(a), and the escrow agreement shall be accompanied by a formal

certification of acknowledgment as specified in s. NR 664.0151(6)(b). Schedule A of the escrow agreement shall be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

(c) Payments into the escrow account shall be made annually by the owner or operator over the term of the interim license and over the remaining operating life of the facility as estimated in the closure plan. For the purposes of this section, this period is referred to as the ”pay-in period.” The payments into the closure escrow account shall be made as follows:

1. For a new facility, the first payment shall be made before the initial receipt of hazardous waste for treatment, storage or disposal. A receipt from the escrow agent for this payment shall be submitted by the owner or operator to the department before this initial receipt of hazardous waste. The first payment shall be at least equal to the current closure cost estimate, except as provided in sub. (8), divided by the number of years in the pay-in period. Subsequent payments shall be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the escrow account and Y is the number of years remaining in the pay-in period.

2. If an owner or operator establishes a escrow account as specified in this subsection, and the value of that escrow account is less than the current closure cost estimate when a license is awarded for the facility, the amount of the current closure cost estimate still to be paid into the escrow account shall be paid in over the pay-in period as defined in the introduction to this paragraph. Payments shall continue to be made no later than 30 days after each anniversary date of the first payment. The amount of each payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the escrow account and Y is the number of years remaining in the pay-in period.

(d) The owner or operator may accelerate payments into the escrow account or may deposit the full amount of the current closure cost estimate at the time the account is established. However, the owner or operator shall maintain the value of the account at no less than the value that the account would have if annual payments were made as specified in par. (c).

(e) If the owner or operator establishes a closure escrow account after having used one or more alternate mechanisms specified in this section, the first payment shall be in at least the amount that the account would contain if the escrow account were established initially and annual payments were made as specified in par. (c).

(f) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator shall compare the new estimate with the escrow agent’s most recent annual valuation of the escrow account. If the value of the account is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the account so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(g) If the value of the escrow account is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the department for release of the amount in excess of the current closure cost estimate.

(h) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the escrow account, the owner or operator may submit a written request to the department for release of the amount in excess of the current closure cost estimate covered by the escrow account

(i) Within 60 days after receiving a request from the owner or operator for release of funds as specified in par. (g) or (h), the department will instruct the escrow agent to release to the owner or operator funds as the department specifies in writing.

(j) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the department. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the escrow account to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for partial or final closure activities, the department will instruct the escrow agent to make reimbursements in those amounts as the department specifies in writing, if the department determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the department has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the escrow account, the department may withhold reimbursements of amounts as the department deems prudent until the department determines, in accordance with sub. (10) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the department does not instruct the escrow agent to make the reimbursements, the department will provide the owner or operator with a detailed written statement of reasons.

(k) The department will agree to termination of the escrow account when one of the following applies:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (10).

(8) USE OF MULTIPLE FINANCIAL MECHANISMS. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment, deposits with the department, escrow accounts, letters of credit and insurance. The mechanisms shall be as specified in subs. (1) to (4), (6) and (7), except that it is the combination of mechanisms, rather than the single mechanism, which shall provide financial assurance for an amount at least equal to the current closure cost estimate. The department may use any or all of the mechanisms to provide for closure of the facility.

(9) USE OF A FINANCIAL MECHANISM FOR MULTIPLE FACILITIES. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the department shall include a list showing, for each facility, the EPA identification number, name, address and the amount of funds for closure assured by the mechanism. If the facilities covered by the mechanism are in more than one state, identical evidence of financial assurance shall be submitted to and maintained with the state agency regulating hazardous waste or with the appropriate U.S. EPA regional administrator if the facility is located in unauthorized states. The amount of funds available through the mechanism shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the department may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(10) RELEASE OF THE OWNER OR OPERATOR FROM THE REQUIREMENTS OF THIS SECTION. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the department will notify the owner or operator in writing that the owner or operator is no longer required by this section to maintain financial assurance for final closure of the facility, unless the department has reason to believe that final closure has not been in accordance with the approved closure plan. The

department shall provide the owner or operator a detailed written statement of any reason to believe that closure has not been in accordance with the approved closure plan.

Note: The department may consider other financial commitments as allowed by s. 289.41(3)(a)5., Stats.

NR 665.0144 Cost estimate for long-term care. (1) The owner or operator of a hazardous waste disposal unit shall have a detailed written estimate, in current dollars, of the annual cost of long-term care monitoring and maintenance of the facility according to the applicable long-term care rules in ss. NR 665.0117 to 665.0120, 665.0228, 665.0258 and 665.0310.

(a) The long-term care cost estimate shall be based on the costs to the owner or operator of hiring a third party to conduct long-term care activities. A third party is a party who is neither a parent corporation nor subsidiary of the owner or operator.

(b) The long-term care cost estimate is calculated by multiplying the annual long-term care cost estimate by the number of years of long-term care required under s. NR 665.0117.

(2) During the active life of the facility, the owner or operator shall adjust the long-term care cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument or instruments used to comply with s. NR 665.0145. For owners or operators of disposal facilities using the net worth test, the long-term care cost estimate shall be updated for inflation as specified in s. 289.41(5)(d), Stats. The adjustment may be made by recalculating the long-term care cost estimate in current dollars or by using an inflation factor derived from the most recent implicit price deflator for gross domestic product published by the U.S. department of commerce in its *Survey of Current Business* as specified in s. NR 665.0145(2)(a) and (b). The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

(a) The first adjustment is made by multiplying the long-term care cost estimate by the inflation factor. The result is the adjusted long-term care cost estimate.

(b) Subsequent adjustments are made by multiplying the latest adjusted long-term care cost estimate by the latest inflation factor.

(3) During the active life of the facility, the owner or operator shall revise the long-term care cost estimate no later than 30 days after a revision to the long-term care plan which increases the cost of long-term care. If the owner or operator has an approved long-term care plan, the long-term care cost estimate shall be revised no later than 30 days after the department has approved the request to modify the plan, if the change in the long-term care plan increases the cost of long-term care. The revised long-term care cost estimate shall be adjusted for inflation as specified in sub. (2).

(4) The owner or operator shall keep the following at the facility during the operating life of the facility: the latest long-term care cost estimate prepared in accordance with subs. (1) and (3) and, when this estimate has been adjusted in accordance with sub. (2), the latest adjusted long-term care cost estimate.

NR 665.0145 Financial assurance for long-term care. By June 1, 1984, an owner or operator of a facility with a hazardous waste disposal unit shall establish financial assurance for long-term care of the disposal unit or units.

(1) LONG-TERM CARE TRUST FUND. (a) An owner or operator may satisfy the requirements of this section by establishing a long-term care trust fund which conforms to the requirements of this subsection and submitting an originally signed duplicate of the trust agreement to the department. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(b) The wording of the trust agreement shall be identical to the wording on the department form specified in s. NR 664.0151(1)(a), and the trust agreement shall be accompanied by a formal certification of acknowledgment as specified in s. NR 664.0151(1)(b). Schedule A of the trust agreement shall be

updated within 60 days after a change in the amount of the current long-term care cost estimate covered by the agreement.

(c) Payments into the trust fund shall be made annually by the owner or operator over the 20 years beginning on June 1, 1984 or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter. For the purposes of this section, this period is referred to as the ”pay-in period.” The payments into the long-term care trust fund shall be made as follows:

1. The first payment shall be made by June 1, 1984, except as provided in par. (e). The first payment shall be at least equal to the current long-term care cost estimate, except as provided in sub. (8), divided by the number of years in the pay-in period.

2. Subsequent payments shall be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current long-term care cost estimate, CV is the current value of the trust fund and Y is the number of years remaining in the pay-in period.

(d) The owner or operator may accelerate payments into the trust fund or the owner or operator may deposit the full amount of the current long-term care cost estimate at the time the fund is established. However, the owner or operator shall maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in par. (c).

(e) If the owner or operator establishes a long-term care trust fund after having used one or more alternate mechanisms specified in this section, the first payment shall be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made as specified in par. (c).

(f) After the pay-in period is completed, whenever the current long-term care cost estimate changes during the operating life of the facility, the owner or operator shall compare the new estimate with the trustee’s most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current long-term care cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(g) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current long-term care cost estimate, the owner or operator may submit a written request to the department for release of the amount in excess of the current long-term care cost estimate.

(h) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, the owner or operator may submit a written request to the department for release of the amount in excess of the current long-term care cost estimate covered by the trust fund.

(i) Within 60 days after receiving a request from the owner or operator for release of funds as specified in par. (g) or (h), the department will instruct the trustee to release to the owner or operator the funds as the department specifies in writing.

(j) During the period of long-term care, the department may approve a release of funds if the owner or operator demonstrates to the department that the value of the trust fund exceeds the remaining cost of long-term care.

(k) An owner or operator or any other person authorized to conduct long-term care may request reimbursements for long-term care expenditures by submitting itemized bills to the department. Within 60 days after receiving bills for long-term care activities, the department will instruct the trustee to make reimbursements in those amounts as the department specifies in writing, if the department determines that the long-term care expenditures are in accordance with the approved long-term care plan or otherwise justified. If the department does not instruct the trustee to make the reimbursements, the department will provide the owner or operator with a detailed written statement of reasons.

(L) The department will agree to termination of the trust when one of the following applies:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (10).

(2) SURETY BOND GUARANTEEING PAYMENT INTO A LONG TERM CARE TRUST FUND. (a) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this subsection and submitting the bond to the department. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. department of the treasury.

(b) The wording of the surety bond shall be identical to the wording on the department form specified in s. NR 664.0151(2).

(c) The owner or operator who uses a surety bond to satisfy the requirements of this section shall also establish a standby trust fund. Under the terms of the bond, all payments made shall be deposited by the surety directly into the standby trust fund in accordance with instructions from the department. This standby trust fund must meet the requirements specified in sub. (1) except for all of the following:

1. An originally signed duplicate of the trust agreement must be submitted to the department with the surety bond.

2. Until the standby trust fund is funded pursuant to the requirements of this section, all of the following are not required:

a. Payments into the trust fund as specified in sub. (1).

b. Updating of Schedule A of the trust agreement (see Form 4430-022) to show current closure cost estimates.

c. Annual valuations as required by the trust agreement.

d. Notices of nonpayment as required by the trust agreement.

(d) The bond must guarantee that the owner or operator will do any of the following:

1. Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility.

2. Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the department becomes final, or within 15 days after an order to begin final closure is issued.

3. Provide alternate financial assurance as specified in this section, and obtain the department's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the department of a notice of cancellation of the bond from the surety.

(e) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(f) The penal sum of the bond shall be in an amount at least equal to the current long-term care cost estimate, except as provided in sub. (8).

(g) Whenever the current long-term care cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current long-term care cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current long-term care cost estimate decreases, the penal sum may be reduced to the amount of the current long-term care cost estimate following written approval by the department.

(h) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the department, as evidenced by the return receipts. Not less than 30 days prior to the expiration of the 120-day notice period, the owner shall deliver to the department a replacement bond or other proof of financial responsibility under this section, in the absence of which all storage, treatment or

disposal operations shall immediately cease and the bond shall remain in effect as long as any obligation of the owner remains for long-term care

(i) The owner or operator may cancel the bond if the department has given prior written consent based on the receipt of evidence of alternate financial assurance as specified in this section.

(3) LONG-TERM CARE LETTER OF CREDIT. (a) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable letter of credit which conforms to the requirements of this subsection and submitting the letter to the department. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

(b) The wording of the letter of credit shall be identical to the wording on the department form specified in s. NR 664.0151(4).

(d) The letter of credit shall be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution and date, and providing the following information: The EPA identification number, name and address of the facility, and the amount of funds assured for long-term care of the facility by the letter of credit.

(e) The letter of credit shall be irrevocable and issued for a period of at least one year. The letter of credit shall provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the department by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the department have received the notice, as evidenced by the return receipts.

(f) The letter of credit shall be issued in an amount at least equal to the current long-term care cost estimate, except as provided in sub. (8).

(g) Whenever the current long-term care cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, shall either cause the amount of the credit to be increased so that it at least equals the current long-term care cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current long-term care cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current long-term care cost estimate following written approval by the department.

(h) During the period of long-term care, the department may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the department that the amount exceeds the remaining cost of long-term care.

(i) Following a determination by the department that the owner or operator has failed to perform long-term care in accordance with the approved long-term care plan and other license requirements, the department may draw on the letter of credit.

(j) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of the alternate assurance from the department within 90 days after receipt by both the owner or operator and the department of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the department will draw on the letter of credit. The department may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any extension the department will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of the assurance from the department.

(L) The department will authorize the release of the letter of credit when any of the following apply:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (10).

(4) LONG-TERM CARE INSURANCE. (a) An owner or operator may satisfy the requirements of this section by obtaining long-term care insurance which conforms to the requirements of this subsection and submitting a certificate of the insurance to the department. By June 1, 1984 the owner or operator shall submit to the department a letter from an insurer stating that the insurer is considering issuance of long-term care insurance conforming to the requirements of this subsection to the owner or operator. By August 30, 1984, the owner or operator shall submit the certificate of insurance to the department or establish other financial assurance as specified in this section. At a minimum, the insurer shall be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States. The department, after conferring with the Wisconsin insurance commissioner, shall determine the acceptability of a surplus lines or captive insurance company to provide coverage for proof of financial responsibility. The department shall ask the insurance commissioner to provide a financial analysis of the insurer including a recommendation as to the insurer's ability to provide the required coverage. The department may require a periodic review of the acceptability of a surplus lines or captive insurance company.

(b) The wording of the certificate of insurance shall be identical to the wording on the department form specified in s. NR 664.0151(5).

(c) The long-term care insurance policy shall be issued for a face amount at least equal to the current long-term care cost estimate, except as provided in sub. (8). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(d) The long-term care insurance policy shall guarantee that funds will be available to provide long-term care of the facility whenever the long-term care period begins. The policy shall also guarantee that once long-term care begins the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the department, to the party or parties as the department specifies.

(e) An owner or operator or any other person authorized to perform long-term care may request reimbursement for long-term care expenditures by submitting itemized bills to the department. Within 60 days after receiving bills for long-term care activities, the department will instruct the insurer to make reimbursements in those amounts as the department specifies in writing, if the department determines that the long-term care expenditures are in accordance with the approved long-term care plan or otherwise justified. If the department does not instruct the insurer to make the reimbursements, the department will provide a detailed written statement of reasons.

(f) The owner or operator shall maintain the policy in full force and effect until the department consents to termination of the policy by the owner or operator as specified in par. (k). Failure to pay the premium, without substitution of alternate financial assurance as specified in the section, will constitute a significant violation of this chapter, warranting a remedy as the department deems necessary. The violation will be deemed to begin upon receipt by the department of a notice of future cancellation, termination or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(g) Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. The assignment may be conditional upon consent of the insurer, provided the consent is not unreasonably refused.

(h) The policy shall provide that the insurer may not cancel, terminate or fail to renew the policy unless a replacement insurance policy or other proof of financial responsibility under this section is provided to the department by the owner or operator. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If the insurer elects to cancel, terminate or fail to renew the policy, the insurer shall provide notice by certified mail to the owner or operator and the department not less than 120 days prior to the proposed cancellation date. Cancellation, termination or failure to renew may not occur, however, during the 120 days

beginning with the date of receipt of the notice by both the department and the owner or operator, as evidenced by the return receipts. Cancellation, termination or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration any of the following apply:

1. The department deems the facility abandoned.

2. Interim license is denied, suspended or revoked.

3. Closure is ordered by the department or a U.S. district court or other court of competent jurisdiction.

4. The owner or operator is named as debtor in a voluntary or involuntary bankruptcy proceeding under 11 USC.

5. The premium due is paid.

(i) Whenever the current long-term care cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, shall either cause the face amount to be increased to an amount at least equal to the current long-term care cost estimate and submit evidence of the increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current long-term care cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current long-term care cost estimate following written approval by the department.

(j) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. The increase shall be equivalent to the face amounts of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. treasury for 26-week treasury securities.

(k) The department will give written consent to the owner or operator that the department may terminate the insurance policy when any of the following apply:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (10).

(5) NET WORTH TEST FOR LONG-TERM CARE. (a) An owner or operator of a disposal facility may use the net worth test to provide financial responsibility if all of the following are met:

1. Only a company that meets the definition in s. 289.41 (1) (b), Stats., may use the net worth method of providing proof of financial responsibility.

2. The owner shall comply with the net worth test requirements of s. 289.41(4), (6) and (7), Stats., and the minimum security requirements of s. 289.41(9), Stats., whichever are applicable.

(b) For companies with more than one facility, the total cost of compliance for all facilities shall be used to determine the net worth to closure and long-term care cost ratio.

(6) LONG TERM CARE DEPOSIT WITH THE DEPARTMENT. An owner may deposit cash, certificates of deposit or U.S. government securities with the department. The deposit must be accompanied by a signed duplicate original of Form 4430-028 as specified in s. NR 664.0151(14). The amount of the deposit shall be determined according to s. NR 665.0144 and shall be submitted as part of an interim license application. Cash deposits placed with the department shall be segregated and invested in an interest bearing account. All interest payments shall be accumulated in the account. The department shall have the right to use part or all of the funds to carry out the long-term care requirements of the written long-term care plan or the applicable requirements in s. NR 665.0118 if the owner fails to do so.

(7) ESCROW ACCOUNT. (a) An owner or operator may satisfy the requirements of this section by establishing a long-term care escrow account which conforms to the requirements of this subsection and submitting an originally signed duplicate of the escrow agreement to the department. An owner or operator of a new facility shall submit the originally signed duplicate of the escrow agreement to the department at least 60 days before the date on which hazardous waste is first received for disposal. The

escrow agent shall be an entity which has the authority to act as an escrow agent and the escrow account shall be established with a bank or financial institution which is regulated and examined by a federal or state agency.

(b) The wording of the escrow agreement shall be identical to the wording on the department form specified in s. NR 664.0151(6)(a), and the escrow agreement shall be accompanied by a formal certification of acknowledgment as specified in s. NR 664.0151(6)(b). Schedule A of the escrow agreement shall be updated within 60 days after a change in the amount of the current long-term care cost estimate covered by the agreement.

(c) Payments into the escrow account shall be made annually by the owner or operator over the term of the interim license and over the remaining operating life of the facility as estimated in the closure plan. For the purposes of this section, this period is referred to as the ”pay-in period.” The payments into the long-term care escrow account shall be made as follows:

1. For a new facility, the first payment shall be made before the initial receipt of hazardous waste for disposal. A receipt from the escrow agent for this payment shall be submitted by the owner or operator to the department before this initial receipt of hazardous waste. The first payment shall be at least equal to the current long-term care cost estimate, except as provided in sub. (8), divided by the number of years in the pay-in period. Subsequent payments shall be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current long-term care cost estimate, CV is the current value of the escrow account and Y is the number of years remaining in the pay-in period.

2. If an owner or operator establishes a escrow account as specified in this subsection, and the value of that escrow account is less than the current long-term care cost estimate when an interim license is awarded for the facility, the amount of the current long-term care cost estimate still to be paid into the account shall be paid in over the pay-in period as defined in the introduction to this paragraph. Payments shall continue to be made no later than 30 days after each anniversary date of the first payment. The amount of each payment shall be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current long-term care cost estimate, CV is the current value of the escrow account and Y is the number of years remaining in the pay-in period.

(d) The owner or operator may accelerate payments into the escrow account or may deposit the full amount of the current long-term care cost estimate at the time the account is established. However, the owner or operator shall maintain the value of the account at no less than the value that the account would have if annual payments were made as specified in par. (c).

(e) If the owner or operator establishes a long-term care escrow account after having used one or more alternate mechanisms specified in this section, the first payment shall be in at least the amount that the account would contain if the escrow account were established initially and annual payments made as specified in par. (c)

(f) After the pay-in period is completed, whenever the current long-term care cost estimate changes during the operating life of the facility, the owner or operator shall compare the new estimate with the escrow agent’s most recent annual valuation of the escrow account. If the value of the account is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the account so that its value after this deposit at least equals the amount of the current long-term care cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(g) During the operating life of the facility, if the value of the escrow account is greater than the total amount of the current long-term care cost estimate, the owner or operator may submit a written request to the department for release of the amount in excess of the current long-term care cost estimate.

(h) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the escrow account, the owner or operator may submit a written request to the department for release of the amount in excess of the current long-term care cost estimate covered by the escrow account.

(i) Within 60 days after receiving a request from the owner or operator for release of funds as specified in par. (g) or (h), the department will instruct the escrow agent to release to the owner or operator funds as the department specifies in writing.

(j) During the period of long-term care, the department may approve a release of funds if the owner or operator demonstrates to the department that the value of the escrow account exceeds the remaining cost of long-term care.

(k) An owner or operator or any other person authorized to conduct long-term care may request reimbursements for long-term care expenditures by submitting itemized bills to the department. Within 60 days after receiving bills for long-term care activities, the department will instruct the escrow agent to make reimbursements in those amounts as the department specifies in writing, if the department determines that the long-term care expenditures are in accordance with the approved long-term care plan or otherwise justified. If the department does not instruct the escrow agent to make the reimbursements, the department will provide the owner or operator with a detailed written statement of reasons.

(L) The department will agree to termination of the escrow account when one of the following applies:

1. An owner or operator substitutes alternate financial assurance as specified in this section.

2. The department releases the owner or operator from the requirements of this section in accordance with sub. (10).

(8) USE OF MULTIPLE FINANICAL MECHANISMS. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment, deposits with the department, escrow accounts, letters of credit and insurance. The mechanisms shall be as specified in subs. (1) to (4), (6) and (7) except that it is the combination of mechanisms, rather than the single mechanism, which shall provide financial assurance for an amount at least equal to the current long-term care cost estimate. The department may use any or all of the mechanisms to provide for long-term care of the facility.

(9) USE OF A FINANCIAL MECHANISM FOR MULTIPLE FACILITIES. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the department shall include a list showing, for each facility, the EPA identification number, name, address and the amount of funds for long-term care assured by the mechanism. If the facilities covered by the mechanism are in more than one state, identical evidence of financial assurance shall be submitted to and maintained with the state agency regulating hazardous waste or with the appropriate EPA regional administrator if the facilities are located in unauthorized states. The amount of funds available through the mechanism shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for long-term care of any of the facilities covered by the mechanism, the department may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(10) RELEASE OF THE OWNER OR OPERATOR FROM THE REQUIREMENTS OF THIS SECTION. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that the long-term care period has been completed in accordance with the approved long-term care plan, the department will notify the owner or operator in writing that the owner or operator is no longer required by this section to maintain financial assurance for long-term care of that unit, unless the

department has reason to believe that long-term care has not been in accordance with the approved long-term care plan. The department will provide the owner or operator a detailed written statement of any reason to believe that long-term care has not been in accordance with the approved long-term care plan.

Note: The department may consider other financial commitments as allowed by s. 289.41(3)(a)5., Stats.

NR 665.0146 Use of a mechanism for financial assurance of both closure and long-term care. An owner or operator may satisfy the requirements for financial assurance for both closure and long-term care for one or more facilities by using a trust fund, surety payment bond, deposit with the department, escrow account, letter of credit, insurance or net worth test that meets the specifications for the mechanism in both ss. NR 665.0143 and 665.0145. The amount of funds available through the mechanism shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of long-term care.

NR 665.0147 Liability requirements. (1) COVERAGE FOR SUDDEN ACCIDENTAL OCCURRENCES. An owner or operator of a hazardous waste treatment, storage or disposal facility, or a group of facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain liability coverage for sudden accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in par. (a), (b), (c), (d), (e) or (f):

(a) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this subsection.

1. Each insurance policy shall be amended by attachment of the hazardous waste facility liability endorsement, or evidenced by a certificate of liability insurance. The wording of the endorsement shall be identical to the wording specified in s. NR 664.0151(9). The wording of the certificate of insurance shall be identical to the wording specified in s. NR 664.0151(10). The owner or operator shall submit a signed duplicate original of the endorsement or the certificate of insurance to the department. If the facilities are located in more than one state, identical evidence of financial assurance shall be submitted to and maintained with the state agency regulating hazardous waste or with the appropriate EPA regional administrator if the facilities are located in unauthorized states. If requested by a regional administrator or the department, the owner or operator shall provide a signed duplicate original of the insurance policy.

2. Each insurance policy shall be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

3. The department, after conferring with the Wisconsin insurance commissioner, shall determine the acceptability of a surplus lines or captive insurance company to provide coverage for proof of financial responsibility. The department shall ask the insurance commissioner to provide a financial analysis of the insurer including a recommendation as to the insurer's ability to provide the required coverage. The department may require a periodic review of the acceptability of a surplus lines or captive insurance company.

(b) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in subs. (6) and (7).

(c) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in sub. (8).

(d) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in sub. (9).

(e) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in sub. (10).

(f) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated shall total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this subsection, the owner or operator shall specify at least one assurance as ”primary” coverage and shall specify other assurance as ”excess” coverage.

(g) An owner or operator shall notify the department in writing within 30 days whenever any of the following occur:

1. A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in pars. (a) to (f).

2. A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under pars. (a) to (f).

3. A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under pars. (a) to (f).

(2) COVERAGE FOR NONSUDDEN ACCIDENTAL OCCURRENCES. An owner or operator of a surface impoundment or landfill which is used to manage hazardous waste, or a group of facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs. An owner or operator who shall meet the requirements of this section may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences shall maintain liability coverage in the amount of at least $4 million per occurrence and $8 million annual aggregate. This liability coverage may be demonstrated as specified in par. (a), (b), (c), (d), (e) or (f):

(a) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this subsection.

1. Each insurance policy shall be amended by attachment of the hazardous waste facility liability endorsement or evidenced by a certificate of liability insurance. The wording of the endorsement shall be identical to the wording specified in s. NR 664.0151(9). The wording of the certificate of insurance shall be identical to the wording specified in s. NR 664.0151(10). The owner or operator shall submit a signed duplicate original of the endorsement or the certificate of insurance to the department. If the facilities are located in more than one state, identical evidence of financial assurance shall be submitted to and maintained with the state agency regulating hazardous waste or with the appropriate EPA regional administrator if the facilities are located in an unauthorized state. If requested by the department, the owner or operator shall provide a signed duplicate original of the insurance policy.

2. Each insurance policy shall be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

3. The department, after conferring with the Wisconsin insurance commissioner, shall determine the acceptability of a surplus lines or captive insurance company to provide coverage for proof of financial responsibility. The department shall ask the insurance commissioner to provide a financial analysis of the insurer including a recommendation as to the insurer's ability to provide the required coverage. The department may require a periodic review of the acceptability of a surplus lines or captive insurance company.

(b) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in subs. (6) and (7).

(c) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in sub. (8).

(d) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in sub. (9).

(e) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in sub. (10).

(f) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated shall total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this subsection, the owner or operator shall specify at least one assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(g) An owner or operator shall notify the department in writing within 30 days whenever any of the following occur:

1. A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in pars. (a) to (f).

2. A certification of valid claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under pars. (a) to (f).

3. A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under pars. (a) to (f).

(3) REQUEST FOR VARIANCE. If an owner or operator can demonstrate to the satisfaction of the department that the levels of financial responsibility required by sub. (1) or (2) are not consistent with the degree and duration of risk associated with treatment, storage or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the department. The request for a variance shall be submitted in writing to the department. If granted, the variance will take the form of an adjusted level of required liability coverage, the level to be based on the department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The department may require an owner or operator who requests a variance to provide the technical and engineering information as is deemed necessary by the department to determine a level of financial responsibility other than that required by sub. (1) or (2). The department will process a variance request as if it were a license modification request under s. NR 670.041(1)(e) and subject to the procedures of s. NR 670.405. Notwithstanding any other provision, the department may hold a public hearing at the department's discretion or whenever the department finds, on the basis of requests for a public hearing, a significant degree of public interest in a tentative decision to grant a variance.

(4) ADJUSTMENTS BY THE DEPARTMENT. If the department determines that the levels of financial responsibility required by sub. (1) or (2) are not consistent with the degree and duration of risk associated with treatment, storage or disposal at the facility or group of facilities, the department may adjust the level of financial responsibility required under sub. (1) or (2) as may be necessary to protect human health and the environment. This adjusted level will be based on the department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the department determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, or landfill, the department may require that an owner or operator of the facility comply with sub. (2). An owner or operator shall furnish to the department, within a reasonable time, any information which the department requests to determine whether cause exists for adjustments of level or type of coverage. The department will process an adjustment of the level of required coverage as if it were a license modification under s. NR 670.041(1)(e) and subject to the procedures of s. NR 670.405. Notwithstanding any other provision, the department may hold a public hearing at the department's discretion or whenever the department finds, on the basis of requests for a public hearing, a significant degree of public interest in a tentative decision to adjust the level or type of required coverage.

(5) PERIOD OF COVERAGE. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the department will notify the owner or operator in writing that the owner or operator is no longer required to maintain liability coverage for that facility, unless the department has reason to believe that closure has not been in accordance with the approved closure plan.

(6) FINANCIAL TEST FOR LIABILITY COVERAGE. (a) An owner or operator may satisfy the requirements of this section by demonstrating that the owner or operator passes a financial test as specified in this subsection. To pass this test the owner or operator shall meet the criteria of subd. 1. or 2.:

1. The owner or operator shall have all of the following:

a. Net working capital and tangible net worth each at least 6 times the amount of liability coverage to be demonstrated by this test.

b. Tangible net worth of at least $10 million.

c. Assets in the United States amounting to either: 1) At least 90 percent of the owner or operator's total assets. 2) At least 6 times the amount of liability coverage to be demonstrated by this test.

2. The owner or operator shall have all of the following:

a. A current rating for the owner or operator's most recent bond issuance of AAA, AA, A or BBB as issued by Standard and Poor's, or Aaa, Aa, A or Baa as issued by Moody's.

b. Tangible net worth of at least $10 million.

c. Tangible net worth at least 6 times the amount of liability coverage to be demonstrated by this test.

d. Assets in the United States amounting to either: 1) At least 90 percent of the owner or operator's total assets. 2) At least 6 times the amount of liability coverage to be demonstrated by this test.

(b) The phrase "amount of liability coverage" as used in par. (a) refers to the annual aggregate amounts for which coverage is required under subs. (1) and (2).

(c) To demonstrate that the owner or operator meets this test, the owner or operator shall submit the following 3 items to the department:

1. A letter signed by the owner's or operator's chief financial officer and worded as specified in s. NR 664.0151(7).

2. A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

3. A special report from the owner's or operator's independent certified public accountant to the owner or operator stating all of the following:

a. The independent certified public accountant has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in the financial statements.

b. In connection with that procedure, no matters came to the attention of the independent certified public accountant which would provide cause to believe that the specified data should be adjusted.

(e) After the initial submission of items specified in par. (c), the owner or operator shall send updated information to the department within 90 days after the close of each succeeding fiscal year. This information shall consist of all 3 items specified in par. (c).

(f) If the owner or operator no longer meets the requirements of par. (a), the owner or operator shall obtain insurance, a letter of credit, a surety bond, a trust fund or a guarantee for the entire amount of required liability coverage as specified in this section. Evidence of liability coverage shall be submitted to the department within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(g) The department may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in the accountant's report on examination of the owner's or operator's financial statements (see par. (c)2.). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The department will evaluate other qualifications on an individual basis. The owner or operator shall provide evidence of insurance for the entire amount of required liability coverage as specified in this section within 30 days after notification of disallowance.

(7) GUARANTEE FOR LIABILITY COVERAGE. (a) Subject to par. (b), an owner or operator may meet the requirements of this section by obtaining a written guarantee, referred to as "guarantee." The guarantor shall be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a substantial business relationship with the owner or operator. The guarantor shall meet the requirements for owners or operators in subs. (6)(a) to (f). The wording of the guarantee shall be identical to the wording specified in s. NR 664.0151(8). A certified copy of the guarantee shall accompany the items sent to the department as specified in sub. (6)(c). One of these items shall be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter shall describe the value received in consideration of the guarantee. If the guarantor is a firm with a substantial business relationship with the owner or operator, this letter shall describe this substantial business relationship and the value received in consideration of the guarantee. The guarantee shall remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the department. This guarantee may not be terminated unless and until the department approves alternate liability coverage complying with this section. If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from the injury or damage, the guarantor will do so up to the limits of coverage.

(b)1. In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this section only if the attorneys general or insurance commissioners of the following states have submitted a written statement to the department that a guarantee executed as described in this section and s. NR 664.0151(8), 40 CFR 264.151(h)(2) or other state requirements that are equivalent to 40 CFR 264.151(h)(2) is a legally valid and enforceable obligation in that state:

a. The state in which the guarantor is incorporated.

b. Each state in which a facility covered by the guarantee is located.

2. In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this section only if all of the following conditions are met:

a. The non-U.S. corporation has identified a registered agent for service of process in each state in which a facility covered by the guarantee is located and in the state in which it has its principal place of business.

b. The attorney general or insurance commissioner of each state in which a facility covered by the guarantee is located and the state in which the guarantor corporation has its principal place of business, has submitted a written statement to the department that a guarantee executed as described in this section and s. NR 664.0151(8), 40 CFR 264.151(h)(2) or other state requirements that are equivalent to 40 CFR 264.151(h)(2) is a legally valid and enforceable obligation in that state.

(8) LETTER OF CREDIT FOR LIABILITY COVERAGE. (a) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable letter of credit that conforms to the requirements of this subsection and submitting a copy of the letter of credit to the department.

(b) The financial institution issuing the letter of credit shall be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

(c) The wording of the letter of credit shall be identical to the wording specified in s. NR 664.0151(11).

(9) SURETY BOND FOR LIABILITY COVERAGE. (a) An owner or operator may satisfy the requirements of this section by obtaining a surety bond that conforms to the requirements of this subsection and submitting a copy of the bond to the department.

(b) The surety company issuing the bond shall be among those listed as acceptable sureties on federal bonds in the most recent circular 570 of the U.S. department of the treasury.

(c) The wording of the surety bond shall be identical to the wording specified in s. NR 664.0151(12).

(d) A surety bond may be used to satisfy the requirements of this section only if the attorneys general or insurance commissioners of the following states have submitted a written statement to the department that a surety bond executed as described in this section and s. NR 664.0151(12), 40 CFR 264.151(l) or other state requirements that are equivalent to 40 CFR 264.151(l) is a legally valid and enforceable obligation in that state:

1. The state in which the surety is incorporated.

2. Each state in which a facility covered by the surety bond is located.

(10) TRUST FUND FOR LIABILITY COVERAGE. (a) An owner or operator may satisfy the requirements of this section by establishing a trust fund that conforms to the requirements of this subsection and submitting an originally signed duplicate of the trust agreement to the department.

(b) The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(c) The trust fund for liability coverage shall be funded for the full amount of the liability coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the fund, shall either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this section to cover the difference. For purposes of this subsection, ”the full amount of the liability coverage to be provided” means the amount of coverage for sudden or nonsudden occurrences, or both, required to be provided by the owner or operator by this section, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator.

(d) The wording of the trust fund shall be identical to the wording specified in s. NR 664.0151(13).

NR 665.0148 Incapacity of owners or operators, guarantors or financial institutions. (1) An owner or operator shall notify the department by certified mail of the commencement of a voluntary or involuntary

bankruptcy proceeding under 11 USC, naming the owner or operator as debtor, within 10 days after commencement of the proceeding.

(2) An owner or operator who fulfills the requirements of s. NR 665.0143, 665.0145 or 665.0147 by obtaining a trust fund, surety bond, letter of credit or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit or insurance policy to issue the instruments. The owner or operator shall establish other financial assurance or liability coverage within 60 days after such an event.

Subchapter I —Containers

NR 665.0170 Applicability. This subchapter applies to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as s. NR 665.0001 provides otherwise.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1 **NR 665.0171 Condition of containers.** If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator shall transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of this chapter.

NR 665.0172 Compatibility of waste with container. The owner or operator shall use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1 **NR 665.0173 Management of containers. (1)** A container holding hazardous waste shall always be closed during storage, except when it is necessary to add or remove waste.

(2) A container holding hazardous waste may not be opened, handled or stored in a manner which may rupture the container or cause it to leak.

Note: Re-use of containers in transportation is governed by U.S. department of transportation regulations, including those set forth in 49 CFR 173.28.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1 **NR 665.0174 Inspections.** The owner or operator shall inspect areas where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors.

Note: See s. NR 665.0171 for remedial action required if deterioration or leaks are detected.http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1 http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1

NR 665.0176 Special requirements for ignitable or reactive waste. Containers holding ignitable or reactive waste shall be located at least 15 meters (50 feet) from the facility's property line.

Note: See s. NR 665.0017(1) for additional requirements.

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NR 665.0177 Special requirements for incompatible wastes. (1) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) may not be placed in the same container, unless s. NR 665.0017(2) is complied with.

(2) Hazardous waste may not be placed in an unwashed container that previously held an incompatible waste or material (see Appendix V for examples), unless s. NR 665.0017(2) is complied with.

(3) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks or surface impoundments shall be separated from the other materials or protected from them by means of a dike, berm, wall or other device.

Note: The purpose of this section is to prevent fires, explosions, gaseous emissions, leaching or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1

NR 665.0178 Air emission standards. The owner or operator shall manage all hazardous waste placed in a container in accordance with the applicable requirements of subchs. AA, BB and CC.

Subchapter J —Tank Systems

NR 665.0190 Applicability. The requirements of this subchapter apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in subs. (1) to (3) or in s. NR 665.0001.

(1) Tank systems that are used to store or treat hazardous waste which contains no free liquids and that are situated inside a building with an impermeable floor are exempted from the requirements in s. NR 665.0193. To demonstrate the absence or presence of free liquids in the stored or treated waste, method 9095 (paint filter liquids test) as described in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11shall be used.

(2) Tank systems, including sumps, as defined in s. NR 660.10, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in s. NR 665.0193(1).

(3) Tanks, sumps and other collection devices used in conjunction with drip pads, as defined in s. NR 660.10 and regulated under subch. W, shall meet the requirements of this subchapter.

NR 665.0191 Assessment of existing tank system’s integrity. (1) For each existing tank system that does not have secondary containment meeting the requirements of s. NR 665.0193, the owner or operator shall determine that the tank system is not leaking or is unfit for use. Except as provided in sub. (3), the owner or operator shall obtain and keep on file at the facility a written assessment reviewed and certified by an independent, qualified, registered professional engineer in accordance with s. NR 670.011(4), that attests to the tank system’s integrity by March 1, 1992.

(2) This assessment shall determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the wastes to be stored or treated to ensure that it will not collapse, rupture or fail. At a minimum, this assessment shall consider all of the following:

(a) Design standards, if available, according to which the tank and ancillary equipment were constructed.

(b) Hazardous characteristics of the wastes that have been or will be handled.

(c) Existing corrosion protection measures.

(d) Documented age of the tank system, if available, (otherwise, an estimate of the age).

(e) Results of a leak test, internal inspection or other tank integrity examination such that:

1. For non-enterable underground tanks, this assessment shall consist of a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets and high water table effects.

2. For other than non-enterable underground tanks and for ancillary equipment, this assessment shall be either a leak test, as described in subd. 1., or an internal inspection or other tank integrity examination certified by an independent, qualified, registered professional engineer in accordance with s. NR 670.011(4) that addresses cracks, leaks, corrosion and erosion.

Note: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, ”Atmospheric and Low-Pressure Storage Tanks”, 4th edition, 1981, may be used, where applicable, as guidelines in conducting the integrity examination of an other than non-enterable underground tank system.

(3) Tank systems that store or treat materials that become hazardous wastes subsequent to March 1, 1991 shall conduct this assessment within 12 months after the date that the waste becomes a hazardous waste.

(4) If, as a result of the assessment conducted in accordance with sub. (1), a tank system is found to be leaking or unfit for use, the owner or operator shall comply with the requirements of s. NR 665.0196.

NR 665.0192 Design and installation of new tank systems or components. (1) Owners or operators of new tank systems or components shall ensure that the foundation, structural support, seams, connections and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the wastes to be stored or treated and corrosion protection so that it will not collapse, rupture or fail. The owner or operator shall obtain a written assessment reviewed and certified by an independent, qualified, registered professional engineer in accordance with s. NR 670.011(4) attesting that the system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. This assessment shall include, at a minimum, all of the following information:

(a) Design standards according to which the tanks and ancillary equipment are or will be constructed.

(b) Hazardous characteristics of the wastes to be handled.

(c) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system is or will be in contact with the soil or with water, a determination by a corrosion expert of all of the following:

1. Factors affecting the potential for corrosion, including but not limited to, all of the following:

a. Soil moisture content.

b. Soil pH.

c. Soil sulfides level.

d. Soil resistivity.

e. Structure to soil potential.

f. Influence of nearby underground metal structures (e.g., piping).

g. Stray electric current.

h. Existing corrosion-protection measures (e.g., coating, cathodic protection).

2. The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:

a. Corrosion-resistant materials of construction such as special alloys or fiberglass-reinforced plastic.

b. Corrosion-resistant coating (such as epoxy or fiberglass) with cathodic protection (e.g., impressed current or sacrificial anodes).

c. Electrical isolation devices such as insulating joints and flanges.

Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, ”Recommended Practice (RP-02-85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems”, and the American Petroleum Institute (API) Publication 1632, ”Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems”, may be used, where applicable, as guidelines in providing corrosion protection for tank systems.

(d) For underground tank system components that are likely to be affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage.

(e) Design considerations to ensure all of the following:

1. Tank foundations will maintain the load of a full tank.

2. Tank systems will be anchored to prevent flotation or dislodgement where the tank system is placed in a saturated zone.

3. Tank systems will withstand the effects of frost heave.

(2) The owner or operator of a new tank system shall ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing or placing a new tank system or component in use, an independent, qualified installation inspector or an independent, qualified, registered professional engineer, either of whom is trained and experienced in the proper installation of tank systems, shall inspect the system or component for the presence of any of the following items:

(a) Weld breaks.

(b) Punctures.

(c) Scrapes of protective coatings.

(d) Cracks.

(e) Corrosion.

(f) Other structural damage or inadequate construction or installation.

All discrepancies shall be remedied before the tank system is covered, enclosed or placed in use.

(3) New tank systems or components and piping that are placed underground and that are backfilled shall be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is carefully installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

(4) All new tanks and ancillary equipment shall be tested for tightness prior to being covered, enclosed or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leaks in the system shall be performed prior to the tank system being covered, enclosed or placed in use.

(5) Ancillary equipment shall be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion or contraction.

Note: The piping system installation procedures described in American Petroleum Institute (API) Publication 1615 (November 1979), ”Installation of Underground Petroleum Storage Systems”, or ANSI Standard B31.3, ”Petroleum Refinery System”, may be used, where applicable, as guidelines for proper installation of piping systems.

(6) The owner or operator shall provide the type and degree of corrosion protection necessary, based on the information provided under sub. (1)(c), to ensure the integrity of the tank system during use of the tank system. An independent corrosion expert shall supervise the installation of a corrosion protection system that is field fabricated, to ensure proper installation.

(7) The owner or operator shall obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of subs. (2) to (6) to attest that the tank system was properly

designed and installed and that repairs, pursuant to subs. (2) and (4) were performed. These written statements shall also include the certification statement as required in s. NR 670.011(4).

NR 665.0193 Containment and detection of releases. (1) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section shall be provided (except as provided in subs. (6) and (7)):

(a) For all new tank systems or components, prior to their being put into service.

(b) For all existing tanks used to store or treat EPA hazardous waste numbers F020, F021, F022, F023, F026 and F027, within 2 years after March 1, 1991.

(c) For those existing tank systems of known and documentable age, within 2 years after March 1, 1991, or when the tank systems have reached 15 years of age, whichever comes later.

(d) For those existing tank systems for which the age cannot be documented, within 8 years of March 1, 1991; but if the age of the facility is greater than 7 years, secondary containment shall be provided by the time the facility reaches 15 years of age, or within 2 years of March 1, 1991, whichever comes later.

(e) For tank systems that store or treat materials that become hazardous wastes subsequent to March 1, 1991, within the time intervals required in pars. (a) to (d), except that the date that a material becomes a hazardous waste shall be used in place of March 1, 1991.

(2) Secondary containment systems shall be all of the following:

(a) Designed, installed and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, groundwater or surface water at any time during the use of the tank system.

(b) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(3) To meet the requirements of sub. (2), secondary containment systems shall be at a minimum all of the following:

(a) Constructed of or lined with materials that are compatible with the wastes to be placed in the tank system and shall have sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which they are exposed, climatic conditions, the stress of installation and the stress of daily operation (including stresses from nearby vehicular traffic).

(b) Placed on a foundation or base capable of providing support to the secondary containment system and resistance to pressure gradients above and below the system and capable of preventing failure due to settlement, compression or uplift.

(c) Provided with a leak detection system that is designed and operated so that it will detect the failure of either the primary and secondary containment structure or any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the existing detection technology or site conditions will not allow detection of a release within 24 hours.

(d) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills or precipitation. Spilled or leaked waste and accumulated precipitation shall be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health or the environment, if removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

Note: If the collected material is a hazardous waste under ch. NR 661, it is subject to management as a hazardous waste according to all applicable requirements of chs. NR 662 to 664 and this chapter. If the collected material is discharged through a point source to waters of the state, it is subject to ss. 283.31 and 283.33, Stats. If discharged to a publicly owned treatment works (POTW), it is subject to s. 283.21(2), Stats. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR part 302 and the requirements of s. 292.11, Stats., and chs. NR 706 to 726.

(4) Secondary containment for tanks shall include one or more of the following devices:

(a) A liner (external to the tank).

(b) A vault.

(c) A double-walled tank.

(d) An equivalent device as approved by the department.

(5) In addition to the requirements of subs. (2) to (4), secondary containment systems shall satisfy the following requirements:

(a) External liner systems shall be all of the following:

1. Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary.

2. Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. The additional capacity shall be sufficient to contain precipitation from a 25-year, 24-hour rainfall event.

3. Free of cracks or gaps.

4. Designed and installed to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if released from the tank (i.e., capable of preventing lateral as well as vertical migration of the waste).

(b) Vault systems shall be all of the following:

1. Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary.

2. Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. The additional capacity shall be sufficient to contain precipitation from a 25-year, 24-hour rainfall event.

3. Constructed with chemical-resistant water stops in place at all joints (if any).

4. Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete.

5. Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated meets any of the following:

a. The definition of ignitable waste under s. NR 661.21.

b. The definition of reactive waste under s. NR 661.23 and may form an ignitable or explosive vapor.

6. Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(c) Double-walled tanks shall be all of the following:

1. Designed as an integral structure (i.e., an inner tank within an outer shell) so that the outer shell contains any release from the inner tank.

2. Protected, if constructed of metal, from both corrosion of the primary tank interior and the external surface of the outer shell.

3. Provided with a built-in, continuous leak detection system capable of detecting a release within 24 hours or at the earliest practicable time, if the owner or operator can demonstrate to the department, and the department concurs, that the existing leak detection technology or site conditions will not allow detection of a release within 24 hours.

Note: The provisions outlined in the Steel Tank Institute's (STI) "Standard for Dual Wall Underground Steel Storage Tank" may be used as guidelines for aspects of the design of underground steel double-walled tanks.

(6) Ancillary equipment shall be provided with full secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of subs. (2) and (3) except for all of the following:

(a) Aboveground piping (exclusive of flanges, joints, valves and connections) that is visually inspected for leaks on a daily basis.

(b) Welded flanges, welded joints and welded connections that are visually inspected for leaks on a daily basis.

(c) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis.

(d) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

(7) The owner or operator may obtain a variance from the requirements of this section if the department finds, as a result of a demonstration by the owner or operator that alternative design and operating practices, together with location characteristics, will prevent the migration of hazardous waste or hazardous constituents into the groundwater or surface water at least as effectively as secondary containment during the active life of the tank system; or, that in the event of a release that does migrate to groundwater or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with par. (b), be exempted from the secondary containment requirements of this section. Application for a variance as allowed in this subsection does not waive compliance with the requirements of this subchapter for new tank systems.

(a) In deciding whether to grant a variance based on a demonstration of equivalent protection of groundwater and surface water, the department will consider all of the following:

1. The nature and quantity of the waste.

2. The proposed alternate design and operation.

3. The hydrogeologic setting of the facility, including the thickness of soils between the tank system and groundwater.

4. All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to groundwater or surface water.

(b) In deciding whether to grant a variance, based on a demonstration of no substantial present or potential hazard, the department will consider all of the following:

1. The potential adverse effects on groundwater, surface water and land quality taking into account all of the following:

a. The physical and chemical characteristics of the waste in the tank system, including its potential for migration.

b. The hydrogeological characteristics of the facility and surrounding land.

c. The potential for health risks caused by human exposure to waste constituents.

d. The potential for damage to wildlife, crops, vegetation and physical structures caused by exposure to waste constituents.

e. The persistence and permanence of the potential adverse effects.

2. The potential adverse effects of a release on groundwater quality, taking into account all of the following:

a. The quantity and quality of groundwater and the direction of groundwater flow.

b. The proximity and withdrawal rates of groundwater in the area.

c. The current and future uses of groundwater in the area.

d. The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality.

3. The potential adverse effects of a release on surface water quality, taking into account all of the following:

a. The quantity and quality of groundwater and the direction of groundwater flow.

b. The patterns of rainfall in the region.

c. The proximity of the tank system to surface waters.

d. The current and future uses of surface waters in the area and any water quality standards established for those surface waters.

e. The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality.

4. The potential adverse effects of a release on the land surrounding the tank system, taking into account all of the following:

a. The patterns of rainfall in the region.

b. The current and future uses of the surrounding land.

(c) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of par. (a), at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), shall do all of the following:

1. Comply with the requirements of s. NR 665.0196, except sub. (4).

2. Decontaminate or remove contaminated soil to the extent necessary to do all of the following:

a. Enable the tank system, for which the variance was granted, to resume operation with the capability for the detection of and response to releases at least equivalent to the capability it had prior to the release.

b. Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water.

3. If contaminated soil cannot be removed or decontaminated in accordance with subd. 2., comply with the requirements of s. NR 665.0197(2).

(d) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of par. (a), at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), shall do all of the following:

1. Comply with the requirements of s. NR 665.0196(1) to (4).

2. Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed, or if groundwater has been contaminated, the owner or operator shall comply with the requirements of s. NR 665.0197(2).

3. If repairing, replacing or reinstalling the tank system, provide secondary containment in accordance with the requirements of subs. (1) to (6) or reapply for a variance from secondary containment and meet the requirements for new tank systems in s. NR 665.0192 if the tank system is replaced. The owner or operator shall comply with these requirements even if contaminated soil can be decontaminated or removed, and groundwater or surface water has not been contaminated.

(8) All of the following procedures shall be followed in order to request a variance from secondary containment:

(a) The department shall be notified in writing by the owner or operator that the owner or operator intends to conduct and submit a demonstration for a variance from secondary containment as allowed in sub. (7) according to the following schedule:

1. For existing tank systems, at least 24 months prior to the date that secondary containment must be provided in accordance with sub. (1).

2. For new tank systems, at least 30 days prior to entering into a contract for installation of the tank system.

(b) As part of the notification, the owner or operator shall also submit to the department a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration shall address each of the factors listed in sub. (7)(a) or (b).

(c) The demonstration for a variance shall be completed and submitted to the department within 180 days after notifying the department of intent to conduct the demonstration.

(d) The department will inform the public, through a newspaper notice, of the availability of the demonstration for a variance. The notice shall be placed in a daily or weekly major local newspaper of general circulation and shall provide at least 30 days from the date of the notice for the public to review and comment on the demonstration for a variance. The department also will hold a public hearing, in response to a request or at its own discretion, whenever such a hearing might clarify one or more issues concerning the demonstration for a variance. Public notice of the hearing will be given at least 30 days prior to the date of the hearing and may be given at the same time as notice of the opportunity for the public to review and comment on the demonstration. These 2 notices may be combined.

(e) The department will approve or disapprove the request for a variance within 90 days of receipt of the demonstration from the owner or operator and will notify in writing the owner or operator and each person who submitted written comments or requested notice of the variance decision. If the demonstration for a variance is incomplete or does not include sufficient information, the 90-day time period will begin when the department receives a complete demonstration, including all information necessary to make a final determination. If the public comment period in par. (d) is extended, the 90-day time period will be similarly extended.

(9) All tank systems, until the time that secondary containment meeting the requirements of this section is provided, shall comply with the following:

(a) For non-enterable underground tanks, a leak test that meets the requirements of s. NR 665.0191(2)(e) shall be conducted at least annually.

(b) For other than non-enterable underground tanks and for all ancillary equipment, an annual leak test, as described in par. (a), or an internal inspection or other tank integrity examination by an independent, qualified, registered professional engineer that addresses cracks, leaks, corrosion and erosion shall be conducted at least annually. The owner or operator shall remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed.

Note: The practices described in the American Petroleum Institute (API) Publication Guide for Inspection of Refining Equipment, Chapter XIII, ”Atmospheric and Low Pressure Storage Tanks”, 4th edition, 1981, may be used, when applicable, as guidelines for assessing the overall condition of the tank system.

(c) The owner or operator shall maintain on file at the facility a record of the results of the assessments conducted in accordance with pars. (a) and (b).

(d) If a tank system or component is found to be leaking or unfit-for-use as a result of the leak test or assessment in pars. (a) and (b), the owner or operator shall comply with the requirements of s. NR 665.0196.

NR 665.0194 General operating requirements. (1) Hazardous wastes or treatment reagents may not be placed in a tank system if they could cause the tank, its ancillary equipment or the secondary containment system to rupture, leak, corrode or otherwise fail.

(2) The owner or operator shall use appropriate controls and practices to prevent spills and overflows from tank or secondary containment systems. These include at a minimum all of the following:

(a) Spill prevention controls (e.g., check valves, dry discount couplings).

(b) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff or bypass to a standby tank).

(c) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(3) The owner or operator shall comply with the requirements of s. NR 665.0196 if a leak or spill occurs in the tank system.

NR 665.0195 Inspections. (1) The owner or operator shall inspect, where present, at least once each operating day all of the following:

(a) Overfill or spill control equipment (e.g., waste-feed cutoff systems, bypass systems and drainage systems) to ensure that it is in good working order.

(b) The aboveground portions of the tank system, if any, to detect corrosion or releases of waste.

(c) Data gathered from monitoring equipment and leak-detection equipment, (e.g., pressure and temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design.

(d) The construction materials and the area immediately surrounding the externally accessible portion of the tank system including secondary containment structures (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).

Note: Section NR 665.0015(3) requires the owner or operator to remedy any deterioration or malfunction found. Section NR 665.0196 requires the owner or operator to notify the department within 24 hours of confirming a release. Also, if a hazardous substance is released to the environment, 40 CFR part 302 may require the owner or operator to notify the national response center and s. 292.11, Stats, and ch. NR 706 may require the owner or operator to notify the department..

(2) The owner or operator shall inspect cathodic protection systems, if present, according to, at a minimum, all of the following requirements to ensure that they are functioning properly:

(a) The proper operation of the cathodic protection system shall be confirmed within 6 months after initial installation, and annually thereafter.

(b) All sources of impressed current shall be inspected or tested, or both, as appropriate, at least bimonthly (i.e., every other month).

Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, ”Recommended Practice (RP-02-85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems”, and the American Petroleum Institute (API) Publication 1632, ”Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems”, may be used, where applicable, as guidelines in maintaining and inspecting cathodic protection systems.

(3) The owner or operator shall document in the operating record of the facility an inspection of those items in subs. (1) and (2).

NR 665.0196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems. A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, shall be removed from service immediately, and the owner or operator shall satisfy the following requirements:

(1) CESSATION OF USE; PREVENT FLOW OR ADDITION OF WASTES. The owner or operator shall immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(2) REMOVAL OF WASTE FROM TANK SYSTEM OR SECONDARY CONTAINMENT SYSTEM. (a) If the release was from the tank system, the owner or operator shall, within 24 hours after detection of the leak or, if the owner or operator demonstrates that that is not possible, at the earliest practicable time remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(b) If the release was to a secondary containment system, all released materials shall be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

(3) CONTAINMENT OF VISIBLE RELEASES TO THE ENVIRONMENT. The owner or operator shall immediately conduct a visual inspection of the release and, based upon that inspection do all of the following:

(a) Prevent further migration of the leak or spill to soils or surface water.

(b) Remove, and properly dispose of, any visible contamination of the soil or surface water.

(4) NOTIFICATIONS, REPORTS. (a) Any release to the environment, except as provided in par. (b), shall be reported to the department within 24 hours of detection. If the release has been reported pursuant to ch. NR 706, that report will satisfy this requirement.

(b) A leak or spill of hazardous waste that is exempted from the requirements of this subsection if it is all of the following:

1. Less than or equal to a quantity of one pound.

2. Immediately contained and cleaned-up.

(c) Within 30 days of detection of a release to the environment, a report containing all of the following information shall be submitted to the department:

1. Likely route of migration of the release.

2. Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate).

3. Results of any monitoring or sampling conducted in connection with the release, (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data shall be submitted to the department as soon as they become available.

4. Proximity to downgradient drinking water, surface water and population areas.

5. Description of response actions taken or planned.

(5) PROVISION OF SECONDARY CONTAINMENT, REPAIR OR CLOSURE. (a) Unless the owner or operator satisfies the requirements of pars. (b) to (d), the tank system shall be closed in accordance with s. NR 665.0197.

(b) If the cause of the release was a spill that has not damaged the integrity of the system, the owner or operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

(c) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system shall be repaired prior to returning the tank system to service.

(d) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner or operator shall provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of s. NR 665.0193 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system. If the source is an aboveground component that can be inspected visually, the component shall be repaired and may be returned to service without secondary containment as long as the requirements of sub. (6) are satisfied. If a component is replaced to comply with the requirements of this paragraph, that component shall satisfy the requirements for new tank systems or components in ss. NR 665.0192 and 665.0193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component shall be provided with secondary containment in accordance with s. NR 665.0193 prior to being returned to use.

(6) CERTIFICATION OF MAJOR REPAIRS. If the owner or operator has repaired a tank system in accordance with sub. (5), and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system may not be returned to service unless the owner or operator has obtained a certification by an independent, qualified, registered professional engineer in accordance with s. NR 670.011(4) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification shall be submitted to the department within 7 days after returning the tank system to use.

Note: The department may, on the basis of any information received that there is or has been a release of hazardous waste or hazardous constituents into the environment, issue an order under s. 291.37 or 291.85, Stats., requiring corrective action or other response as deemed necessary to protect human health or the environment.

Note: See s. NR 665.0015(3) for the requirements necessary to remedy a failure. Also, if a hazardous substance is released to the environment, 40 CFR part 302 may require the owner or operator to notify the national response center and s. 292.11, Stats, and ch. NR 706 may require the owner or operator to notify the department.

NR 665.0197 Closure and long-term care. (1) At closure of a tank system, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless s. NR 661.03(4) applies. The closure plan, closure activities, cost estimates for closure and financial responsibility for tank systems shall meet all of the requirements specified in subchs. G and H.

(2) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in sub. (1), then the owner or operator shall close the tank system and perform long-term care in accordance with the closure and long-term care requirements that apply to landfills (s. NR 665.0310). In addition, for the purposes of closure, long-term care and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator shall meet all of the requirements for landfills specified in subchs. G and H.

(3) If an owner or operator has a tank system which does not have secondary containment that meets the requirements of s. NR 665.0193(2) to (6) and which is not exempt from the secondary containment requirements in accordance with s. NR 665.0193(7), then:

(a) The closure plan for the tank system shall include both a plan for complying with sub. (1) and a contingent plan for complying with sub. (2).

(b) A contingent long-term care plan for complying with sub. (2) shall be prepared and submitted as part of the feasibility and plan of operation report.

(c) The cost estimates calculated for closure and long-term care shall reflect the costs of complying with the contingent closure plan and the contingent long-term care plan, if these costs are greater than the costs of complying with the closure plan prepared for the expected closure under sub. (1).

(d) Financial assurance shall be based on the cost estimates in par. (c).

(e) For the purposes of the contingent closure and long-term care plans, such a tank system is considered to be a landfill, and the contingent plans shall meet all of the closure, long-term care and financial responsibility requirements for landfills under subchs. G and H.

NR 665.0198 Special requirements for ignitable or reactive wastes. (1) Ignitable or reactive waste may not be placed in a tank system, unless par. (a), (b) or (c) applies:

(a) The waste is treated, rendered or mixed before or immediately after placement in the tank system so that all of the following apply:

1. The resulting waste, mixture or dissolved material no longer meets the definition of ignitable or reactive waste under s. NR 661.21 or 661.23.

2. Section NR 665.0017(2) is complied with.

(b) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react.

(c) The tank system is used solely for emergencies.

(2) The owner or operator of a facility where ignitable or reactive waste is stored or treated in tanks shall comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys or an adjoining property line that can be built upon as required in Tables 2-1 to 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1977 or 1981), incorporated by reference in s. NR 660.11.

NR 665.0199 Special requirements for incompatible wastes. (1) Incompatible wastes, or incompatible waste and materials (see Appendix V for examples), may not be placed in the same tank system, unless s. NR 665.0017(2) is complied with.

(2) Hazardous waste may not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless s. NR 665.0017(2) is complied with.

NR 665.0200 Waste analysis and trial tests. In addition to performing the waste analysis required by s. NR 665.0013, the owner or operator shall do any of the following, whenever a tank system is to be used to treat chemically or to store a hazardous waste that is substantially different from waste previously treated or stored in that tank system; or treat chemically a hazardous waste with a substantially different process than any previously used in that tank system:

(1) Conduct waste analyses and trial treatment or storage tests (e.g., bench-scale or pilot-plant scale tests).

(2) Obtain written, documented information on similar waste under similar operating conditions to show that the proposed treatment or storage will meet the requirements of s. NR 665.0194(1).

Note: Section NR 665.0013 requires the waste analysis plan to include analyses needed to comply with ss. NR 665.0198 and 665.0199. Section NR 665.0073 requires the owner or operator to place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.

Note: Special requirements for small quantity generators that accumulate hazardous waste in tanks are in s. NR 662.194.

NR 665.0202 Air emission standards. The owner or operator shall manage all hazardous waste placed in a tank in accordance with the applicable requirements of subchs. AA, BB and CC.

Subchapter K —Surface Impoundments

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NR 665.0220 Applicability. This subchapter applies to owners and operators of facilities that use surface impoundments to treat, store or dispose of hazardous waste, except as s. NR 665.0001 provides otherwise.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0221 Design and operating requirements. (1)** The owner or operator of each new surface impoundment unit on which construction commences after June 1, 1995, each lateral expansion of a surface impoundment unit on which construction commences after June 1, 1995 and each replacement of an existing surface impoundment unit that is to commence reuse after June 1, 1995 shall install 2 or more liners and a leachate collection and removal system between the liners, and operate the leachate collection and removal system in accordance with s. NR 664.0221(3), unless exempted under s. NR 664.0221(4), (5) or (6). ”Construction commences” is as defined in s. NR 660.10 under ”existing facility”.

(2) The owner or operator of each unit referred to in sub. (1) shall notify the department at least 60 days prior to receiving waste. The owner or operator of each facility submitting notice shall file a feasibility and plan of operation report within 6 months of the receipt of the notice.

(3) The owner or operator of any replacement surface impoundment unit is exempt from sub. (1) if both of the following apply:

(a) The existing unit was constructed in compliance with the design standards of 42 USC 6924(o)(1)(A)(i) and (5) .

(b) There is no reason to believe that the liner is not functioning as designed.

(4) The double liner requirement in sub. (1) may be waived by the department for any monofill, if the requirements of pars. (a) and (b)1. or 2. are met:

(a) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and the wastes do not contain constituents which would render the wastes hazardous for reasons other than the toxicity characteristic in s. NR 661.24, with EPA hazardous waste numbers D004 to D017.

(b)1. All of the following:

a. The monofill has at least one liner for which there is no evidence that the liner is leaking. For the purposes of this subsection the term ”liner” means a liner designed, constructed, installed and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, groundwater or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of sub. (1) on the basis of a liner designed, constructed, installed and operated to prevent hazardous waste from passing beyond the liner, at the closure of the impoundment the owner or operator shall remove or decontaminate all waste residues, all contaminated liner material and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner of operator of the impoundment shall comply with appropriate long-term care requirements, including but not limited to groundwater monitoring and corrective action.

b. The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in 40 CFR 144.3).

c. The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with operating licenses under s. 291.25, Stats.

2. The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(5) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of sub. (1) and in good faith compliance with sub. (1) and with guidance documents governing liners and leachate collection systems under sub. (1), no liner or leachate collection system which is different from that which was so installed pursuant to sub. (1) will be required for the unit by the department when issuing the first operating license to the facility, except that the department will not be precluded from requiring installation of a new liner when the department has reason to believe that any liner installed pursuant to the requirements of sub. (1) is leaking.

(6) A surface impoundment shall maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action or a storm. Except as provided in sub. (7), there shall be at least 60 centimeters (2 feet) of freeboard.

(7) A freeboard level less than 60 centimeters (2 feet) may be maintained if the owner or operator obtains certification by a qualified engineer that alternate design features or operating plans will, to the best of that person’s knowledge and opinion, prevent overtopping of the dike. The certification, along with a written identification of alternate design features or operating plans preventing overtopping, shall be maintained at the facility.

(8) Surface impoundments that are newly subject to 42 USC 6925(j)(1) due to the promulgation of additional listings or characteristics for the identification of hazardous waste shall be in compliance with subs. (1), (3) and (4) not later than 48 months after the promulgation of the additional listing or characteristic. This compliance period may not be cut short as the result of the promulgation of land

disposal prohibitions under ch. NR 668 or the granting of an extension to the effective date of a prohibition pursuant to s. NR 668.05, within this 48-month period.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0222 Action leakage rate. (1)** The owner or operator of surface impoundment units subject to s. NR 665.0221(1) shall submit a proposed action leakage rate to the department when submitting the notice required under s. NR 665.0221(2). Within 60 days of receipt of the notification, the department shall establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section, or extend the review period for up to 30 days. If no action is taken by the department before the original 60 or extended 90 day review periods, the action leakage rate shall be approved as proposed by the owner or operator.

(2) The department shall approve an action leakage rate for surface impoundment units subject to s. NR 665.0221(1). The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system and proposed response actions (e.g., the action leakage rate shall consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(3) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly or monthly flow rate from the monitoring data obtained under s. NR 665.0226(2), to an average daily flow rate (gallons per acre per day) for each sump. Unless the department approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period, and if the unit closes in accordance with s. NR 665.0228(1)(b), monthly during the long-term care period when monthly monitoring is required under s. NR 665.0226(2).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0223 Containment system.** All earthen dikes shall have a protective cover, such as grass, shale or rock, to minimize wind and water erosion and to preserve their structural integrity.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0224 Response actions. (1)** The owner or operator of surface impoundment units subject to s. NR 665.0221(1) shall submit a response action plan to the department when submitting the proposed action leakage rate under s. NR 665.0222. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in sub. (2).

(2) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall do all of the following:

(a) Notify the department in writing of the exceedence within 7 days of the determination.

(b) Submit a preliminary written assessment to the department within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size and cause of any leaks and short-term actions taken and planned.

(c) Determine to the extent practicable the location, size and cause of any leak.

(d) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs or controls and whether or not the unit should be closed.

(e) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks.

(f) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the department the results of the analyses specified in pars. (c), (d) and (e), the results of actions taken and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the department a report summarizing the results of any remedial actions taken and actions planned.

(3) To make the leak and remediation determinations in sub. (2)(c), (d) and (e), the owner or operator shall comply with par. (a) or (b):

(a) Do all of the following:

1. Assess the source of liquids and amounts of liquids by source.

2. Conduct a fingerprint, hazardous constituent or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid.

3. Assess the seriousness of any leaks in terms of potential for escaping into the environment.

(b) Document why the assessments are not needed.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0225 Waste analysis and trial tests**. In addition to the waste analyses required by s. NR 665.0013, whenever a surface impoundment is to be used to chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment or chemically treat hazardous waste with a substantially different process than any previously used in that impoundment, before treating the different waste or using the different process the owner or operator shall do either of the following:

(1) Conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests).

(2) Obtain written, documented information on similar treatment of similar waste under similar operating conditions to show that this treatment will comply with s. NR 665.0017(2).

Note: As required by s. NR 665.0013, the waste analysis plan shall include analyses needed to comply with ss. NR 665.0229 and 665.0230. As required by s. NR 665.0073, the owner or operator shall place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0226 Monitoring and inspection. (1)** The owner or operator shall inspect both of the following:

(a) The freeboard level at least once each operating day to ensure compliance with s. NR 665.0222.

(b) The surface impoundment, including dikes and vegetation surrounding the dike, at least once a week to detect any leaks, deterioration or failures in the impoundment.

(2)(a) An owner or operator required to have a leak detection system under s. NR 665.0221(1) shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(b) After the final cover is installed, the amount of liquids removed from each leak detection system sump shall be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for 2 consecutive months, the amount of liquids in the sumps shall be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for 2 consecutive quarters, the amount of liquids in the sumps shall be recorded at least semi-annually. If at any time during the long-term care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the

owner or operator shall return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for 2 consecutive months.

(c) ”Pump operating level” is a liquid level proposed by the owner or operator and approved by the department based on pump activation level, sump dimensions and level that avoids backup into the drainage layer and minimizes head in the sump. The timing for submission and approval of the proposed ”pump operating level” will be in accordance with s. NR 665.0222(1).

Note: As required by s. NR 665.0015(3), the owner or operator shall remedy any deterioration or malfunction the owner or operator finds.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0228 Closure and long-term care. (1)** At closure, the owner or operator shall comply with either par. (a) or (b):

(a) Remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless s. NR 661.03(4) applies.

(b) Close the impoundment and provide long-term care for a landfill under subch. G and s. NR 665.0310, including all of the following:

1. Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues.

2. Stabilize remaining wastes to a bearing capacity sufficient to support the final cover.

3. Cover the surface impoundment with a final cover designed and constructed to do all of the following:

a. Provide long-term minimization of the migration of liquids through the closed impoundment.

b. Function with minimum maintenance.

c. Promote drainage and minimize erosion or abrasion of the cover.

d. Accommodate settling and subsidence so that the cover’s integrity is maintained.

e. Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(2) In addition to the requirements of subch. G and s. NR 665.0310, during the long-term care period, the owner or operator of a surface impoundment in which wastes, waste residues or contaminated materials remain after closure in accordance with the provisions of sub. (1)(b), shall do all of the following:

(a) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion or other events.

(b) Maintain and monitor the leak detection system in accordance with ss. NR 664.0221(3)(b)4. and (c) and 665.0226(2) and comply with all other applicable leak detection system requirements of this chapter.

(c) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of subch. F.

(d) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0229 Special requirements for ignitable or reactive waste.** Ignitable or reactive waste may not be placed in a surface impoundment, unless the waste and impoundment satisfy all applicable requirements of ch. NR 668, and sub. (1), (2) or (3):

(1) The waste is treated, rendered or mixed before or immediately after placement in the impoundment so that both of the following apply:

(a) The resulting waste, mixture or dissolution of material no longer meets the definition of ignitable or reactive waste under s. NR 661.21 or 661.23.

(b) Section NR 665.0017(2) is complied with.

(2) All of the following conditions are met:

(a) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

(c) The owner or operator obtains a certification from a qualified chemist or engineer that, to the best of that person's knowledge and opinion, the design features or operating plans of the facility will prevent ignition or reaction.

(d) The certification and the basis for it are maintained at the facility.

(3) The surface impoundment is used solely for emergencies.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0230 Special requirements for incompatible wastes.** Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) may not be placed in the same surface impoundment, unless s. NR 665.0017(2) is complied with.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0231 Air emission standards.** The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the applicable requirements of subchs. BB and CC.

Subchapter L —Waste Piles

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0250 Applicability**. This subchapter applies to owners and operators of facilities that treat or store hazardous waste in piles, except as s. NR 665.0001 provides otherwise. Alternatively, a pile of hazardous waste may be managed as a landfill under subchapter N.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0251 Protection from wind.** The owner or operator of a pile containing hazardous waste which could be subject to dispersal by wind shall cover or otherwise manage the pile so that wind dispersal is controlled.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0252 Waste analysis.** In addition to the waste analyses required by s. NR 665.0013, the owner or operator shall analyze a representative sample of waste from each incoming movement before adding the waste to any existing pile, unless the only wastes the facility receives which are amenable to piling are compatible with each other, or the waste received is compatible with the waste in the pile to which it is to be added. The analysis conducted shall be capable of differentiating between the types of hazardous waste the owner or operator places in piles, so that

mixing of incompatible waste does not inadvertently occur. The analysis shall include a visual comparison of color and texture.

Note: As required by s. NR 665.0013, the waste analysis plan shall include analyses needed to comply with ss. NR 665.0256 and 665.0257. As required by s. NR 665.0073, the owner or operator shall place the results of this analysis in the operating record of the facility.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0253 Containment**. If leachate or run-off from a pile is a hazardous waste, the owner or operator shall comply with sub. (1) or (2):

(1) Do all of the following:

(a) The pile shall be placed on an impermeable base that is compatible with the waste under the conditions of treatment or storage.

(b) The owner or operator shall design, construct, operate and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm.

(c) The owner or operator shall design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(d) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously to maintain design capacity of the system.

(2) Do both of the following:

(a) The pile shall be protected from precipitation and run-on by some other means.

(b) No liquids or wastes containing free liquids may be placed in the pile.

Note: If collected leachate or run-off is discharged through a point source to waters of the state, it is subject to the requirements of ss. 283.31 and 283.33, Stats.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0254 Design and operating requirements**. The owner or operator of each new waste pile on which construction commences after June 1, 1995, each lateral expansion of a waste pile unit on which construction commences after June 1, 1995 and each replacement of an existing waste pile unit that is to commence reuse after June 1, 1995 shall install 2 or more liners and a leachate collection and removal system above and between the liners, and operate the leachate collection and removal systems in accordance with s. NR 664.0251(3), unless exempted under s. NR 664.0251(4), (5) or (6), and shall comply with the procedures of s. NR 665.0221(2). ”Construction commences” is as defined in s. NR 660.10 under ”existing facility”.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0255 Action leakage rates. (1)** The owner or operator of waste pile units subject to s. NR 665.0254 shall submit a proposed action leakage rate to the department when submitting the notice required under s. NR 665.0254. Within 60 days of receipt of the notification, the department shall establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section, or extend the review period for up to 30 days. If no action is taken by the department before the original 60 or extended 90 day review periods, the action leakage rate shall be approved as proposed by the owner or operator.

(2) The department shall approve an action leakage rate for waste pile units subject to s. NR 665.0254. The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate shall

include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system and proposed response actions (e.g., the action leakage rate shall consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(3) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly flow rate from the monitoring data obtained under s. NR 665.0260, to an average daily flow rate (gallons per acre per day) for each sump. Unless the department approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0256 Special requirements for ignitable or reactive waste**. Ignitable or reactive waste may not be placed in a pile unless the waste and pile satisfy all applicable requirements of ch. NR 668, and either of the following:

(1) Addition of the waste to an existing pile results in the waste or mixture no longer meeting the definition of ignitable or reactive waste under s. NR 661.21 or 661.23, and complies with s. NR 665.0017(2).

(2) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0257 Special requirements for incompatible wastes. (1)** Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) may not be placed in the same pile, unless s. NR 665.0017(2) is complied with.

(2) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks or surface impoundments shall be separated from the other materials, or protected from them by means of a dike, berm, wall or other device.

Note: The purpose of this is to prevent fires, explosions, gaseous emissions, leaching or other discharge of hazardous waste or hazardous waste constituents which could result from the contact or mixing of incompatible wastes or materials.

(3) Hazardous waste may not be piled on the same area where incompatible wastes or materials were previously piled, unless that area has been decontaminated sufficiently to ensure compliance with s. NR 665.0017(2).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0258 Closure and long-term care. (1)** At closure, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless s. NR 661.03(4) applies.

(2) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures and equipment as required in sub. (1), the owner or operator finds that not all contaminated subsoils can be practicably removed or

decontaminated, the owner or operator shall close the facility and perform long-term care in accordance with the closure and long-term care requirements that apply to landfills (s. NR 665.0310).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0259 Response actions. (1)** The owner or operator of waste pile units subject to s. NR 665.0254 shall submit a response action plan to the department when submitting the proposed action leakage rate under s. NR 665.0255. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in sub. (2).

(2) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall do all of the following:

(a) Notify the department in writing of the exceedence within 7 days of the determination.

(b) Submit a preliminary written assessment to the department within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size and cause of any leaks and short-term actions taken and planned.

(c) Determine to the extent practicable the location, size and cause of any leak.

(d) Determine whether waste receipts should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs or controls and whether or not the unit should be closed.

(e) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks.

(f) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the department the results of the analyses specified in pars. (c), (d) and (e), the results of actions taken and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the department a report summarizing the results of any remedial actions taken and actions planned.

(3) To make the leak and remediation determinations in sub. (2)(c), (d) and (e), the owner or operator shall comply with par. (a) or (b):

(a) Do all of the following:

1. Assess the source of liquids and amounts of liquids by source.

2. Conduct a fingerprint, hazardous constituent or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid.

3. Assess the seriousness of any leaks in terms of potential for escaping into the environment.

(b) Document why the assessments are not needed.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0260 Monitoring and inspection**. An owner or operator required to have a leak detection system under s. NR 665.0254 shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

Subchapter M —Land Treatment

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NR 665.0270 Applicability. Land treatment of any hazardous waste is prohibited. The Department may not grant a variance under s. 291.31, Stats., to allow land treatment of any hazardous waste, as identified or listed in ch. NR 661.

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Subchapter N —Landfills

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0300 Applicability**. This subchapter applies to owners and operators of facilities that dispose of hazardous waste in landfills, except as s. NR 665.0001 provides otherwise. A waste pile used as a disposal facility is a landfill and is governed by this subchapter.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0301 Design and operating requirements. (1)** The owner or operator of each new landfill unit on which construction commences after June 1, 1995, each lateral expansion of a landfill unit on which construction commences after June 1, 1995 and each replacement of an existing landfill unit that is to commence reuse after June 1, 1995 shall install 2 or more liners and a leachate collection and removal system above and between the liners, and operate the leachate collection and removal systems in accordance with s. NR 664.301(3), unless exempted under s. NR 664.0301(4), (5) or (6). ”Construction commences” is as defined in s. NR 660.10 under ”existing facility”.

(2) The owner or operator of each unit referred to in sub. (1) shall notify the department at least 60 days prior to receiving waste. The owner or operator of each facility submitting notice shall file a feasibility and plan of operation report within 6 months after the department receives the notice.

(3) The owner or operator of any replacement landfill unit is exempt from sub. (1) if both of the following apply:

(a) The existing unit was constructed in compliance with the design standards of 42 USC 6924(o)(1)(A)(i) and (5).

(b) There is no reason to believe that the liner is not functioning as designed.

(4) The double liner requirement in sub. (1) may be waived by the department for any monofill, if pars. (a) and (b)1. or 2. apply:

(a) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and the wastes do not contain constituents which would render the wastes hazardous for reasons other than the toxicity characteristic in s. NR 661.24, with EPA hazardous waste numbers D004 to D017.

(b)1. All of the following conditions are met:

a. The monofill has at least one liner for which there is no evidence that the liner is leaking.

b. The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in 40 CFR 144.3).

c. The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with operating licenses under s. 291.25, Stats.

2. The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(5) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of sub. (1) and in good faith compliance with sub. (1) and with guidance documents governing liners and leachate collection systems under sub. (1), no liner or leachate collection system which is different from that which was so installed pursuant to sub. (1) will be required for the unit by the department when issuing the first operating license to the facility, except that the department will not be precluded from requiring installation of a new liner when the department has reason to believe that any liner installed pursuant to the requirements of sub. (1) is leaking.

(6) The owner or operator shall design, construct, operate and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.

(7) The owner or operator shall design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(8) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(9) The owner or operator of a landfill containing hazardous waste which is subject to dispersal by wind shall cover or otherwise manage the landfill so that wind dispersal of the hazardous waste is controlled.

Note: As required by s. NR 665.0013, the waste analysis plan shall include analyses needed to comply with ss. NR 665.0312, 665.0313 and 665.0314. As required by s. NR 665.0073, the owner or operator shall place the results of these analyses in the operating record of the facility.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0302 Action leakage rate. (1)** The owner or operator of landfill units subject to s. NR 665.0301(1) shall submit a proposed action leakage rate to the department when submitting the notice required under s. NR 665.0301(2). Within 60 days of receipt of the notification, the department shall establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section, or extend the review period for up to 30 days. If no action is taken by the department before the original 60 or extended 90 day review periods, the action leakage rate shall be approved as proposed by the owner or operator.

(2) The department shall approve an action leakage rate for landfill units subject to s. NR 665.0301(1). The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system and proposed response actions (e.g., the action leakage rate shall consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(3) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly or monthly flow rate from the monitoring data obtained under s. NR 665.0304, to an average daily flow rate (gallons per acre per day) for each sump. Unless the department approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period, and monthly during the long-term care period when monthly monitoring is required under s. NR 665.0304(2).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0303 Response actions. (1)** The owner or operator of landfill units subject to s. NR 665.0301(1) shall submit a response action plan to the department when submitting the proposed action leakage rate under s. NR 665.0302. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in sub. (2).

(2) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall do all of the following:

(a) Notify the department in writing of the exceedence within 7 days of the determination.

(b) Submit a preliminary written assessment to the department within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size and cause of any leaks and short-term actions taken and planned.

(c) Determine to the extent practicable the location, size and cause of any leak.

(d) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs or controls and whether or not the unit should be closed.

(e) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks.

(f) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the department the results of the analyses specified in pars. (c), (d) and (e), the results of actions taken and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the department a report summarizing the results of any remedial actions taken and actions planned.

(3) To make the leak and remediation determinations in sub. (2)(c), (d) and (e), the owner or operator shall comply with par. (a) or (b):

(a) Do all of the following:

1. Assess the source of liquids and amounts of liquids by source.

2. Conduct a fingerprint, hazardous constituent or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid.

3. Assess the seriousness of any leaks in terms of potential for escaping into the environment.

(b) Document why the assessments are not needed.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0304 Monitoring and inspection. (1)** An owner or operator required to have a leak detection system under s. NR 665.0301(1) shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump shall be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for 2 consecutive months, the amount of liquids in the sumps shall be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for 2 consecutive quarters, the amount of liquids in the sumps shall be recorded at least semi-annually. If at any time during the long-term care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator shall return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for 2 consecutive months.

(3) ”Pump operating level” is a liquid level proposed by the owner or operator and approved by the department based on pump activation level, sump dimensions and level that avoids backup into the drainage layer and minimizes head in the sump. The timing for submission and approval of the proposed ”pump operating level” will be in accordance with s. NR 665.0302(1).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0309 Surveying and recordkeeping.** The owner or operator of a landfill shall maintain both of the following items in the operating record required in s. NR 665.0073:

(1) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks.

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(2) The contents of each cell and the approximate location of each hazardous waste type within each cell.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0310 Closure and long-term care. (1)** At final closure of the landfill or upon closure of any cell, the owner or operator shall cover the landfill or cell with a final cover designed and constructed to do all of the following:

(a) Provide long-term minimization of migration of liquids through the closed landfill.

(b) Function with minimum maintenance.

(c) Promote drainage and minimize erosion or abrasion of the cover.

(d) Accommodate settling and subsidence so that the cover's integrity is maintained.

(e) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(2) After final closure, the owner or operator shall comply with all long-term care requirements contained in ss. NR 665.0117 to 665.0120, including maintenance and monitoring throughout the long-term care period. The owner or operator shall do all of the following:

(a) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion or other events.

(b) Maintain and monitor the leak detection system in accordance with ss. NR 664.0301(3)(c)4. and (d) and 665.0304(2), and comply with all other applicable leak detection system requirements of this chapter.

(c) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of subch. F.

(d) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

(e) Protect and maintain surveyed benchmarks used in complying with s. NR 665.0309.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0312 Special requirements for ignitable or reactive waste. (1)** Except as provided in sub. (2) and s. NR 665.0316, ignitable or reactive waste may not be placed in a landfill, unless the waste and landfill meets all applicable requirements of ch. NR 668 and both of the following:

(a) The resulting waste, mixture or dissolution of material no longer meets the definition of ignitable or reactive waste under s. NR 661.21 or 661.23.

(b) Section NR 665.0017(2) is complied with.

(2) Except for prohibited wastes which remain subject to treatment standards in subch. D of ch. NR 668, ignitable wastes in containers may be landfilled without meeting the requirements of sub. (1), provided that the wastes are disposed of in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes shall be disposed of in non-leaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture or any other condition that might cause ignition of the wastes; shall be covered daily with soil or other non-combustible material to minimize the potential for ignition of the wastes and may not be disposed of in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0313 Special requirements for incompatible**

wastes. Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) may not be placed in the same landfill cell, unless s. NR 665.0017(2) is complied with.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0314 Special requirements for bulk and containerized liquids. (1)** Bulk or non-containerized liquid waste or waste containing free liquids may be placed in a landfill prior to April 1, 1988 only if either of the following is met:

(a) The landfill has a liner and leachate collection and removal system that meets the requirements of s. NR 664.0301(1).

(b) Before disposal, the liquid waste or waste containing free liquids is treated or stabilized, chemically or physically (e.g., by mixing with a sorbent solid), so that free liquids are no longer present.

(2) Effective April 1, 1988, the placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited.

(3) Containers holding free liquids may not be placed in a landfill unless par. (a), (b), (c) or (d) applies:

(a) All free-standing liquid is handled in one of the following ways:

1. It has been removed by decanting, or other methods.
2. It has been mixed with sorbent or solidified so that free-standing liquid is no longer observed.
3. It has been otherwise eliminated.

(b) The container is very small, such as an ampule.

(c) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor.

(d) The container is a lab pack as defined in s. NR 665.0316 and is disposed of in accordance with s. NR 665.0316.

(4) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test shall be used: Method 9095 (paint filter liquids test) as described in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11.

(5) The date for compliance with subs. (1) and (3) is July 1, 1985.

(6) Sorbents used to treat free liquids to be disposed of in landfills shall be nonbiodegradable. Nonbiodegradable sorbents are materials listed or described in par. (a); materials that pass one of the tests in par. (b) or materials that are determined by EPA to be nonbiodegradable through the 40 CFR part 260 petition process.

(a) Nonbiodegradable sorbents are any of the following:

1. Inorganic minerals, other inorganic materials and elemental carbon (e.g., aluminosilicates, clays, smectites, Fuller’s earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas (illite), vermiculites, zeolites; calcium carbonate (organic free limestone); oxides or hydroxides, alumina, lime, silica (sand), diatomaceous earth; perlite (volcanic glass); expanded volcanic rock; volcanic ash; cement kiln dust; fly ash; rice hull ash; activated charcoal or activated carbon).
2. High molecular weight synthetic polymers (e.g., polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorborene, polyisobutylene, ground synthetic rubber, cross-linked allylstyrene and tertiary butyl copolymers). This does not include polymers derived from biological material or polymers specifically designed to be degradable.
3. Mixtures of these nonbiodegradable materials.

(b) The sorbent material may be determined to be nonbiodegradable using any of the following tests:

1. ASTM Method G21-70 (1984a)—Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi, incorporated by reference in s. NR 660.11.

2. ASTM Method G22-76 (1984b)—Standard Practice for Determining Resistance of Plastics to Bacteria, incorporated by reference in s. NR 660.11.

3. OECD test 301B [CO_2 Evolution (Modified Sturm Test)], incorporated by reference in s. NR 660.11.

(7) Effective March 1, 1991, the placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of the landfill demonstrates to the department, or the department determines, that both of the following apply:

(a) The only reasonably available alternative to the placement in the landfill is placement in a landfill or unlined surface impoundment, whether or not operating under an operating license or interim license, which contains, or may reasonably be anticipated to contain, hazardous waste.

(b) Placement in the owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in 40 CFR 144.3).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0315 Special requirements for containers.** Unless they are very small, such as an ampule, containers shall be either of the following:

(1) At least 90 percent full when placed in the landfill.

(2) Crushed, shredded or similarly reduced in volume to the maximum practical extent before burial in the landfill.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0316 Disposal of small containers of hazardous waste in overpacked drums (lab packs).** Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if all of the following requirements are met:

(1) Hazardous waste shall be packaged in non-leaking inside containers. The inside containers shall be of a design and constructed of a material that will not react dangerously with, be decomposed by or be ignited by the contained waste. Inside containers shall be tightly and securely sealed. The inside containers shall be of the size and type specified in the U.S. department of transportation (DOT) hazardous materials regulations (49 CFR parts 173, 178 and 179), if those regulations specify a particular inside container for the waste.

(2) The inside containers shall be overpacked in an open head DOT-specification metal shipping container (49 CFR parts 178 and 179) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of sorbent material, determined to be nonbiodegradable in accordance with s. NR 665.0314(6), to completely sorb all of the liquid contents of the inside containers. The metal outer container shall be full after it has been packed with inside containers and sorbent material.

(3) The sorbent material used may not be capable of reacting dangerously with, being decomposed by or being ignited by the contents of the inside containers, in accordance with s. NR 665.0017(2).

(4) Incompatible wastes, as defined in s. NR 660.10, may not be placed in the same outside container.

(5) Reactive waste, other than cyanide- or sulfide-bearing waste as defined in s. NR 661.23(1)(e), shall be treated or rendered non-reactive prior to packaging in accordance with subs. (1) to (4). Cyanide- and sulfide-bearing reactive waste may be packaged in accordance with subs. (1) to (4) without first being treated or rendered non-reactive.

(6) The disposal is in compliance with the requirements of ch. NR 668. Persons who incinerate lab packs according to the requirements in s. NR 668.42(3)(a) may use fiber drums in place of metal outer containers. The fiber drums shall meet the DOT specifications in 49 CFR 173.12 and be overpacked according to the requirements in sub. (2).

Subchapter O —Incinerators

NR 665.0340 Applicability. (1) This subchapter applies to owners and operators of hazardous waste incinerators (as defined in s. NR 660.10), except as s. NR 665.0001 provides otherwise.

(2)(a) Except as provided by pars. (b) and (c), this chapter no longer applies when an owner or operator demonstrates compliance with the maximum achievable control technology (MACT) requirements of 40 CFR part 63, subpart EEE, by conducting a comprehensive performance test and submitting a notification of compliance to the EPA administrator under 40 CFR 63.1207(j) and 63.1210(b) documenting compliance with 40 CFR part 63, subpart EEE.

(b) Section NR 665.0351 and the applicable requirements of subchs. A to H, BB and CC continue to apply even where the owner or operator has demonstrated compliance with the MACT requirements of 40 CFR part 63, subpart EEE.

(c) Section NR 665.0345 generally prohibiting burning of hazardous waste during startup and shutdown remains in effect if the owner or operator elects to comply with s. NR 670.235(2)(a)1. to minimize emissions of toxic compounds from startup and shutdown.

(3) Owners and operators of incinerators burning hazardous waste are exempt from this subchapter, except s. NR 665.0351, provided that the owner or operator has documented, in writing, that the waste would not reasonably be expected to contain any of the hazardous constituents in ch. NR 661, Appendix VIII, and has retained that documentation at the facility, if the waste to be burned is one of the following:

(a) Listed as a hazardous waste in subch. D of ch. NR 661 solely because it is ignitable (hazard code I), corrosive (hazard code C) or both.

(b) Listed as a hazardous waste in subch. D of ch. NR 661 solely because it is reactive (hazard code R) for characteristics other than those in ss. NR 661.23(1)(d) and (e), and will not be burned when other hazardous wastes are present in the combustion zone.

(c) A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity or both, as determined by the tests for characteristics of hazardous wastes under subch. C of ch. NR 661.

(d) A hazardous waste solely because it possesses any of the reactivity characteristics in s. NR 661.23(1)(a), (b), (c), (f), (g) or (h), and will not be burned when other hazardous wastes are present in the combustion zone.

NR 665.0341 Waste analysis. In addition to the waste analyses required by s. NR 665.0013, the owner or operator shall sufficiently analyze any waste which the owner or operator has not previously burned in the owner or operator's incinerator to enable the owner or operator to establish steady state (normal) operating conditions (including waste and auxiliary fuel feed and air flow) and to determine the type of pollutants which might be emitted. At a minimum, the analysis shall determine all of the following:

(1) Heating value of the waste.

(2) Halogen content and sulfur content in the waste.

(3) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the elements are not present.

Note: As required by s. NR 665.0073, the owner or operator shall place the results from each waste analysis, or the documented information, in the operating record of the facility.

NR 665.0345 General operating requirements. During start-up and shut-down of an incinerator, the owner or operator may not feed hazardous waste unless the incinerator is at steady state (normal) conditions of operation, including steady state operating temperature and air flow.

NR 665.0347 Monitoring and inspections. The owner or operator shall conduct, as a minimum, all of the following monitoring and inspections when incinerating hazardous waste:

(1) Monitor existing instruments which relate to combustion and emission control at least every 15 minutes. Immediately make appropriate corrections to maintain steady state combustion conditions either automatically or by the operator. Instruments which relate to combustion and emission control would normally include those measuring waste feed, auxiliary fuel feed, air flow, incinerator temperature, scrubber flow, scrubber pH and relevant level controls.

(2) Inspect the complete incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) at least daily for leaks, spills and fugitive emissions, and check all emergency shutdown controls and system alarms to assure proper operation.

NR 665.0351 Closure. At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues (including but not limited to ash, scrubber waters and scrubber sludges) from the incinerator.

Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate, according to s. NR 661.03(4), that the residue removed from the owner or operator's incinerator is not hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it according to all applicable requirements of chs. NR 662 to 666.

NR 665.0352 Interim licensed incinerators burning particular hazardous wastes. (1) Owners or operators of incinerators subject to this subchapter may burn EPA hazardous wastes F020, F021, F022, F023, F026 or F027 if they receive an interim license or interim license modification from the department after the owner or operator demonstrates that they can meet the performance standards of subch. O of ch. NR 664 when they burn these wastes.

(2) The department shall use all of the following standards and procedures to determine whether to issue an interim license or interim license modification:

(a) The owner or operator shall submit an application to the department containing applicable information in ss. NR 670.019 and 670.062 demonstrating that the incinerator can meet the performance standards in subch. O of ch. NR 664 when they burn these wastes.

(b) The department shall issue a preliminary determination as to whether the incinerator can meet the performance standards in subch. O of ch. NR 664. The department shall provide notification of this preliminary determination by newspaper advertisement and radio broadcast in the jurisdiction where the incinerator is located. The department shall accept comments on the preliminary determination for 60 days. The department may also hold a public hearing upon request or at the department's discretion.

(c) After the close of the public comment period, the department shall issue a decision whether or not to issue an interim license or interim license modification for the incinerator.

Subchapter P —Thermal Treatment

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0370 Other thermal treatment.** This subchapter applies to owners or operators of facilities that thermally treat hazardous waste in devices other than enclosed devices using controlled flame combustion, except as s. NR 665.0001 provides otherwise. Thermal treatment in enclosed devices using controlled flame combustion is subject to the requirements of subch. O if the unit is an incinerator, and subch. H of ch. NR 666, if the unit is a boiler or an industrial furnace as defined in s. NR 660.10.

NR 665.0373 General operating requirements. Before adding hazardous waste, the owner or operator shall bring the thermal treatment process to steady state (normal) conditions of operation, including steady state operating temperature, using auxiliary fuel or other means, unless the process is a

non-continuous (batch) thermal treatment process which requires a complete thermal cycle to treat a discrete quantity of hazardous waste.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0375 Waste analysis**. In addition to the waste analyses required by s. NR 665.0013, the owner or operator shall sufficiently analyze any waste which the owner or operator has not previously treated in the thermal process to enable the owner or operator to establish steady state (normal) or other appropriate (for a non-continuous process) operating conditions (including waste and auxiliary fuel feed) and to determine the type of pollutants which might be emitted. At a minimum, the analysis shall determine all of the following:

(1) Heating value of the waste.

(2) Halogen content and sulfur content in the waste.

(3) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present.

Note: As required by s. NR 665.0073, the owner or operator shall place the results from each waste analysis, or the documented information, in the operating record of the facility.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0377 Monitoring and inspections.** The owner or operator shall conduct, as a minimum, all of the following monitoring and inspections when thermally treating hazardous waste:

(1) Existing instruments which relate to temperature and emission control (if an emission control device is present) shall be monitored at least every 15 minutes. Appropriate corrections to maintain steady state or other appropriate thermal treatment conditions shall be made immediately either automatically or by the operator. Instruments which relate to temperature and emission control would normally include those measuring waste feed, auxiliary fuel feed, treatment process temperature and relevant process flow and level controls.

(2) The stack plume (emissions), where present, shall be observed visually at least hourly for normal appearance (color and opacity). The operator shall immediately make any indicated operating corrections necessary to return any visible emissions to their normal appearance.

(3) The complete thermal treatment process and associated equipment (pumps, valves, conveyors, pipes, etc.) shall be inspected at least daily for leaks, spills and fugitive emissions, and all emergency shutdown controls and system alarms shall be checked to assure proper operation.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0381 Closure**. At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues (including, but not limited to, ash) from the thermal treatment process or equipment**.**

Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with s. NR 661.03(3) or (4), that any solid waste removed from the thermal treatment process or equipment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it in accordance with all applicable requirements of chs. NR 662 and 663 and this chapter.
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NR 665.0382. Open burning; waste explosives. Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment. Detonation is an explosion in which chemical transformation passes through the material faster than the speed of sound (0.33 kilometers/second at sea level). Owners or operators choosing to open burn or detonate waste explosives shall do so in accordance with the following table and in a manner that does not threaten human health or the environment.

Pounds of waste explosives	Minimum distance from open burning or detonation

or propellants	to the property of others

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0 to 100	204 meters (670 feet).

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101 to 1,000	380 meters (1,250 feet).

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1,001 to 10,000	530 meters (1,730 feet).

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10,001 to 30,000	690 meters (2,260 feet).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0383 Interim license thermal treatment devices burning particular hazardous waste. (1)** Owners or operators of thermal treatment devices subject to this subchapter may burn EPA hazardous wastes F020, F021, F022, F023, F026 or F027 if they demonstrate they can meet the performance standards of subch. O of ch. NR 664 when they burn these wastes and receive approval from the department.

(2) All of the following standards and procedures shall be used in determining whether to approve a thermal treatment unit:

(a) The owner or operator shall submit an application to the department containing the applicable information in ss. NR 670.019 and 670.062 demonstrating that the thermal treatment unit can meet the performance standard in subch. O of ch. NR 664 when it burns these wastes.

(b) The department shall issue a tentative decision as to whether the thermal treatment unit can meet the performance standards in subch. O of ch. NR 664. Notification of this tentative decision shall be provided by newspaper advertisement and radio broadcast in the jurisdiction where the thermal treatment device is located. The department shall accept comment on the tentative decision for 60 days. The department also may hold a public hearing upon request or at its discretion.

(c) After the close of the public comment period, the department shall issue a decision whether or not to approve the thermal treatment unit.

Subchapter Q —Chemical, Physical and Biological Treatment

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NR 665.0400 Applicability. This subchapter applies to owners and operators of facilities which treat hazardous wastes by chemical, physical or biological methods in other than tanks and surface impoundments, except as s. NR 665.0001 provides otherwise. Chemical, physical and biological treatment of hazardous waste in tanks and surface impoundments shall be conducted according to subchs. J and K, respectively.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0401 General operating requirements. (1)** Chemical, physical or biological treatment of hazardous waste shall comply with s. NR 665.0017(2).

(2) Hazardous wastes or treatment reagents may not be placed in the treatment process or equipment if they could cause the treatment process or equipment to rupture, leak, corrode or otherwise fail before the end of its intended life.

(3) Where hazardous waste is continuously fed into a treatment process or equipment, the process or equipment shall be equipped with a means to stop this inflow (e.g., a waste feed cut-off system or by-pass system to a standby containment device).

Note: These systems are intended to be used in the event of a malfunction in the treatment process or equipment.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0402 Waste analysis and trial tests**. In addition to the waste analysis required by s. NR 665.0013, whenever a hazardous waste which is substantially different from waste previously treated in a treatment process or equipment at the facility is to be treated in that process or equipment, or a substantially different process than any previously used at

the facility is to be used to chemically treat hazardous waste, the owner or operator shall do any of the following to show that this proposed treatment will meet all applicable requirements of s. NR 665.0401(1) and (2), before treating the different waste or using the different process or equipment:

(1) Conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests).

(2) Obtain written, documented information on similar treatment of similar waste under similar operating conditions.

Note: As required by s. NR 665.0013, the waste analysis plan shall include analyses needed to comply with ss. NR 665.0405 and 665.0406. As required by s. NR 665.0073, the owner or operator shall place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0403 Inspections.** The owner or operator of a treatment facility shall inspect all of the following, where present:

(1) Discharge control and safety equipment (e.g., waste feed cut-off systems, by-pass systems, drainage systems and pressure relief systems) at least once each operating day, to ensure that it is in good working order.

(2) Data gathered from monitoring equipment (e.g., pressure and temperature gauges), at least once each operating day, to ensure that the treatment process or equipment is being operated according to its design.

(3) The construction materials of the treatment process or equipment, at least weekly, to detect corrosion or leaking of fixtures or seams.

(4) The construction materials of, and the area immediately surrounding, discharge confinement structures (e.g., dikes), at least weekly, to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

Note: As required by s. NR 665.0015(3), the owner or operator shall remedy any deterioration or malfunction the owner or operator finds.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0404 Closure**. At closure, all hazardous waste and hazardous waste residues shall be removed from treatment processes or equipment, discharge control equipment and discharge confinement structures.

Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with s. NR 661.03(3) or (4), that any solid waste removed from the treatment process or equipment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it in accordance with all applicable requirements of chs. NR 662 and 663 and this chapter.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0405. Special requirements for ignitable or reactive waste**. Ignitable or reactive waste may not be placed in a treatment process or equipment unless the requirements in sub. (1) or (2) are met:

(1) The waste is treated, rendered or mixed before or immediately after placement in the treatment process or equipment so that both of the following conditions are met:

(a) The resulting waste, mixture or dissolution of material no longer meets the definition of ignitable or reactive waste under s. NR 661.21 or 661.23.

(b) Section NR 665.0017(2) is complied with.

(2) The waste is treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.0406. Special requirements for incompatible wastes. (1)** Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) may not be placed in the same treatment process or equipment, unless s. NR 665.0017(2) is complied with.

(2) Hazardous waste may not be placed in unwashed treatment equipment which previously held an incompatible waste or material, unless s. NR 665.0017(2) is complied with.

Subchapter R —Underground Injection

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NR 665.0430 Applicability. (1) Except as provided in sub (2), underground injection of any hazardous waste through a well is prohibited.

(2) Underground injection of contaminated groundwater that meets the definition of hazardous waste or contains a hazardous waste may be allowed as part of a remedial action necessary for the cleanup of soil or groundwater contamination, and is not subject to the requirements of NR 664 and 665 subchs. A to E, G, H and N, and chs. NR 668 and 670, provided that all of the following requirements are met:

(a) A person who proposes to perform the injection obtains written approval from the department.

(b) The criteria in s. NR 140.28(5) are met.

(c) The contaminated groundwater is treated before it is injected.

(d) The groundwater is injected into the same formation from which it was withdrawn.

Subchapter W —Drip Pads

NR 665.0440 Applicability. (1) The requirements of this subchapter apply to owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation or surface water run-off to an associated collection system. Existing drip pads are those constructed before June 1, 1995 and those for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to June 1, 1995. All other drip pads are new drip pads..

(2) The owner or operator of any drip pad that is inside or under a structure that provides protection from precipitation so that neither run-off nor run-on is generated is not regulated under s. NR 665.0443(5) or (6), as appropriate.

(3) The requirements of this subchapter are not applicable to the management of infrequent and incidental drippage in storage yards provided that the owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of the infrequent and incidental drippage. At a minimum, the contingency plan shall describe how the facility will do all of the following:

(a) Clean up the drippage.

(b) Document the cleanup of the drippage.

(c) Retain documents regarding cleanup for 3 years.

(d) Manage the contaminated media in a manner consistent with state rules.

NR 665.0441 Assessment of existing drip pad integrity. (1) For each existing drip pad as defined in s. NR 665.0440, the owner or operator shall evaluate the drip pad and determine that it meets all of the requirements of this subchapter, except the requirements for liners and leak detection systems of s. NR

665.0443(2). No later than June 1, 1995, the owner or operator shall obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an independent, qualified registered professional engineer that attests to the results of the evaluation. The assessment shall be reviewed, updated and re-certified annually until all upgrades, repairs or modifications necessary to achieve compliance with all of the standards of s. NR 665.0443 are complete. The evaluation shall document the extent to which the drip pad meets each of the design and operating standards of s. NR 665.0443, except the standards for liners and leak detection systems, specified in s. NR 665.0443(2).

(2) The owner or operator shall develop a written plan for upgrading, repairing and modifying the drip pad to meet the requirements of s. NR 665.0443(2), and submit the plan to the department no later than 2 years before the date that all repairs, upgrades and modifications are complete. This written plan shall describe all changes to be made to the drip pad in sufficient detail to document compliance with all the requirements of s. NR 665.0443. The plan shall be reviewed and certified by an independent qualified registered professional engineer.

(3) Upon completion of all upgrades, repairs and modifications, the owner or operator shall submit to the department, the as-built drawings for the drip pad together with a certification by an independent, qualified registered professional engineer attesting that the drip pad conforms to the drawings.

(4) If the drip pad is found to be leaking or unfit for use, the owner or operator shall comply with the provisions of s. NR 665.0443(13) or close the drip pad in accordance with s. NR 665.0445.

NR 665.0442 Design and installation of new drip pads. Owners and operators of new drip pads shall ensure that the pads are designed, installed and operated in accordance with one of the following:

(1) All of the applicable requirements of ss. NR 665.0443 (except 665.0443(1)(d)), 665.0444 and 665.0445.

(2) All of the applicable requirements of ss. NR 665.0443 (except 665.0443(2)), 665.0444 and 665.0445.

NR 665.0443 Design and operating requirements. (1) Drip pads shall comply with all of the following:

(a) Be constructed of non-earthen materials, excluding wood and non-structurally supported asphalt.

(b) Be sloped to free-drain treated wood drippage, rain and other waters, or solutions of drippage and water or other wastes to the associated collection system.

(c) Have a curb or berm around the perimeter.

(d) 1. Have a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second, e.g., existing concrete drip pads shall be sealed, coated or covered with a surface material with a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second such that the entire surface where drippage occurs or may run across is capable of containing the drippage and mixtures of drippage and precipitation, materials or other wastes while being routed to an associated collection system. This surface material shall be maintained free of cracks and gaps that could adversely affect its hydraulic conductivity, and the material shall be chemically compatible with the preservatives that contact the drip pad. The requirements of this provision apply only to existing drip pads and those drip pads for which the owner or operator elects to comply with s. NR 665.0442(2) instead of s. NR 665.0442(1).

2. The owner or operator shall obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an independent, qualified registered professional engineer that attests to the results of the evaluation. The assessment shall be reviewed, updated and recertified annually. The evaluation shall document the extent to which the drip pad meets the design and operating standards of this section, except for sub. (2).

(e) Be of sufficient structural strength and thickness to prevent failure due to physical contact, climatic conditions, the stress of installation and the stress of daily operations, including variable and moving loads such as vehicle traffic or movement of wood.

Note: The department will generally consider applicable standards established by professional organizations generally recognized by industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirement of par. (e).

(2) If an owner or operator elects to comply with s. NR 665.0442(1) instead of s. NR 665.0442(2), the drip pad shall have all of the following:

(a) A synthetic liner installed below the drip pad that is designed, constructed and installed to prevent leakage from the drip pad into the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the drip pad. The liner shall be constructed of materials that will prevent waste from being absorbed into the liner and prevent releases into the adjacent subsurface soil or groundwater or surface water during the active life of the facility. The liner shall comply with all of the following:

1. Be constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or drip pad leakage to which they are exposed, climatic conditions, the stress of installation and the stress of daily operation (including stresses from vehicular traffic on the drip pad).

2. Be placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift.

3. Be installed to cover all surrounding earth that could come in contact with the waste or leakage.

(b) A leakage detection system immediately above the liner that is designed, constructed, maintained and operated to detect leakage from the drip pad. The leakage detection system shall comply with all of the following:

1. Be constructed of materials that are all of the following:

a. Chemically resistant to the waste managed in the drip pad and the leakage that might be generated.

b. Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying materials and by any equipment used at the drip pad.

2. Be designed and operated to function without clogging through the scheduled closure of the drip pad.

3. Be designed so that it will detect the failure of the drip pad or the presence of a release of hazardous waste or accumulated liquid at the earliest practicable time.

(c) A leakage collection system immediately above the liner that is designed, constructed, maintained and operated to collect leakage from the drip pad such that it can be removed from below the drip pad. The date, time and quantity of any leakage collected in this system and removed shall be documented in the operating log.

(3) Drip pads shall be maintained such that they remain free of cracks, gaps, corrosion or other deterioration that could cause hazardous waste to be released from the drip pad.

Note: See sub. (13) for remedial action required if deterioration or leakage is detected.

(4) The drip pad and associated collection system shall be designed and operated to convey, drain and collect liquid resulting from drippage or precipitation in order to prevent run-off.

(5) Unless protected by a structure, as described in s. NR 665.0440(2), the owner or operator shall design, construct, operate and maintain a run-on control system capable of preventing flow onto the drip pad during peak discharge from at least a 24-hour, 25-year storm unless the system has sufficient excess capacity to contain any run-on that might enter the system, or the drip pad is protected by a structure or cover, as described in s. NR 665.0440(2).

(6) Unless protected by a structure or cover, as described in s. NR 665.0440(2), the owner or operator shall design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(7) The drip pad shall be evaluated to determine that it meets the requirements of subs. (1) to (6), and the owner or operator shall obtain a statement from an independent, qualified registered professional engineer certifying that the drip pad design meets the requirements of this section.

(8) Drippage and accumulated precipitation shall be removed from the associated collection system as necessary to prevent overflow onto the drip pad.

(9) The drip pad surface shall be cleaned thoroughly in a manner and frequency such that accumulated residues of hazardous waste or other materials are removed, with residues being properly managed as hazardous waste, so as to allow weekly inspections of the entire drip pad surface without interference or hindrance from accumulated residues of hazardous waste or other materials on the drip pad. The owner or operator shall document the date and time of each cleaning and the cleaning procedure used in the facility's operating log.

(10) Drip pads shall be operated and maintained in a manner to minimize tracking of hazardous waste or hazardous waste constituents off the drip pad as a result of activities by personnel or equipment.

(11) After being removed from the treatment vessel, treated wood from pressure and non-pressure processes shall be held on the drip pad until drippage has ceased. The owner or operator shall maintain records sufficient to document that all treated wood is held on the pad following treatment in accordance with this requirement.

(12) Collection and holding units associated with run-on and run-off control systems shall be emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system.

(13) Throughout the active life of the drip pad, if the owner or operator detects a condition that may have caused or has caused a release of hazardous waste, the condition shall be repaired within a reasonably prompt period of time following discovery, in accordance with all of the following procedures:

(a) Upon detection of a condition that may have caused or has caused a release of hazardous waste (e.g., upon detection of leakage by the leak detection system), the owner or operator shall do all of the following:

1. Enter a record of the discovery in the facility operating log.
2. Immediately remove the portion of the drip pad affected by the condition from service.
3. Determine what steps must be taken to repair the drip pad and remove any leakage from below the drip pad, and establish a schedule for accomplishing the clean up and repairs.
4. Immediately after discovery of the condition, notify the department of the condition and, within 10 working days, provide a written notice to the department with a description of the steps that will be taken to repair the drip pad and clean up any leakage, and the schedule for accomplishing this work.

(b) The department will review the information submitted, make a determination regarding whether the pad must be removed from service completely or partially until repairs and clean up are complete, and notify the owner or operator of the determination and the underlying rationale in writing.

(c) Upon completing all repairs and clean up, the owner or operator shall notify the department in writing and provide a certification, signed by an independent qualified, registered professional engineer, that the repairs and clean up have been completed according to the written plan submitted in accordance with par. (a)4.

(14) The owner or operator shall maintain, as part of the facility operating log, documentation of past operating and waste handling practices. This shall include identification of preservative formulations used in the past, a description of drippage management practices and a description of treated wood storage and handling practices.

NR 665.0444 Inspections. (1) During construction or installation, liners and cover systems (e.g., membranes, sheets or coatings) shall be inspected for uniformity, damage and imperfections (e.g., holes, cracks, thin spots or foreign materials). Immediately after construction or installation, liners shall be inspected and certified as meeting the requirements of s. NR 665.0443 by an independent qualified,

registered professional engineer. The certification shall be maintained at the facility as part of the facility operating record. After installation, liners and covers shall be inspected to ensure tight seams and joints and the absence of tears, punctures or blisters.

(2) While a drip pad is in operation, it shall be inspected weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunctions or improper operation of run-on and run-off control systems.

(b) The presence of leakage in and proper functioning of the leakage detection system.

(c) Deterioration or cracking of the drip pad surface.

Note: See s. NR 665.0443(13) for remedial action required if deterioration or leakage is detected.

NR 665.0445 Closure. (1) At closure, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components (such as pads and liners), contaminated subsoils, and structures and equipment contaminated with waste and leakage, and manage them as hazardous waste.

(2) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures and equipment as required in sub. (1), the owner or operator finds that not all contaminated subsoils can be practically removed or decontaminated, the owner or operator shall close the facility and perform long-term care in accordance with closure and long-term care requirements that apply to landfills (s. NR 665.0310). For licensed units, the requirement to have a license continues throughout the long-term care period.

(3)(a) The owner or operator of an existing drip pad, as defined in s. NR 665.0440, that does not comply with the liner requirements of s. NR 665.0443(2)(a) shall do all of the following:

1. Include in the closure plan for the drip pad under s. NR 665.0112 both a plan for complying with sub. (1) and a contingent plan for complying with sub. (2) in case not all contaminated subsoils can be practicably removed at closure.

2. Prepare a contingent long-term care plan under s. NR 665.0118 for complying with sub. (2) in case not all contaminated subsoils can be practicably removed at closure.

(b) The cost estimates calculated under ss. NR 665.0112 and 665.0144 for closure and long-term care of a drip pad subject to this subsection shall include the cost of complying with the contingent closure plan and the contingent long-term care plan, but are not required to include the cost of expected closure under sub. (1).

Subchapter AA —Air Emission Standards for Process Vents

NR 665.1030 Applicability. (1) This subchapter applies to owners and operators of facilities that treat, store or dispose of hazardous wastes (except as provided in s. NR 665.0001).

(2) Except for s. NR 665.1034(4) and (5), this subchapter applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10 ppmw, if these operations are conducted in one of the following:

(a) A unit that is subject to the licensing requirements of ch. NR 670.

(b) A unit (including a hazardous waste recycling unit) that is not exempt from licensing under s. NR 662.034(1) (i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the licensing requirements of ch. NR 670.

(c) A unit that is exempt from licensing under s. NR 662.034(1) (i.e., a ”90-day” tank or container) and is not a recycling unit under s. NR 661.06.

Note: Sections NR 665.1032 to 665.1035 apply to process vents on hazardous waste recycling units previously exempt under s. NR 661.06(3)(a). Other exemptions under ss. NR 661.04 and 665.0001(3) are not affected by these requirements.

(4) This subchapter does not apply to the process vents at a facility where the facility owner or operator certifies that all of the process vents that would otherwise be subject to this subchapter are equipped with and operating air emission controls according to the process vent requirements in 40 CFR part 60, 61 or 63, and corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469. Keep the documentation of compliance under 40 CFR part 60, 61 or 63 and corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469 with, or make it readily available with, the facility operating record.

NR 665.1031 Definitions. As used in this subchapter, all terms shall have the meaning given them in s. NR 664.1031, ch. 291, Stats., and chs. NR 660 to 666.

NR 665.1032 Standards: process vents. (1) The owner or operator of a facility with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operations managing hazardous wastes with organic concentrations at least 10 ppmw shall do any of the following:

(a) Reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr).

(b) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

(2) If the owner or operator installs a closed-vent system and control device to comply with sub. (1), the closed-vent system and control device shall meet s. NR 665.1033.

(3) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions or total organic compound concentrations achieved by add-on control devices, the performance tests shall conform with s. NR 665.1034(3).

(4) When an owner or operator and the department do not agree on determinations of vent emissions, emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, use the test methods in s. NR 665.1034(3) to resolve the disagreement.

NR 665.1033 Standards: closed-vent systems and control devices. (1)(a) Owners or operators of closed-vent systems and control devices used to comply with provisions of this chapter shall comply with this section.

(b) 1. The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with this subchapter on the effective date that the facility becomes subject to this subchapter shall prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls shall be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this subchapter for installation and startup.

2. Any unit that begins operation after June 1, 1995, and is subject to this subchapter when operation begins, shall comply with the rules immediately (i.e., shall have control devices installed and operating on startup of the affected unit; the 30-month implementation schedule does not apply).

3. The owner or operator of any facility in existence on the effective date of a department rule amendment that renders the facility subject to this subchapter shall comply with this subchapter as soon as practicable but no later than 30 months after the amendment's effective date. When control equipment required by this subchapter can not be installed and begin operation by the effective date of the

amendment, the facility owner or operator shall prepare an implementation schedule that includes specific calendar dates for award of contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subchapter. The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility.

4. Owners and operators of facilities and units that become newly subject to this subchapter after the effective date of this subchapter . . . . [revisor inserts date], due to an action other than those described in subd. 3. shall comply with all applicable requirements immediately (i.e., shall have control devices installed and operating on the date the facility or unit becomes subject to this subchapter; the 30-month implementation schedule does not apply).

(2) Design and operate a control device involving vapor recovery (e.g., a condenser or adsorber) to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of s. NR 665.1032(1)(a) for all affected process vents can be attained at an efficiency less than 95 weight percent.

(3) Design and operate an enclosed combustion device (e.g., a vapor incinerator, boiler or process heater) to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C. If a boiler or process heater is used as the control device, introduce the vent stream into the flame combustion zone of the boiler or process heater.

(4)(a) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in sub. (5)(a), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(b) Operate a flare with a flame present at all times, as determined by the methods specified in sub. (6)(b)3.

(c) Use a flare only if the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater, if the flare is steam-assisted or air-assisted, or if the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. Determine the net heating value of the gas being combusted by the methods specified in sub. (5)(b).

(d)1. Design a steam-assisted or nonassisted flare for and operate it with an exit velocity, determined by the methods specified in sub. (5)(c), less than 18.3 m/s (60 ft/s), except as provided in subds. 2. and 3.

2. A steam-assisted or nonassisted flare designed for and operated with an exit velocity, determined by the methods specified in sub. (5)(c), equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

3. A steam-assisted or nonassisted flare designed for and operated with an exit velocity, determined by the methods specified in sub. (5)(c), less than the velocity, V_{max}, determined by the method specified in sub. (5)(d), and less than 122 m/s (400 ft/s) is allowed.

(e) Design and operate an air-assisted flare with an exit velocity less than the velocity, V_{max}, determined by the method specified in sub. (5)(e).

(f) A flare used to comply with this section shall be steam-assisted, air-assisted or nonassisted.

(5)(a) Use Method 22 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, to determine the compliance of a flare with the visible emission provisions of this subchapter. Use an observation period of 2 hours according to Method 22.

(b) Calculate the net heating value of the gas being combusted in a flare using the following equation:

$$H_T = K\left[\sum_{i=1}^{n} C_i H_i\right]$$

where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20 °C

K = Constant, 1.74×10^{-7} (1/ppm) (g mol/scm) (MJ/kcal) where standard temperature for (g mol/scm) is 20 °C

C_i = Concentration of sample component i in ppm on a wet basis, measured for organics by Method 18 in appendix A of 40 CFR part 60 and measured for hydrogen and carbon monoxide by ASTM D1946-82, both incorporated by reference in s. NR 660.11

H_i = Net heat of combustion of sample component i, kcal/g mol at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-83, incorporated by reference in s. NR 660.11, if published values are not available or cannot be calculated

(c) Determine the actual exit velocity of a flare by dividing the volumetric flow rate (in units of standard temperature and pressure), determined by Methods 2, 2A, 2C or 2D in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(d) Determine the maximum allowed velocity in m/s, V_{max}, for a flare complying with sub. (4)(d)3. by the following equation:

$$\mathrm{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$$

where:

H_T = The net heating value determined in par. (b)

28.8 = Constant

31.7 = Constant

(e) Determine the maximum allowed velocity in m/s, V_{max}, for an air-assisted flare by the following equation:

$$V_{max} = 8.706 + 0.7084\,(H_T)$$

where:

8.706 = Constant

0.7084 = Constant

H_T = The net heating value determined in par. (b)

(6) The owner or operator shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing all of the following requirements:

(a) Install, calibrate, maintain and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. Install the flow indicator sensor in the vent stream at the nearest feasible point to the control device inlet, but before being combined with other vent streams.

(b) Install, calibrate, maintain and operate according to the manufacturer's specifications a device to continuously monitor control device operation according to one of the following:

1. For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. Install the temperature sensor at a location in the combustion chamber downstream of the combustion zone.

2. For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at 2 locations and have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. Install one temperature sensor in the vent stream at the nearest feasible point to the catalyst bed inlet and install a second temperature sensor in the vent stream at the nearest feasible point to the catalyst bed outlet.

3. For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

4. For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. Install the temperature sensor at a location in the furnace downstream of the combustion zone.

5. For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter or parameters that indicates good combustion operating practices are being used.

6. For a condenser, any of the following:

a. A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser.

b. A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. Install the temperature sensor at a location in the exhaust vent stream from the condenser exit (i.e., product side).

7. For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly in the control device, any of the following:

a. A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed.

b. A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(c) Inspect the readings from each monitoring device required by pars. (a) and (b) at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with this section.

(7) An owner or operator using a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device, shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of s. NR 665.1035(2)(d)3.f.

(8) An owner or operator using a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis using one of the following procedures:

(a) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of s. NR 665.1035(2)(d)3.g., whichever is longer.

(b) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of s. NR 665.1035(2)(d)3.g.

(9) An owner or operator of an affected facility seeking to comply with this chapter by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser or carbon adsorption system shall develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

(10) A closed-vent system shall meet any of the following design requirements:

(a) Design a closed-vent system to operate with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background determined by the procedure in s. NR 665.1034(2), and by visual inspections.

(b) Design a closed-vent system to operate at a pressure below atmospheric pressure. Equip the system with at least one pressure gauge or other pressure measurement device that can be read from a

readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating.

(11) The owner or operator shall monitor and inspect each closed-vent system required to comply with this section to ensure proper operation and maintenance of the closed-vent system by implementing all of the following requirements:

(a) Inspect and monitor each closed-vent system that is used to comply with sub. (10)(a) according to all of the following requirements:

1. Conduct an initial leak detection monitoring of the closed-vent system on or before the date that the system becomes subject to this section. Monitor the closed-vent system components and connections using the procedures in s. NR 665.1034(2) to demonstrate that the closed-vent system operates with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background.

2. After initial leak detection monitoring required in subd. 1., inspect and monitor the closed-vent system as follows:

a. Visually inspect closed-vent system joints, seams or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between 2 sections of hard piping or a bolted and gasketed ducting flange) at least once per year to check for defects that could result in air pollutant emissions. Monitor a component or connection using the procedures in s. NR 665.1034(2) to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced (e.g., a section of damaged hard piping is replaced with new hard piping) or the connection is unsealed (e.g., a flange is unbolted).

b. Monitor closed-vent system components or connections other than those specified in subd. 2.a. annually and at other times requested by the department, except as provided for in sub. (14), using the procedures in s. NR 665.1034(2) to demonstrate that the components or connections operate with no detectable emissions.

3. In the event that a defect or leak is detected, repair the defect or leak according to par. (c).

4. Maintain a record of the inspection and monitoring according to s. NR 665.1035.

(b) Inspect and monitor each closed-vent system that is used to comply with sub. (10)(b) according to all of the following requirements:

1. Visually inspect the closed-vent system to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes or gaps in ductwork or piping or loose connections.

2. Perform an initial inspection of the closed-vent system on or before the date that the system becomes subject to this section. Thereafter, perform the inspections at least once every year.

3. In the event that a defect or leak is detected, repair the defect according to par. (c).

4. Maintain a record of the inspection and monitoring according to s. NR 665.1035.

(c) Repair all detected defects according to all of the following:

1. Control detectable emissions, as indicated by visual inspection, or by an instrument reading greater than 500 ppmv above background, as soon as practicable, but not later than 15 calendar days after the emission is detected, except as provided for in subd. 3.

2. Make a first attempt at repair no later than 5 calendar days after the emission is detected.

3. Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Complete repair of the equipment by the end of the next process unit shutdown.

4. Maintain a record of the defect repair according to s. NR 665.1035.

(12) Operate closed-vent systems and control devices used to comply with this subchapter at all times when emissions may be vented to them.

(13) The owner or operator using a carbon adsorption system to control air pollutant emissions shall document that all carbon that is a hazardous waste and that is removed from the control device is

managed in one of the following manners, regardless of the average volatile organic concentration of the carbon:

(a) Regenerated or reactivated in a thermal treatment unit that meets one of the following:

1. The owner or operator of the unit has been issued an operating license under ch. NR 670 which implements the requirements of subch. X of ch. NR 664.

2. The unit is equipped with and operating air emission controls according to the applicable requirements of this subchapter and subch. CC or subchs. AA and CC of ch. NR 664.

3. The unit is equipped with and operating air emission controls according to a national emission standard for hazardous air pollutants under 40 CFR part 61 or 63, or corresponding provisions of subch. III of ch. NR 446 and chs. NR 447 to 469.

(b) Incinerated in a hazardous waste incinerator for which any of the following conditions has been met:

1. The owner or operator has been issued an operating license under ch. NR 670 which implements the requirements of subch. O of ch. NR 664.

2. The owner or operator has designed and operates the incinerator according to the interim license requirements of subch. O.

(c) Burned in a boiler or industrial furnace for which any of the following conditions has been met:

1. The owner or operator has been issued an operating license under ch. NR 670 which implements the requirements of subch. H of ch. NR 666.

2. The owner or operator has designed and operates the boiler or industrial furnace according to the interim license requirements of subch. H of ch. NR 666.

(14) Any components of a closed-vent system that are designated, as described in s. NR 665.1035(3)(i), as unsafe to monitor are exempt from sub. (11)(a)2.b. if the owner or operator does all of the following:

(a) Determines that the components of the closed-vent system are unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with sub. (11)(a)2.b.

(b) Adheres to a written plan that requires monitoring the closed-vent system components using the procedure in sub. (11)(a)2.b. as frequently as practicable during safe-to-monitor times.

NR 665.1034 Test methods and procedures. (1) Each owner or operator subject to this subchapter shall comply with the test methods and procedures requirements in this section**.**

(2) When a closed-vent system is tested for compliance with no detectable emissions, as required in s. NR 665.1033(11), the test shall comply with all of the following requirements:

(a) Monitoring shall comply with Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(b) The detection instrument shall meet the performance criteria of Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(c) The instrument shall be calibrated before use on each day of its use by the procedures in Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(d) Calibration gases shall be all of the following:

1. Zero air (less than 10 ppm of hydrocarbon in air).

2. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(e) Determine the background level according to Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(f) Traverse the instrument probe around all potential leak interfaces as close to the interface as possible as described in Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(g) Compare the arithmetic difference between the maximum concentration indicated by the instrument and the background level with 500 ppm for determining compliance.

(3) Performance tests to determine compliance with s. NR 665.1032(1) and with the total organic compound concentration limit of s. NR 665.1033(3) shall comply with all of the following:

(a) Conduct performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices and reduce data according to all of the following methods and calculation procedures:

1. Method 2 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, for velocity and volumetric flow rate.

2. Method 18 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, for organic content.

3. Each performance test shall consist of 3 separate runs; conduct each run for at least one hour under the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, average the results of all runs. Compute the average on a time-weighted basis.

4. Determine total organic mass flow rates by the following equation:

$$E_h = Q_{sd}\left[\sum_{i=1}^{n} C_i MW_i\right][0.0416][10^{-6}]$$

where:

E_h = Total organic mass flow rate, kg/h

Q_{sd} = Volumetric flow rate of gases entering or exiting control device, determined by Method 2, dscm/h

n = Number of organic compounds in the vent gas

C_i = Organic concentration in ppm, dry basis, of compound i in the vent gas, determined by Method 18

MW_i = Molecular weight of organic compound i in the vent gas, kg/kg-mol

0.0416 = Conversion factor for molar volume, kg-mol/m^3 (at 293 K and 760 mm Hg)

10^{-6} = Conversion from ppm, ppm^{-1}

5. Determine the annual total organic emission rate by the following equation:

$$E_A = (E_h)(H)$$

where:

E_A = Total organic mass emission rate, kg/y

E_h = Total organic mass flow rate for the process vent, kg/h

H = Total annual hours of operations for the affected unit, h

6. Determine total organic emissions from all affected process vents at the facility by summing the hourly total organic mass emission rates (E_h, determined in subd. 4.) and by summing the annual total organic mass emission rates (E_A, determined in subd. 5.) for all affected process vents at the facility.

(b) Record the process information as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown and malfunction may not constitute representative conditions for the purpose of a performance test.

(c) For an affected facility, provide, or cause to be provided, all of the following performance testing facilities:

1. Sampling ports adequate for the test methods specified in par. (a).

2. A safe sampling platform or platforms.

3. Safe access to the sampling platform or platforms.

4. Utilities for sampling and testing equipment.

(d) For the purpose of making compliance determinations, use the time-weighted average of the results of the 3 runs. In the event that a sample is accidentally lost or conditions occur in which one of the 3 runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions or other circumstances beyond the owner or operator's control, compliance may, upon the department's approval, be determined using the average of the results of the 2 other runs.

(4) To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operation is not subject to this subchapter, the owner or operator shall make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than 10 ppmw using one of the following 2 methods:

(a) *Direct measurement of the organic concentration of the waste.* This method requires all of the following:

1. Take a minimum of 4 grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.

2. For waste generated onsite, collect the grab samples at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operation. For waste generated off-site, collect the grab samples at the inlet to the first waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

3. Analyze each sample and compute the total organic concentration of the sample using Method 9060 or 8260 of EPA SW-846, incorporated by reference in s. NR 660.11.

4. Use the arithmetic mean of the results of the analyses of the 4 samples for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. Calculate the time-weighted average using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

(b) *Using knowledge of the waste to determine that its total organic concentration is less than 10 ppmw.* This method requires documentation of the waste determination. Examples of documentation that shall be used to support a determination under this paragraph include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than 10 ppmw, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(5) Make the determination that distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operations manage hazardous wastes with time-weighted, annual average total organic concentrations less than 10 ppmw according to pars. (a) and (b) or (c):

(a) By the effective date that the facility becomes subject to this subchapter or by the date when the waste is first managed in a waste management unit, whichever is later.

(b) For continuously generated waste, annually.

(c) Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

(6) When an owner or operator and the department do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operation manages a hazardous waste with organic concentrations of at least 10 ppmw based on knowledge of the waste, the procedures in Method 8260 of EPA SW-846, incorporated by reference in s. NR 660.11, may be used to resolve the dispute.

NR 665.1035 Recordkeeping requirements. (1)(a) Each owner or operator subject to this subchapter shall comply with this section.

(b) An owner or operator of more than one hazardous waste management unit subject to this subchapter may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(2) Record all of the following information in the facility operating record:

(a) For facilities that comply with s. NR 665.1033(1)(b), an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule shall also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule shall be in the facility operating record by the effective date that the facility becomes subject to this subchapter.

(b) Up-to-date documentation of compliance with the process vent standards in s. NR 665.1032, including all of the following:

1. Information and data identifying all affected process vents, annual throughput end operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility) and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan).

2. Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, make determinations of vent emissions and emission reductions using operating parameter values (e.g., temperatures, flow rates or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action (e.g., managing a waste of different composition or increasing operating hours of affected waste management units) that would result in an increase in total organic emissions from affected process vents at the facility, a new determination is required.

(c) Where an owner or operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan shall include all of the following:

1. A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

2. A detailed engineering description of the closed-vent system and control device including all of the following:

a. Manufacturer's name and model number of control device.

b. Type of control device.

c. Dimensions of the control device.

d. Capacity.

e. Construction materials.

3. A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency and planned analytical procedures for sample analysis.

(d) Documentation of compliance with s. NR 665.1033 shall include all of the following information:

1. A list of all information references and sources used in preparing the documentation.

2. Records, including the dates, of each compliance test required by s. NR 665.1033(10).

3. If engineering calculations are used, a design analysis, specifications, drawings, schematics and piping and instrumentation diagrams based on the appropriate sections of ”APTI Course 415: Control of Gaseous Emissions”, incorporated by reference in s. NR 660.11, or other engineering texts acceptable to the department that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design according to subd. 3.a. to g. may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as follows:

a. For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

b. For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

c. For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time and description of method and location where the vent stream is introduced into the combustion zone.

d. For a flare, the design analysis shall consider the vent stream composition, constituent concentrations and flow rate. The design analysis shall also consider the requirements in s. NR 665.1033(4).

e. For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream and design average temperatures of the coolant fluid at the condenser inlet and outlet.

f. For a carbon adsorption system such as a fixed-bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling or drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time and design service life of carbon.

g. For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

4. A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

5. A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 percent or greater, unless the total organic concentration limit of s. NR 665.1032(1) is achieved at an efficiency less than 95 weight percent or the total organic emission limits of s. NR 665.1032(1) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

6. If performance tests are used to demonstrate compliance, all test results.

(3) Record and keep up-to-date in the facility operating record design documentation and monitoring, operating and inspection information for each closed-vent system and control device required to comply with this chapter. The information shall include all of the following:

(a) Description and date of each modification that is made to the closed-vent system or control device design.

(b) Identification of operating parameter, description of monitoring device and diagram of monitoring sensor location or locations used to comply with s. NR 665.1033(6)(a) and (b).

(c) Monitoring, operating and inspection information required by s. NR 665.1033(6) to (11).

(d) Date, time and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as follows:

1. For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C, period when the combustion temperature is below 760 °C.

2. For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 percent or greater, period when the combustion zone temperature is more than 28 °C below the design average combustion zone temperature established as a requirement of sub. (2)(d)3.a.

3. For a catalytic vapor incinerator, period when any of the following occurs:

a. Temperature of the vent stream at the catalyst bed inlet is more than 28 °C below the average temperature of the inlet vent stream established as a requirement of sub. (2)(d)3.b.

b. Temperature difference across the catalyst bed is less than 80 percent of the design average temperature difference established as a requirement of sub. (2)(d)3.b.

4. For a boiler or process heater, period when any of the following occurs:

a. Flame zone temperature is more than 28 °C below the design average flame zone temperature established as a requirement of sub. (2)(d)3.c.

b. Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of sub. (2)(d)3.c.

5. For a flare, period when the pilot flame is not ignited.

6. For a condenser that complies with s. NR 665.1033(6)(b)6.a., period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than 20 percent greater than the design outlet organic compound concentration level established as a requirement of sub. (2)(d)3.e.

7. For a condenser that complies with s. NR 665.1033(6)(b)6.b., period when any of the following occurs:

a. Temperature of the exhaust vent stream from the condenser is more than 6 °C above the design average exhaust vent stream temperature established as a requirement of sub. (2)(d)3.e.

b. Temperature of the coolant fluid exiting the condenser is more than 6 °C above the design average coolant fluid temperature at the condenser outlet established as a requirement of sub. (2)(d)3.e.

8. For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with s. NR 665.1033(6)(b)7.a., period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than 20 percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of sub. (2)(d)3.f.

9. For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with s. NR 665.1033(6)(b)7.b., period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of sub. (2)(d)3.f.

(e) Explanation for each period recorded under par. (d) of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

(f) For carbon adsorption systems operated subject to s. NR 665.1033(7) or (8)(b), date when existing carbon in the control device is replaced with fresh carbon.

(g) For carbon adsorption systems operated subject to s. NR 665.1033(8)(a), a log that records all of the following:

1. Date and time when control device is monitored for carbon breakthrough and the monitoring device reading.

2. Date when existing carbon in the control device is replaced with fresh carbon.

(h) Date of each control device startup and shutdown.

(i) An owner or operator designating any components of a closed-vent system as unsafe to monitor pursuant to s. NR 665.1033(14) shall record in a log that is kept in the facility operating record the identification of closed-vent system components that are designated as unsafe to monitor according to s. NR 665.1033(14), an explanation for each closed-vent system component stating why the closed-vent system component is unsafe to monitor and the plan for monitoring each closed-vent system component.

(j) When each leak is detected as specified in s. NR 665.1033(11), record all of the following information:

1. The instrument identification number, the closed-vent system component identification number and the operator name, initials or identification number.

2. The date the leak was detected and the date of first attempt to repair the leak.

3. The date of successful repair of the leak.

4. Maximum instrument reading measured by Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, after the leak is successfully repaired or determined to be nonrepairable.

5. ”Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

a. The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In those cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

b. If delay of repair was caused by depletion of stocked parts, there shall be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(4) Maintain records of the monitoring, operating and inspection information required by sub. (3)(c) to (j) for at least 3 years following the date of each occurrence, measurement, maintenance, corrective action or record.

(5) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser or carbon adsorption system, record monitoring and inspection information indicating proper operation and maintenance of the control device in the facility operating record.

(6) Record up-to-date information and data used to determine whether or not a process vent is subject to s. NR 665.1032, including supporting documentation required by s. NR 665.1034(4)(b) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, in a log that is kept in the facility operating record.

Subchapter BB —Air Emission Standards for Equipment Leaks

NR 665.1050 Applicability. (1) This subchapter applies to owners and operators of facilities that treat, store or dispose of hazardous wastes (except as provided in s. NR 665.0001).

(2) Except as provided in s. NR 665.1064(11), this subchapter applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight that are managed in one of the following:

(a) A unit that is subject to the licensing requirements of ch. NR 670.

(b) A unit (including a hazardous waste recycling unit) that is not exempt from licensing under s. NR 662.034(1) (i.e., a hazardous waste recycling unit that is not a "90-day" tank or container) and that is located at a hazardous waste management facility otherwise subject to the licensing requirements of ch. NR 670.

(c) A unit that is exempt from licensing under s. NR 662.034(1) (i.e., a "90-day" tank or container) and is not a recycling unit under s. NR 661.06.

(3) Each piece of equipment to which this subchapter applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(4) Equipment that is in vacuum service is excluded from ss. NR 665.1052 to 665.1060 if it is identified as required in s. NR 665.1064(7)(e).

(5) Equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year is excluded from ss. NR 665.1052 to 665.1060 if it is identified, as required in s. NR 665.1064(7)(f).

Note: Sections NR 665.1052 to 665.1064 apply to equipment associated with hazardous waste recycling units previously exempt under s. NR 661.06(3)(a). Other exemptions under ss. NR 661.04 and 665.0001(3) are not affected by these requirements.

NR 665.1051 Definitions. As used in this subchapter, all terms shall have the meaning given them in s. NR 664.1031, ch. 291, Stats., and chs. NR 660 to 666.

NR 665.1052 Standards: pumps in light liquid service. (1)(a) Monitor each pump in light liquid service monthly to detect leaks by the methods specified in s. NR 665.1063(2), except as provided in subs. (4) to (6).

(b) Check each pump in light liquid service by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(2)(a) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(b) If there are indications of liquids dripping from the pump seal, a leak is detected.

(3)(a) When a leak is detected, repair it as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in s. NR 665.1059.

(b) Make a first attempt at repair (e.g., tightening the packing gland) no later than 5 calendar days after each leak is detected.

(4) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from sub. (1), provided all of the following requirements are met:

(a) Each dual mechanical seal system shall be one of the following:

1. Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure.

2. Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with s. NR 665.1060.

3. Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.

(b) The barrier fluid system may not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(c) Equip each barrier fluid system with a sensor that will detect failure of the seal system, the barrier fluid system or both.

(d) Check each pump by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(e)1. Check each sensor described in par. (c) daily, or equip it with an audible alarm and check the alarm monthly to ensure it is functioning properly.

2. Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system or both.

(f)1. If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system or both based on the criterion determined in par. (e)2., a leak is detected.

2. When a leak is detected, repair it as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in s. NR 665.1059.

3. Make a first attempt at repair (e.g., relapping the seal) no later than 5 calendar days after each leak is detected.

(5) Any pump that is designated, as described in s. NR 665.1064(7)(b), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from subs. (1), (3) and (4) if the pump meets all of the following requirements:

(a) It has no externally actuated shaft penetrating the pump housing.

(b) It operates with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background measured by the methods specified in s. NR 665.1063(3).

(c) It is tested for compliance with par. (b) initially upon designation, annually and at other times requested by the department.

(6) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with s. NR 665.1060, it is exempt from subs. (1) to (5).

NR 665.1053 Standards: compressors. (1) Equip each compressor with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in subs. (8) and (9).

(2) Each compressor seal system as required in sub. (1) shall be one of the following:

(a) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure.

(b) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with s. NR 665.1060.

(c) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

(3) The barrier fluid may not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(4) Equip each barrier fluid system described in subs. (1) to (3) with a sensor that will detect failure of the seal system, barrier fluid system or both.

(5)(a) Check each sensor required in sub. (4) daily, or equip it with an audible alarm and check the alarm monthly to ensure it is functioning properly, unless the compressor is located within the boundary of an unmanned plant site, in which case check the sensor daily.

(b) Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system or both.

(6) If the sensor indicates failure of the seal system, the barrier fluid system or both based on the criterion determined under sub. (5)(b), a leak is detected.

(7)(a) When a leak is detected, repair it as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in s. NR 665.1059.

(b) Make a first attempt at repair (e.g., tightening the packing gland) no later than 5 calendar days after each leak is detected.

(8) A compressor is exempt from subs. (1) and (2) if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with s. NR 665.1060, except as provided in sub. (9).

(9) Any compressor that is designated, as described in s. NR 665.1064(7)(b), for no detectable emission as indicated by an instrument reading of less than 500 ppm above background is exempt from subs. (1) to (8) if the compressor meets all of the following requirements:

(a) It is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, measured by the method specified in s. NR 665.1063(3).

(b) It is tested for compliance with par. (a) initially upon designation, annually and at other times requested by the department.

NR 665.1054 Standards: pressure relief devices in gas or vapor service. (1) Except during pressure releases, operate each pressure relief device in gas or vapor service with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, measured by the method specified in s. NR 665.1063(3).

(2)(a) After each pressure release, return the pressure relief device to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in s. NR 665.1059.

(b) No later than 5 calendar days after the pressure release, monitor the pressure relief device to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, measured by the method specified in s. NR 665.1063(3).

(3) Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device described in s. NR 665.1060 is exempt from subs. (1) and (2).

NR 665.1055 Standards: sampling connection systems. (1) Equip each sampling connection system with a closed-purge, closed-loop or closed-vent system. The system shall collect the sample purge for return to the process or for routing to the appropriate treatment system. Gases displaced during filling of the sample container are not required to be collected or captured.

(2) Each closed-purge, closed-loop or closed-vent system required in sub. (1) shall meet one of the following requirements:

(a) It returns the purged process fluid directly to the process line.

(b) It collects and recycles the purged process fluid.

(c) It is designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of ss. NR 665.1085 to 665.1087 or a control device that complies with s. NR 665.1060.

(3) In-situ sampling systems and sampling systems without purges are exempt from subs. (1) and (2).

NR 665.1056 Standards: open-ended valves or lines. (1)(a) Equip each open-ended valve or line with a cap, blind flange, plug or a second valve.

(b) The cap, blind flange, plug or second valve shall seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

(2) Operate each open-ended valve or line equipped with a second valve in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with sub. (1) at all other times.

NR 665.1057 Standards: valves in gas or vapor service or in light liquid service. (1) Monitor each valve in gas or vapor or light liquid service monthly to detect leaks by the methods specified in s. NR 665.1063(2) and comply with subs. (2) to (5), except as provided in subs. (6) to (8) and ss. NR 665.1061 and 665.1062.

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3)(a) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

(b) If a leak is detected, monitor the valve monthly until a leak is not detected for 2 successive months.

(4)(a) When a leak is detected, repair it as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in s. NR 665.1059.

(b) Make a first attempt at repair no later than 5 calendar days after each leak is detected.

(5) First attempts at repair include, but are not limited to, the following best practices where practicable:

(a) Tightening of bonnet bolts.

(b) Replacement of bonnet bolts.

(c) Tightening of packing gland nuts.

(d) Injection of lubricant into lubricated packing.

(6) Any valve that is designated, as described in s. NR 665.1064(7)(b), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from sub. (1) if the valve meets all of the following requirements:

(a) It has no external actuating mechanism in contact with the hazardous waste stream.

(b) It is operated with emissions less than 500 ppm above background determined by the method specified in s. NR 665.1063(3).

(c) It is tested for compliance with par. (b) initially upon designation, annually and at other times requested by the department.

(7) Any valve that is designated, as described in s. NR 665.1064(8)(a), as an unsafe-to-monitor valve is exempt from sub. (1) if the owner or operator does all of the following:

(a) Determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with sub. (1).

(b) Adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(8) Any valve that is designated, as described in s. NR 665.1064(8)(b), as a difficult-to-monitor valve is exempt from sub. (1) if all of the following requirements are met:

(a) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(b) The hazardous waste management unit within which the valve is located was in operation before June 1, 1995.

(c) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

NR 665.1058 Standards: pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service and flanges and other connectors. (1) Monitor pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service and flanges and other connectors within 5 days by the method specified in s. NR 665.1063(2) if evidence of a potential leak is found by visual, audible, olfactory or any other detection method.

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3)(a) When a leak is detected, repair it as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in s. NR 665.1059.

(b) Make the first attempt at repair no later than 5 calendar days after each leak is detected.

(4) First attempts at repair include, but are not limited to, the best practices described under s. NR 665.1057(5).

(5) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass or glass-lined) is exempt from sub. (1) and from s. NR 665.1064.

NR 665.1059 Standards: delay of repair. (1) Delay of repair of equipment for which leaks have been detected shall be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair the equipment before the end of the next hazardous waste management unit shutdown**.**

(2) Delay of repair of equipment for which leaks have been detected shall be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least 10 percent by weight.

(3) Delay of repair for valves shall be allowed if all of the following conditions are met:

(a) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(b) When repair procedures are effected, collect and destroy or recover the purged material in a control device complying with s. NR 665.1060.

(4) Delay of repair for pumps shall be allowed if all of the following conditions are met:

(a) The repair requires use of a dual mechanical seal system that includes a barrier fluid system.

(b) The repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(5) Delay of repair beyond a hazardous waste management unit shutdown shall be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Repair may not be delayed beyond the next hazardous waste management unit shutdown unless the next hazardous waste management unit shutdown occurs sooner than 6 months after the first hazardous waste management unit shutdown.

NR 665.1060 Standards: closed-vent systems and control devices. (1) Owners and operators of closed-vent systems and control devices subject to this subchapter shall comply with s. NR 665.1033.

(2)(a) The owner or operator of an existing facility who can not install a closed-vent system and control device to comply with this subchapter on the effective date that the facility becomes subject to this subchapter shall prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. Install the controls as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this subchapter for installation and startup.

(b) Any units that begin operation after June 1, 1995, and are subject to this subchapter when operation begins, shall comply with the rules immediately (i.e., shall have control devices installed and operating on startup of the affected unit; the 30-month implementation schedule does not apply).

(c) The owner or operator of any facility in existence on the effective date of a department rule amendment that renders the facility subject to this subchapter shall comply with this subchapter as soon as practicable but no later than 30 months after the amendment's effective date. When control equipment required by this subchapter can not be installed and begin operation by the effective date of the amendment, prepare an implementation schedule that includes specific calendar dates for award of contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subchapter. Enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility.

(d) Owners and operators of facilities and units that become newly subject to this subchapter after the effective date of this subsection . . . . [revisor inserts date] due to an action other than those described in par. (c) shall comply with all applicable requirements immediately (i.e., shall have control devices

installed and operating on the date the facility or unit becomes subject to this subchapter; the 30-month implementation schedule does not apply).

NR 665.1061 Alternative standards for valves in gas or vapor service or in light liquid service: percentage of valves allowed to leak. (1) An owner or operator subject to s. NR 665.1057 may elect to have all valves within a hazardous waste management unit comply with an alternative standard which allows no greater than 2 percent of the valves to leak.

(2) An owner or operator who decides to comply with the alternative standard of allowing 2 percent of valves to leak shall meet all of the following requirements:

(a) Notify the department that the owner or operator has elected to comply with this section.

(b) Conduct a performance test as specified in sub. (3) initially upon designation, annually and at other times requested by the department.

(c) If a valve leak is detected, repair it according to s. NR 665.1057 (4) and (5).

(3) Conduct performance tests according to all of the following:

(a) Monitor all valves subject to s. NR 665.1057, within the hazardous waste management unit, within one week by the methods specified in s. NR 665.1063(2).

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c) Determine the leak percentage by dividing the number of valves subject to s. NR 665.1057 for which leaks are detected, by the total number of valves subject to s. NR 665.1057 within the hazardous waste management unit.

(4) An owner or operator who decides to no longer comply with this section shall notify the department in writing that the owner or operator will follow the work practice standard described in s. NR 665.1057 (1) to (5).

NR 665.1062 Alternative standards for valves in gas or vapor service or in light liquid service: skip period leak detection and repair. (1)(a) An owner or operator subject to s. NR 665.1057 may elect for all valves within a hazardous waste management unit to comply with one of the alternative work practices specified in sub. (2)(b) and (c).

(b) An owner or operator shall notify the department before implementing one of the alternative work practices.

(2)(a) An owner or operator shall comply with the requirements for valves in s. NR 665.1057, except as described in pars. (b) and (c).

(b) After 2 consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner or operator may begin to skip one of the quarterly leak detection periods (i.e., monitor for leaks once every 6 months) for the valves subject to s. NR 665.1057.

(c) After 5 consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner or operator may begin to skip 3 of the quarterly leak detection periods (i.e., monitor for leaks once every year) for the valves subject to s. NR 665.1057.

(d) If the percentage of valves leaking is greater than 2 percent, the owner or operators shall monitor monthly in compliance with s. NR 665.1057, but may again elect to use this section after meeting s. NR 665.1057(3)(a).

NR 665.1063 Test methods and procedures. (1) Each owner or operator subject to this subchapter shall comply with the test methods and procedures requirements in this section**.**

(2) Leak detection monitoring, as required in ss. NR 665.1052 to 665.1062, shall comply with all of the following requirements:

(a) Monitoring shall comply with Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(b) The detection instrument shall meet the performance criteria of Method 21.

(c) Calibrate the instrument before use on each day of its use by the procedures in Method 21.

(d) Calibration gases shall be all of the following:

1. Zero air (less than 10 ppm of hydrocarbon in air).

2. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10.000 ppm methane or n-hexane.

(e) Traverse the instrument probe around all potential leak interfaces as close to the interface as possible as described in Method 21.

(3) When equipment is tested for compliance with no detectable emissions, as required in ss. NR 665.1052(5), 665.1053(9), 665.1054 and 665.1057(6), the test shall comply with all of the following requirements:

(a) Comply with sub. (2)(a) to (d).

(b) Determine the background level, as set forth in Method 21.

(c) Traverse the instrument probe around all potential leak interfaces as close to the interface as possible as described in Method 21.

(d) Compare the arithmetic difference between the maximum concentration indicated by the instrument and the background level with 500 ppm for determining compliance.

(4) According to the waste analysis plan required by s. NR 665.0013(2), an owner or operator of a facility shall determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with an organic concentration that equals or exceeds 10 percent by weight using any of the following:

(a) Methods described in ASTM Methods D2267-88, E169-87, E168-88 or E260-85, incorporated by reference in s. NR 660.11.

(b) Method 9060 or 8260 of EPA SW-846, incorporated by reference in s. NR 660.11.

(c) Application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. This method requires documentation of a waste determination. Examples of documentation that shall be used to support a determination under this paragraph include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 percent or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(5) If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the determination can be revised only after following the procedures in sub. (4)(a) or (b).

(6) When an owner or operator and the department do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the procedures in sub. (4)(a) or (b) can be used to resolve the dispute.

(7) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.

(8) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D2879-86, incorporated by reference in s. NR 660.11.

(9) Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with s. NR 665.1034(3)(a) to (d).

NR 665.1064 Recordkeeping requirements. (1)(a) Each owner or operator subject to this subchapter shall comply with this section.

(b) An owner or operator of more than one hazardous waste management unit subject to this subchapter may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(2) Owners and operators shall record all of the following information in the facility operating record:

(a) For each piece of equipment to which this subchapter applies:

1. Equipment identification number and hazardous waste management unit identification.

2. Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).

3. Type of equipment (e.g., a pump or pipeline valve).

4. Percent-by-weight total organics in the hazardous waste stream at the equipment.

5. Hazardous waste state at the equipment (e.g., gas or vapor or liquid).

6. Method of compliance with the standard (e.g., ”monthly leak detection and repair” or ”equipped with dual mechanical seals”).

(b) For facilities that comply with s. NR 665.1033(1)(b), an implementation schedule as specified in s. NR 665.1033(1)(b).

(c) Where an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in s. NR 665.1035(2)(c).

(d) Documentation of compliance with s. NR 665.1060, including the detailed design documentation or performance test results specified in s. NR 665.1035(2)(d).

(3) When each leak is detected as specified in ss. NR 665.1052, 665.1053, 665.1057 and 665.1058, all of the following requirements apply:

(a) Attach to the leaking equipment a weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found according to s. NR 665.1058(1) and the date the leak was detected.

(b) The identification on equipment, except on a valve, may be removed after it has been repaired.

(c) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in s. NR 665.1057(3) and no leak has been detected during those 2 months.

(4) When each leak is detected as specified in ss. NR 665.1052, 665.1053, 665.1057 and 665.1058, record all of the following information in an inspection log and keep it in the facility operating record:

(a) The instrument and operator identification numbers and the equipment identification number.

(b) The date evidence of a potential leak was found according to s. NR 665.1058(1).

(c) The date the leak was detected and the dates of each attempt to repair the leak.

(d) Repair methods applied in each attempt to repair the leak.

(e) ”Above 10,000” if the maximum instrument reading measured by the methods specified in s. NR 665.1063(2) after each repair attempt is equal to or greater than 10,000 ppm.

(f) ”Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(g) Documentation supporting the delay of repair of a valve in compliance with s. NR 665.1059(3).

(h) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.

(i) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(j) The date of successful repair of the leak.

(5) Record design documentation and monitoring, operating and inspection information for each closed-vent system and control device required to comply s. NR 665.1060 and keep them up-to-date in the facility operating record as specified in s. NR 665.1035(3). Design documentation is specified in s. NR 665.1035(3)(a) and (b) and monitoring, operating and inspection information in s. NR 665.1035(3)(c) to (h).

(6) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser or carbon adsorption system, record, in the facility operating record, monitoring and inspection information indicating proper operation and maintenance of the control device.

(7) Record all of the following information, pertaining to all equipment subject to ss. NR 665.1052 to 665.1060, in a log that is kept in the facility operating record:

(a) A list of identification numbers for equipment (except welded fittings) subject to this subchapter.

(b)1. A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under ss. NR 665.1052(5), 665.1053(9) and 665.1057(6).

2. The designation of this equipment as subject to s. NR 665.1052(5), 665.1053(9) or 665.1057(6), signed by the owner or operator.

(c) A list of equipment identification numbers for pressure relief devices required to comply with s. NR 665.1054(1).

(d)1. The dates of each compliance test required in ss. NR 665.1052(5), 665.1053(9), 665.1054 and 665.1057(6).

2. The background level measured during each compliance test.

3. The maximum instrument reading measured at the equipment during each compliance test.

(e) A list of identification numbers for equipment in vacuum service.

(f) Identification, either by list or location (area or group) of equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year.

(8) Record all of the following information, pertaining to all valves subject to s. NR 665.1057(7) and (8), in a log that is kept in the facility operating record:

(a) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor and the plan for monitoring each valve.

(b) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor and the planned schedule for monitoring each valve.

(9) Record all of the following information in the facility operating record for valves complying with s. NR 665.1062:

(a) A schedule of monitoring.

(b) The percent of valves found leaking during each monitoring period.

(10) Record all of the following information in a log that is kept in the facility operating record:

(a) Criteria required in ss. NR 665.1052 (4)(e)2. and 665.1053(5)(b) and an explanation of the criteria.

(b) Any changes to these criteria and the reasons for the changes.

(11) Record all of the following information in a log that is kept in the facility operating record for use in determining exemptions in the applicability section of this subchapter and other specific subchapters:

(a) An analysis determining the design capacity of the hazardous waste management unit.

(b) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to ss. NR 665.1052 to 665.1060 and an analysis determining whether these hazardous wastes are heavy liquids.

(c) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to ss. NR 665.1052 to 665.1060. The record shall include supporting documentation as required by s. NR 665.1063(4)(c) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic

content of the waste contained in or contacted by equipment determined not to be subject to ss. NR 665.1052 to 665.1060, then a new determination is required.

(12) Keep records of the equipment leak information required by sub. (4) and the operating information required by sub. (5) for at least 3 years.

(13) The owner or operator of any facility with equipment that is subject to this subchapter and to leak detection, monitoring and repair requirements in 40 CFR part 60, 61 or 63, or to corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469, may elect to determine compliance with this subchapter either by documentation pursuant to this section, or by documentation of compliance with 40 CFR part 60, 61 or 63, or with corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469, pursuant to the relevant provisions of 40 CFR part 60, 61 or 63, or the corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469. Keep the documentation of compliance with 40 CFR part 60, 61 or 63, or corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469, with or make it readily available with the facility operating record.

Subchapter CC —Air Emission Standards for Tanks, Surface Impoundments and Containers

NR 665.1080 Applicability. (1) This subchapter applies to owners and operators of all facilities that treat, store or dispose of hazardous waste in containers, tanks or surface impoundments subject to subch. I, J or K except as s. NR 665.0001 and sub. (2) provide otherwise.

(2) This subchapter does not apply to the following waste management units at the facility:

(a) A waste management unit that holds hazardous waste placed in the unit before June 1, 1998, and in which no hazardous waste is added to the unit on or after June 1, 1998.

(b) A container that has a design capacity less than or equal to 0.1 m^3.

(c) A tank in which an owner or operator has stopped adding hazardous waste and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(d) A surface impoundment in which an owner or operator has stopped adding hazardous waste (except to implement an approved closure plan) and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(e) A waste management unit that is used solely for on-site treatment or storage of hazardous waste that is placed in the unit as a result of implementing remedial activities required under the corrective action authorities of 42 USC 6924(u) or (v), 6928(h) or 9601 to 9675, similar federal authorities or s. 291.37 or 292.11, Stats.

(f) A waste management unit that is used solely for the management of radioactive mixed waste according to all applicable regulations under the authority of 42 USC 2011 to 2297 and 10101 to 10270.

Note: The U.S. code (USC) cites in this paragraph are also known as the federal atomic energy act and the federal nuclear waste policy act, respectively.

(g) A hazardous waste management unit that the owner or operator certifies is equipped with and operating air emission controls according to 40 CFR part 60, 61 or 63, or to corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469. For the purpose of complying with this paragraph, a tank for which the air emission control includes an enclosure, as opposed to a cover, shall be in compliance with the enclosure and control device requirements of s. NR 665.1085(9), except as provided in s. NR 665.1083(3)(e).

(h) A tank that has a process vent as defined in s. NR 664.1031.

(3) For the owner and operator of a facility subject to this subchapter who has received an operating license under s. 291.25, Stats., prior to June 1, 1998, all of the following requirements apply:

(a) The requirements of subch. CC of ch. NR 664 shall be incorporated into the license when it is reissued according to s. NR 670.415 or reviewed according to s. NR 670.050(4).

(b) Until the date when the license is reissued according to s. NR 670.415 or reviewed according to s. NR 670.050(4), the owner and operator is subject to this subchapter.

(4) The requirements of this subchapter, except for the recordkeeping requirements in s. NR 665.1090(9), are administratively stayed for a tank or a container used to manage hazardous waste generated by organic peroxide manufacturing and its associated laboratory operations when the owner or operator of the unit meets all of the following conditions:

(a) The owner or operator identifies that the tank or container receives hazardous waste generated by an organic peroxide manufacturing process producing more than one functional family of organic peroxides or multiple organic peroxides within one functional family, that one or more of these organic peroxides could potentially undergo self-accelerating thermal decomposition at or below ambient temperatures and that organic peroxides are the predominant products manufactured by the process. For the purpose of meeting the conditions of this subsection, ”organic peroxide” means an organic compound that contains the bivalent -O-O- structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

(b) The owner or operator prepares documentation, according to s. NR 665.1090(9), explaining why an undue safety hazard would be created if air emission controls specified in ss. NR 665.1085 to 665.1088 are installed and operated on the tanks and containers used at the facility to manage the hazardous waste generated by the organic peroxide manufacturing process or processes meeting par. (a).

(c) The owner or operator notifies the department in writing that hazardous waste generated by an organic peroxide manufacturing process or processes meeting par. (a) are managed at the facility in tanks or containers meeting par. (b). The notification shall state the name and address of the facility and be signed and dated by an authorized representative of the facility owner or operator.

NR 665.1081 Definitions. As used in this subchapter, all terms not defined in this section shall have the meaning given them in ch. 291, Stats., and chs. NR 660 to 666.

(1) “Average volatile organic concentration” or “average VO concentration” means the mass-weighted average volatile organic concentration of a hazardous waste determined according to s. NR 665.1084.

(2) “Closure device” means a cap, hatch, lid, plug, seal, valve or other type of fitting that blocks an opening in a cover such that when the device is secured in the closed position it prevents or reduces air pollutant emissions to the atmosphere. Closure devices include devices that are detachable from the cover (e.g., a sampling port cap), manually operated (e.g., a hinged access lid or hatch) or automatically operated (e.g., a spring-loaded pressure relief valve).

(3) “Continuous seal” means a seal that forms a continuous closure that completely covers the space between the edge of the floating roof and the wall of a tank. A continuous seal may be a vapor-mounted seal, liquid-mounted seal or metallic shoe seal. A continuous seal may be constructed of fastened segments so as to form a continuous seal.

(4) “Cover” means a device that provides a continuous barrier over the hazardous waste managed in a unit to prevent or reduce air pollutant emissions to the atmosphere. A cover may have openings (such as access hatches, sampling ports, gauge wells) that are necessary for operation, inspection, maintenance and repair of the unit on which the cover is used. A cover may be a separate piece of equipment which can be detached and removed from the unit or a cover may be formed by structural features permanently integrated into the design of the unit.

(5) “Enclosure” means a structure that surrounds a tank or container, captures organic vapors emitted from the tank or container and vents the captured vapors through a closed-vent system to a control device.

(6) “External floating roof” means a pontoon-type or double-deck type cover that rests on the surface of the material managed in a tank with no fixed roof.

(7) “Fixed roof” means a cover that is mounted on a unit in a stationary position and does not move with fluctuations in the level of the material managed in the unit.

(8) "Floating membrane cover" means a cover consisting of a synthetic flexible membrane material that rests upon and is supported by the hazardous waste being managed in a surface impoundment.

(9) "Floating roof" means a cover consisting of a double deck, pontoon single deck or internal floating cover which rests upon and is supported by the material being contained, and is equipped with a continuous seal.

(10) "Hard-piping" means pipe or tubing that is manufactured and properly installed according to relevant standards and good engineering practices.

(11) "In light material service" means the container is used to manage a material for which all of the following conditions apply:

(a) The vapor pressure of one or more of the organic constituents in the material is greater than 0.3 kilopascals (kPa) at 20 °C.

(b) The total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20 °C is equal to or greater than 20 percent by weight.

(12) "Internal floating roof" means a cover that rests or floats on the material surface (but not necessarily in complete contact with it) inside a tank that has a fixed roof.

(13) "Liquid-mounted seal" means a foam or liquid-filled primary seal mounted in contact with the hazardous waste between the tank wall and the floating roof continuously around the circumference of the tank.

(14) "Malfunction" means any sudden, infrequent and not reasonably preventable failure of air pollution control equipment, process equipment or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(15) "Maximum organic vapor pressure" means the sum of the individual organic constituent partial pressures exerted by the material contained in a tank, at the maximum vapor pressure-causing conditions (i.e., temperature, agitation, pH effects of combining wastes, etc.) reasonably expected to occur in the tank. For the purpose of this subchapter, maximum organic vapor pressure is determined using the procedures specified in s. NR 665.1084(3).

(16) "Metallic shoe seal" means a continuous seal that is constructed of metal sheets which are held vertically against the wall of the tank by springs, weighted levers or other mechanisms and is connected to the floating roof by braces or other means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(17) "No detectable organic emissions" means no escape of organics to the atmosphere determined using the procedure in s. NR 665.1084(4).

(18) "Point of waste origination" means one of the following:

(a) When the facility owner or operator is the generator of the hazardous waste, the point where a solid waste produced by a system, process or waste management unit is determined to be hazardous waste as defined in ch. NR 661.

Note: In this case, this term is being used in a manner similar to the use of the term "point of generation" in air standards established for waste management operations in 40 CFR parts 60, 61 and 63.

(b) When the facility owner or operator is not the generator of the hazardous waste, the point where the owner or operator accepts delivery or takes possession of the hazardous waste.

(19) "Point of waste treatment" means the point where a hazardous waste to be treated according to s. NR 665.1083(3)(b) exits the treatment process. Make any waste determination before the waste is conveyed, handled or otherwise managed in a manner that allows the waste to volatilize to the atmosphere.

(20) "Safety device" means a closure device such as a pressure relief valve, frangible disc, fusible plug or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental or emergency event. For the

purpose of this subchapter, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable rules, fire protection and prevention codes, standard engineering codes and practices or other requirements for the safe handling of flammable, ignitable, explosive, reactive or hazardous materials.

(21) "Single-seal system" means a floating roof having one continuous seal. This seal may be vapor-mounted, liquid-mounted or a metallic shoe seal.

(22) "Vapor-mounted seal" means a continuous seal that is mounted such that there is a vapor space between the hazardous waste in the unit and the bottom of the seal.

(23) "Volatile organic concentration" or "VO concentration" means the fraction by weight of the volatile organic compounds contained in a hazardous waste expressed in terms of parts per million (ppmw) as determined by direct measurement or by knowledge of the waste according to s. NR 665.1084. For the purpose of determining the VO concentration of a hazardous waste, organic compounds with a Henry's law constant value of at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in the liquid-phase (0.1 Y/X) (which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m^3) at 25 °C shall be included. Appendix VI presents a list of compounds known to have a Henry's law constant value less than the cutoff level.

(24) "Waste determination" means performing all applicable procedures according to s. NR 665.1084 to determine whether a hazardous waste meets standards specified in this subchapter. Examples of a waste determination include performing the procedures according to s. NR 665.1084 to determine the average VO concentration of a hazardous waste at the point of waste origination, the average VO concentration of a hazardous waste at the point of waste treatment and comparing the results to the exit concentration limit specified for the process used to treat the hazardous waste, the organic reduction efficiency and the organic biodegradation efficiency for a biological process used to treat a hazardous waste and comparing the results to the applicable standards, or the maximum volatile organic vapor pressure for a hazardous waste in a tank and comparing the results to the applicable standards.

(25) "Waste stabilization process" means any physical or chemical process used to either reduce the mobility of hazardous constituents in a hazardous waste or eliminate free liquids as determined by Method 9095 of EPA SW-846, third edition, September 1986, as amended by Update I, November 15, 1992, incorporated by reference in s. NR 660.11. A waste stabilization process includes mixing the hazardous waste with binders or other materials, and curing the resulting hazardous waste and binder mixture. Other synonymous terms used to refer to this process are "waste fixation" or "waste solidification". This does not include the adding of absorbent materials to the surface of a waste, without mixing, agitation or subsequent curing, to absorb free liquid.

NR 665.1082 Schedule for implementation of air emission standards. (1) Owners or operators of facilities existing on June 1, 1998 and subject to subch. I, J or K shall meet all of the following requirements:

(a) Install and begin operation of all control equipment or waste management units required to comply with this subchapter and complete modifications of production or treatment processes to satisfy exemption criteria according to s. NR 665.1083(3) by June 1, 1998, except as provided for in par. (b).

(b) When control equipment or waste management units required to comply with this subchapter cannot be installed and in operation or modifications of production or treatment processes to satisfy exemption criteria according to s. NR 665.1083(3) cannot be completed by June 1, 1998, the owner or operator shall do all of the following:

1. Install and begin operation of the control equipment and waste management units, and complete modifications of production or treatment processes as soon as possible but no later than June 1, 1999.

2. Prepare an implementation schedule that includes specific calendar dates for award of contracts or issuance of purchase orders for control equipment, waste management units and production or treatment process modifications; initiation of on-site installation of control equipment or waste management units, and modifications of production or treatment processes; completion of control equipment or waste management unit installation, and production or treatment process modifications; and performance of testing to demonstrate that the installed equipment or waste management units, and modified production or treatment processes meet the applicable standards of this subchapter.

3. For facilities subject to the recordkeeping requirements of s. NR 665.0073, the owner or operator shall enter the implementation schedule specified in subd. 2. in the operating record no later than June 1, 1998.

4. For facilities not subject to s. NR 665.0073, the owner or operator shall enter the implementation schedule specified in subd. 2. in a permanent, readily available file located at the facility no later than June 1, 1998.

(2) Owners or operators of facilities and units in existence on the effective date of a department rule amendment that renders the facility subject to subch. I, J or K shall meet all of the following requirements:

(a) Install and begin operation of control equipment or waste management units required to comply with this subchapter, and complete modifications of production or treatment processes to satisfy exemption criteria of s. NR 665.1083(3) by the effective date of the amendment, except as provided for in par. (b).

(b) When control equipment or waste management units required to comply with this subchapter cannot be installed and begin operation, or when modifications of production or treatment processes to satisfy exemption criteria of s. NR 665.1083(3) cannot be completed by the effective date of the amendment, the owner or operator shall do all of the following:

1. Install and begin operation of the control equipment or waste management unit, and complete modification of production or treatment processes as soon as possible but no later than 30 months after the effective date of the amendment.

2. For facilities subject to the recordkeeping requirements of s. NR 665.0073, enter and maintain the implementation schedule specified in sub. (1)(b)2. in the operating record no later than the effective date of the amendment.

3. For facilities not subject to s. NR 665.0073, the owner or operator shall enter and maintain the implementation schedule specified in sub. (1)(b)2. in a permanent, readily available file located at the facility site no later than the effective date of the amendment.

(3) Owners and operators of facilities and units that become newly subject to this subchapter after June 1, 1999 due to an action other than those described in sub. (2) shall comply with all applicable requirements immediately (i.e., shall have control devices installed and operating on the date the facility or unit becomes subject to this subchapter; the 30-month implementation schedule does not apply).

(4) The department may elect to extend the implementation date for control equipment at a facility, on a case by case basis, to a date later than June 1, 1999, when special circumstances that are beyond the facility owner's or operator's control delay installation or operation of control equipment, and the owner or operator has made all reasonable and prudent attempts to comply with this subchapter.

NR 665.1083 Standards: general. (1) This section applies to the management of hazardous waste in tanks, surface impoundments and containers subject to this subchapter.

(2) The owner or operator shall control air pollutant emissions from each hazardous waste management unit according to the standards in ss. NR 665.1085 to 665.1088, as applicable to the hazardous waste management unit, except as provided in sub. (3).

(3) A tank, surface impoundment or container is exempt from the standards in ss. NR 665.1085 to 665.1088, as applicable, provided that the waste management unit is one of the following:

(a) A tank, surface impoundment or container for which all hazardous waste entering the unit has an average VO concentration at the point of waste origination of less than 500 parts per million by weight (ppmw). Determine the average VO concentration using the procedures in s. NR 665.1084(1). Review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous waste streams entering the unit.

(b) A tank, surface impoundment or container for which the organic content of all the hazardous waste entering the waste management unit has been reduced by an organic destruction or removal process that achieves any one of the following conditions:

1. A process that removes or destroys the organics contained in the hazardous waste to a level such that the average VO concentration of the hazardous waste at the point of waste treatment is less than the exit concentration limit (C_t) established for the process. Determine the average VO concentration of the hazardous waste at the point of waste treatment and the exit concentration limit for the process using the procedures in s. NR 665.1084(2).

2. A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the average VO concentration of the hazardous waste at the point of waste treatment is less than 100 ppmw. Determine the organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste treatment using the procedures in s. NR 665.1084(2).

3. A process that removes or destroys the organics contained in the hazardous waste to a level such that the actual organic mass removal rate (MR) for the process is equal to or greater than the required organic mass removal rate (RMR) established for the process. Determine the required organic mass removal rate and the actual organic mass removal rate for the process using the procedures in s. NR 665.1084(2).

4. A biological process that destroys or degrades the organics contained in the hazardous waste, such that any of the following conditions is met:

a. The organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the organic biodegradation efficiency (R_{bio}) for the process is equal to or greater than 95 percent. Determine the organic reduction efficiency and the organic biodegradation efficiency for the process using the procedures in s. NR 665.1084(2).

b. The total actual organic mass biodegradation rate (MR_{bio}) for all hazardous waste treated by the process is equal to or greater than the required organic mass removal rate (RMR). Determine the required organic mass removal rate and the actual organic mass biodegradation rate for the process using the procedures in s. NR 665.1084(2).

5. A process that removes or destroys the organics contained in the hazardous waste and meets all of the following conditions:

a. From the point of waste origination through the point where the hazardous waste enters the treatment process, the hazardous waste is managed continuously in waste management units which use air emission controls according to the standards in ss. NR 665.1085 to 665.1088, as applicable to the waste management unit.

b. From the point of waste origination through the point where the hazardous waste enters the treatment process, any transfer of the hazardous waste is accomplished through continuous hard-piping or other closed system transfer that does not allow exposure of the waste to the atmosphere. A drain system that meets 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems is a closed system.

c. The average VO concentration of the hazardous waste at the point of waste treatment is less than the lowest average VO concentration at the point of waste origination determined for each of the individual waste streams entering the process or 500 ppmw, whichever value is lower. Determine the average VO concentration of each individual waste stream at the point of waste origination using the

procedures in s. NR 665.1084(1). Determine the average VO concentration of the hazardous waste at the point of waste treatment using the procedures in s. NR 665.1084(2).

6. A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent and the owner or operator certifies that the average VO concentration at the point of waste origination for each of the individual waste streams entering the process is less than 10,000 ppmw. Determine the organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste origination using the procedures in s. NR 665.1084(2) and (1), respectively.

7. A hazardous waste incinerator for which any of the following conditions has been met:

a. The owner or operator has been issued an operating license under ch. NR 670 which implements subch. O of ch. NR 664.

b. The owner or operator has designed and operates the incinerator according to the interim license requirements of subch. O.

8. A boiler or industrial furnace for which any of the following conditions has been met:

a. The owner or operator has been issued an operating license under ch. NR 670 which implements subch. H of ch. NR 666.

b. The owner or operator has designed and operates the boiler or industrial furnace according to the interim license requirements of subch. H of ch. NR 666.

9. For the purpose of determining the performance of an organic destruction or removal process according to subds. 1. to 6., the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method using the following VO concentration:

a. If Method 25D in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, is used for the analysis, one-half the blank value determined in the method at section 4.4, or a value of 25 ppmw, whichever is less.

b. If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant value at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m^3] at 25 °C.

(c) A tank or surface impoundment used for biological treatment of hazardous waste according to par. (b)4.

(d) A tank, surface impoundment or container for which all hazardous waste placed in the unit meets any of the following conditions:

1. The waste meets the numerical concentration limits for organic hazardous constituents, applicable to the hazardous waste, as specified in ch. NR 668—Hazardous Waste Land Disposal Restrictions under Table "Treatment Standards for Hazardous Waste" in s. NR 668.40.

2. The organic hazardous constituents in the waste have been treated by the treatment technology established by the department for the waste in s. NR 668.42(1), or have been removed or destroyed by an equivalent method of treatment approved by EPA pursuant to 40 CFR 268.42(b).

(e) A tank used for bulk feed of hazardous waste to a waste incinerator and all of the following conditions are met:

1. The tank is located inside an enclosure vented to a control device that is designed and operated according to all applicable requirements in 40 CFR part 61, subpart FF—National Emission Standards for Benzene Waste Operations, for a facility at which the total annual benzene quantity from the facility waste is equal to or greater than 10 megagrams per year.

2. The enclosure and control device serving the tank were installed and began operation prior to June 1, 1998.

3. The enclosure is designed and operated according to the criteria for a permanent total enclosure in Method 204—"Criteria for and Verification of a Permanent or Temporary Total Enclosure" of appendix M of 40 CFR part 51, incorporated by reference in s. NR 660.11. The enclosure may have permanent or

temporary openings to allow worker access, passage of material into or out of the enclosure by conveyor, vehicles or other mechanical or electrical equipment or to direct air flow into the enclosure. Perform the verification procedure for the enclosure in Section 8 of Method 204 annually.

(4) The department may at any time perform or request that the owner or operator perform a waste determination for a hazardous waste managed in a tank, surface impoundment or container exempted from using air emission controls under this section as follows:

(a) Perform the waste determination for average VO concentration of a hazardous waste at the point of waste origination using direct measurement according to the applicable requirements of s. NR 665.1084(1). Perform the waste determination for a hazardous waste at the point of waste treatment according to the applicable requirements of s. NR 665.1084(2).

(b) In performing a waste determination pursuant to par. (a), conduct the sample preparation and analysis as follows:

1. According to the method used by the owner or operator to perform the waste analysis, except in the case specified in subd. 2.

2. If the department determines that the method used by the owner or operator was not appropriate for the hazardous waste managed in the tank, surface impoundment or container, then the department may choose an appropriate method.

(c) In a case when the owner or operator is requested to perform the waste determination, the department may elect to have an authorized representative observe the collection of the hazardous waste samples used for the analysis.

(d) In a case when the results of the waste determination performed or requested by the department do not agree with the results of a waste determination performed by the owner or operator using knowledge of the waste, the department may use the results of the waste determination performed according to par. (a) to establish compliance with this subchapter.

(e) In a case when the owner or operator has used an averaging period greater than one hour for determining the average VO concentration of a hazardous waste at the point of waste origination, the department may elect to establish compliance with this subchapter by performing, or requesting that the owner or operator perform, a waste determination using direct measurement based on waste samples collected within a one-hour period as follows:

1. Determine the average VO concentration of the hazardous waste at the point of waste origination by direct measurement according to s. NR 665.1084(1).

2. Results of the waste determination performed or requested by the department showing that the average VO concentration of the hazardous waste at the point of waste origination is equal to or greater than 500 ppmw shall constitute noncompliance with this subchapter except in a case provided for in subd. 3.

3. For the case when the average VO concentration of the hazardous waste at the point of waste origination previously has been determined by the owner or operator using an averaging period greater than one hour to be less than 500 ppmw but because of normal operating process variations the VO concentration of the hazardous waste determined by direct measurement for any given one-hour period may be equal to or greater than 500 ppmw, the department shall consider information that was used by the owner or operator to determine the average VO concentration of the hazardous waste (e.g., test results, measurements, calculations and other documentation) and recorded in the facility records according to ss. NR 665.1084(1) and 665.1090 together with the results of the waste determination performed or requested by the department in establishing compliance with this subchapter.

NR 665.1084 Waste determination procedures. (1) PROCEDURE TO DETERMINE AVERAGE VO CONCENTRATION OF A HAZARDOUS WASTE AT THE POINT OF WASTE ORIGINATION. (a) An owner or operator shall determine the average VO concentration at the point of waste origination for each hazardous waste placed in a waste management unit exempted under s. NR 665.1083(3)(a) from using air

emission controls according to the standards in ss. NR 665.1085 to 665.1088, as applicable to the waste management unit. Make the determinations according to all of the following:

1. Make an initial determination of the average VO concentration of the waste stream before the first time any portion of the material in the hazardous waste stream is placed in a waste management unit exempted under s. NR 665.1083(3)(a) from using air emission controls, and thereafter make an initial determination of the average VO concentration of the waste stream for each averaging period that a hazardous waste is managed in the unit.

2. Perform a new waste determination whenever changes to the source generating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level that is equal to or greater than the VO concentration limit in s. NR 665.1083(3)(a).

(b) For a waste determination that is required by par. (a), determine the average VO concentration of a hazardous waste at the point of waste origination using either direct measurement as specified in par. (c) or by knowledge as specified in par. (d).

(c) If the owner or operator uses direct measurement to determine average VO concentration of a hazardous waste at the point of waste origination, the owner or operator shall do all of the following:

1. 'Identification.' Identify and record the point of waste origination for the hazardous waste.

2. 'Sampling.' Collect samples of the hazardous waste stream at the point of waste origination in a manner that minimizes volatilization of organics contained in the waste and in the subsequent sample and collects and maintains an adequately representative sample for analysis by the selected method.

a. Designate and record the averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but may not exceed one year.

b. Collect and analyze a sufficient number of samples, but no less than 4, for a hazardous waste determination. Collect all of the samples for a given waste determination within a one-hour period. The average of the 4 or more sample results constitutes a waste determination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the source or process generating the hazardous waste stream. Examples of the normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature.

c. Collect and handle all samples according to written procedures prepared by the owner or operator and documented in a site sampling plan. The plan shall describe the procedure for collecting representative samples of the hazardous waste stream which minimizes loss of organics throughout the sample collection and handling process and maintains sample integrity. Maintain a copy of the written sampling plan on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in EPA SW-846 or in Method 25D in appendix A of 40 CFR part 60, both incorporated by reference in s. NR 660.11.

d. Prepare and record sufficient information, as specified in the site sampling plan required under subd. 2.c., to document the waste quantity represented by the samples and, as applicable, the operating conditions for the source or process generating the hazardous waste represented by the samples.

3. 'Analysis.' Prepare and analyze each collected sample according to one or more of the methods listed in subd. 3.a. to i., including appropriate quality assurance and quality control (QA/QC) checks and use of target compounds for calibration. If Method 25D in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, is not used, then one or more methods should be chosen that are appropriate to ensure that the waste determination accounts for and reflects all organic compounds in the waste with Henry's law constant values of at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m^3] at 25 °C. Each of the analytical methods listed in subd. 3.b. to g. has an associated list of approved chemical compounds, for which the department considers the method

appropriate for measurement. If an owner or operator uses Method 624, 625, 1624 or 1625 in appendix A of 40 CFR part 136, incorporated by reference in s. NR 660.11, to analyze one or more compounds that are not on that method's published list, follow the Alternative Test Procedure contained in 40 CFR 136.4 and 136.5. If an owner or operator uses Method 8260 or 8270 in EPA SW-846, incorporated by reference in s. NR 660.11, to analyze one or more compounds that are not on that method's published list, follow the procedures in subd. 3.h. At the owner or operator's discretion, the owner or operator may adjust test data measured by a method other than Method 25D to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D. To adjust these data, multiply the measured concentration of each individual chemical constituent contained in the waste by the appropriate constituent-specific adjustment factor (f_{m25D}). If the owner or operator elects to adjust test data, the owner or operator shall make the adjustment to all individual chemical constituents with a Henry's law constant value greater than or equal to 0.1 Y/X at 25 °C contained in the waste. Constituent-specific adjustment factors (f_{m25D}) can be obtained by contacting EPA, Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711.

a. Method 25D in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

b. Method 624 in appendix A of 40 CFR part 136, incorporated by reference in s. NR 660.11.

c. Method 625 in appendix A of 40 CFR part 136, incorporated by reference in s. NR 660.11. Perform corrections to the compounds for which the analysis is being conducted based on the "accuracy as recovery" using the factors in Table 7 of the method.

d. Method 1624 in appendix A of 40 CFR part 136, incorporated by reference in s. NR 660.11.

e. Method 1625 in appendix A of 40 CFR part 136, incorporated by reference in s. NR 660.11.

f. Method 8260 in EPA SW-846, incorporated by reference in s. NR 660.11. Maintain a formal quality assurance program consistent with Method 8260. The quality assurance program shall include all of the following elements:

1) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction or sorption during the sample collection, storage, preparation, introduction and analysis steps.

2) Measurement of the overall accuracy and precision of the specific procedures.

g. Method 8270 in EPA SW-846, incorporated by reference in s. NR 660.11. Maintain a formal quality assurance program consistent with Method 8270. The quality assurance program shall include all of the following elements:

1) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction or sorption during the sample collection, storage, preparation, introduction and analysis steps.

2) Measurement of the overall accuracy and precision of the specific procedures.

h. Any other EPA standard method that has been validated according to "Alternative Validation Procedure for EPA Waste and Wastewater Methods" in appendix D of 40 CFR part 63, incorporated by reference in s. NR 660.11. As an alternative, validate other EPA standard methods by the procedure in subd. 3.i.

i. Any other analysis method that has been validated according to the procedures in Section 5.1 or 5.3, and the corresponding calculations in Section 6.1 or 6.3, of Method 301 in appendix A of 40 CFR part 63, incorporated by reference in s. NR 660.11. The data are acceptable if they meet the criteria specified in Section 6.1.5 or 6.3.3. If correction is required under Section 6.3.3, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

4. 'Calculations.'

a. Calculate the average VO concentration ($\overline{C}$) on a mass-weighted basis using the results for all waste determinations conducted according to subds. 2. and 3. and the following equation:

$$\overline{C} = \frac{1}{Q_T} \cdot \sum_{i=1}^{n} (Q_i \cdot C_i)$$

where:

$\overline{C}$ = Average VO concentration of the hazardous waste at the point of waste origination on a mass-weighted basis, ppmw

i = Individual waste determination "i" of the hazardous waste

n = Total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed 1 year)

Q_i = Mass quantity of hazardous waste stream represented by C_i, kg/hr

Q_T = Total mass quantity of hazardous waste during the averaging period, kg/hr

C_i = Measured VO concentration of waste determination "i" determined according to subd. 3. (i.e. the average of the 4 or more samples specified in subd. 2.b.), ppmw

b. For the purpose of determining C_i, for individual waste samples analyzed according to subd. 3., account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration:

1) If Method 25D in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D.

2) If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant value of at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10^{-6} atmospheres/gram-mole/m^3] at 25 °C.

5. 'Compliance determination.' Provided that the test method is appropriate for the waste as required under subd. 3., the department shall determine compliance based on the test method used by the owner or operator recorded pursuant to s. NR 665.1090(6)(a).

(d) If the owner or operator uses knowledge to determine average VO concentration of a hazardous waste at the point of waste origination, the owner or operator shall do the following:

1. Prepare documentation that presents the information used as the basis for the owner's or operator's knowledge of the hazardous waste stream's average VO concentration. Examples of information that may be used as the basis for knowledge include material balances for the source or process generating the hazardous waste stream, constituent-specific chemical test data for the hazardous waste stream from previous testing that are still applicable to the current waste stream, previous test data for other locations managing the same type of waste stream or other knowledge based on information included in manifests, shipping papers or waste certification notices.

2. If test data are used as the basis for knowledge, document the test method, sampling protocol and the means by which sampling variability and analytical variability are accounted for in the determination of the average VO concentration. For example, an owner or operator may use organic concentration test data for the hazardous waste stream that are validated according to Method 301 in appendix A of 40 CFR part 63, incorporated by reference in s. NR 660.11, as the basis for knowledge of the waste.

3. If chemical constituent-specific concentration test data are used as the basis for knowledge, the test data may be adjusted to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11. To adjust these data, multiply the measured concentration for each individual chemical constituent contained in the waste by the appropriate constituent-specific adjustment factor (f_{m25D}).

4. In the event that the department and the owner or operator disagree on a determination of the average VO concentration for a hazardous waste stream using knowledge, the department may use the results from a determination of average VO concentration using direct measurement as specified in par. (c) to establish compliance with the applicable requirements of this subchapter. The department may

perform or request that the owner or operator perform this determination using direct measurement. The owner or operator may choose one or more appropriate methods to analyze each collected sample according to par. (c)3.

(2) PROCEDURES FOR TREATED HAZARDOUS WASTE. (a) An owner or operator shall perform the applicable waste determination for each treated hazardous waste placed in a waste management unit exempted under s. NR 665.1083 (3)(b)1. to 6. from using air emission controls according to standards in ss. NR 665.1085 to 665.1088, as applicable to the waste management unit. Make the determinations according to all of the following:

1. Make an initial determination of the average VO concentration of the waste stream before the first time any portion of the material in the treated waste stream is placed in a waste management unit exempted under s. NR 665.1083(3)(b), (c) or (d) from using air emission controls, and thereafter update the information used for the waste determination at least once every 12 months following the date of the initial waste determination.

2. Perform a new waste determination whenever changes to the process generating or treating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level such that the applicable treatment conditions specified in s. NR 665.1083(3)(b), (c) or (d) are not achieved.

(b) The owner or operator shall designate and record the specific provision in s. NR 665.1083(3)(b) under which the owner or operator is performing the waste determination. Perform the waste determination for the treated hazardous waste using the applicable procedures in pars. (c) to (i).

(c) Procedure to determine the average VO concentration of a hazardous waste at the point of waste treatment:

1. ‘Identification.’ Identify and record the point of waste treatment for the hazardous waste.

2. ‘Sampling.’ Collect samples of the hazardous waste stream at the point of waste treatment in a manner that minimizes volatilization of organics contained in the waste and in the subsequent sample and collects and maintains an adequately representative sample for analysis by the selected method.

a. Designate and record the averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but may not exceed 1 year.

b. Collect and analyze a sufficient number of samples, but no less than 4, for a hazardous waste determination. Collect all of the samples for a given waste determination within a one-hour period. The average of the 4 or more sample results constitutes a waste determination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the process generating or treating the hazardous waste stream. Examples of the normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature.

c. Collect and handle all samples according to written procedures prepared by the owner or operator and documented in a site sampling plan. The plan shall describe the procedure for collecting representative samples of the hazardous waste stream which minimizes loss of organics throughout the sample collection and handling process and maintains sample integrity. Maintain a copy of the written sampling plan on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures according to the requirements in EPA SW-846, or in Method 25D in appendix A of 40 CFR part 60, both incorporated by reference in s. NR 660.11.

d. Prepare and record sufficient information, as specified in the site sampling plan required under subd. 2.c., to document the waste quantity represented by the samples and, as applicable, the operating conditions for the process treating the hazardous waste represented by the samples.

3. 'Analysis.' Prepare and analyze each collected sample according to one or more of the following methods, including appropriate quality assurance and quality control (QA/QC) checks and use of target compounds for calibration. When the owner or operator is making a waste determination for a treated hazardous waste that is to be compared to an average VO concentration at the point of waste origination or the point of waste entry to the treatment system to determine if the conditions of s. NR 664.1082(3)(b)1. to 6. or s. NR 665.1083(3)(b)1. to 6. are met, prepare and analyze the waste samples using the same method or methods as were used in making the initial waste determinations at the point of waste origination or at the point of entry to the treatment system. If Method 25D in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, is not used, then one or more methods should be chosen that are appropriate to ensure that the waste determination accounts for and reflects all organic compounds in the waste with Henry's law constant values of at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10^{-6} atmospheres/gram-mole/m3] at 25 °C. Each of the analytical methods in subd. 3.b. to g. has an associated list of approved chemical compounds, for which the department considers the method appropriate for measurement. If an owner or operator uses Method 624, 625, 1624 or 1625 in appendix A of 40 CFR part 136, incorporated by reference in s. NR 660.11, to analyze one or more compounds that are not on that method's published list, follow the Alternative Test Procedure contained in 40 CFR 136.4 and 136.5. If an owner or operator uses Method 8260 or 8270 in EPA SW-846, incorporated by reference in s. NR 660.11, to analyze one or more compounds that are not on that method's published list, follow the procedures in subd. 3.h. At the owner or operator's discretion, the owner or operator may adjust test data measured by a method other than Method 25D to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D. To adjust these data, multiply the measured concentration of each individual chemical constituent contained in the waste by the appropriate constituent-specific adjustment factor (f_{m25D}). If the owner or operator elects to adjust test data, the owner or operator shall make the adjustment to all individual chemical constituents with a Henry's law constant equal to or greater than 0.1 Y/X at 25 °C contained in the waste. Constituent-specific adjustment factors (f_{m25D}) can be obtained by contacting EPA, Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711.

a. Method 25D in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

b. Method 624 in appendix A of 40 CFR part 136, incorporated by reference in s. NR 660.11.

c. Method 625 in appendix A of 40 CFR part 136, incorporated by reference in s. NR 660.11. Perform corrections to the compounds for which the analysis is being conducted based on the "accuracy as recovery" using the factors in Table 7 of the method.

d. Method 1624 in appendix A of 40 CFR part 136, incorporated by reference in s. NR 660.11.

e. Method 1625 in appendix A of 40 CFR part 136, incorporated by reference in s. NR 660.11.

f. Method 8260 in EPA SW-846, incorporated by reference in s. NR 660.11. Maintain a formal quality assurance program consistent with Method 8260. The quality assurance program shall include all of the following elements:

1) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction or sorption during the sample collection, storage, preparation, introduction and analysis steps.

2) Measurement of the overall accuracy and precision of the specific procedures.

g. Method 8270 in EPA SW-846, incorporated by reference in s. NR 660.11. Maintain a formal quality assurance program consistent with Method 8270. The quality assurance program shall include all of the following elements:

1) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction or sorption during the sample collection, storage, preparation, introduction and analysis steps.

2) Measurement of the overall accuracy and precision of the specific procedures.

h. Any other EPA standard method that has been validated according to ”Alternative Validation Procedure for EPA Waste and Wastewater Methods”, in appendix D of 40 CFR part 63, incorporated by reference in s. NR 660.11. As an alternative, other EPA standard methods may be validated by the procedure specified in subd. 3.i.

i. Any other analysis method that has been validated according to the procedures specified in Section 5.1 or 5.3, and the corresponding calculations in Section 6.1 or 6.3, of Method 301 in appendix A of 40 CFR part 63, incorporated by reference in s. NR 660.11. The data are acceptable if they meet the criteria specified in Section 6.1.5 or 6.3.3. If correction is required under Section 6.3.3, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

4. ‘Calculations.’ Calculate the average VO concentration ($\overline{C}$) on a mass-weighted basis using the results for all waste determinations conducted according to subds. 2. and 3. and the following equation:

$$\overline{C} = \frac{1}{Q_T} \cdot \sum_{i=1}^{n} (Q_i \cdot C_i)$$

where:

$\overline{C}$ = Average VO concentration of the hazardous waste at the point of waste treatment on a mass-weighted basis, ppmw

i = Individual waste determination ”i” of the hazardous waste

n = Total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed 1 year)

Q_i = Mass quantity of hazardous waste stream represented by C_i, kg/hr

Q_T = Total mass quantity of hazardous waste during the averaging period, kg/hr

C_i = Measured VO concentration of waste determination ”i” determined according to subd. 3. (i.e. the average of the 4 or more samples specified in subd. 2.b.), ppmw

5. ‘Compliance determination.’ Provided that the test method is appropriate for the waste as required under subd. 3., determine compliance based on the test method used by the owner or operator recorded pursuant to s. NR 665.1090(6)(a).

(d) Procedure to determine the exit concentration limit (C_t) for a treated hazardous waste:

1. Identify the point of waste origination for each hazardous waste treated by the process at the same time.

2. If a single hazardous waste stream is identified in subd. 1., the exit concentration limit (C_t) shall be 500 ppmw.

3. If more than one hazardous waste stream is identified in subd. 1., determine the average VO concentration of each hazardous waste stream at the point of waste origination according to sub. (1). Calculate the exit concentration limit (C_t) using the results determined for each individual hazardous waste stream and the following equation:

$$C_t = \frac{\sum_{x=1}^{m} (Q_x \cdot \overline{C_x}) + \sum_{y=1}^{n} (Q_y \cdot 500 \text{ ppmw})}{\sum_{x=1}^{m} Q_x + \sum_{y=1}^{n} Q_y}$$

where:

C_t = Exit concentration limit for treated hazardous waste, ppmw

x = Individual hazardous waste stream ”x” that has an average VO concentration less than 500 ppmw at the point of waste origination determined according to sub. (1)

y = Individual hazardous waste stream ”y” that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination determined according to sub. (1)

m = Total number of ”x” hazardous waste streams treated by process

n = Total number of ”y” hazardous waste streams treated by process

Q_x = Annual mass quantity of hazardous waste stream ”x”, kg/yr

Q_y = Annual mass quantity of hazardous waste stream ”y”, kg/yr

$\overline{C}_x$ = Average VO concentration of hazardous waste stream ”x” at the point of waste origination determined according to sub. (1), ppmw

(e) Procedure to determine the organic reduction efficiency (R) for a treated hazardous waste:

1. Determine the organic reduction efficiency (R) for a treatment process based on results for a minimum of 3 consecutive runs.

2. Identify all hazardous waste streams entering the treatment process and all hazardous waste streams exiting the treatment process. Prepare a sampling plan for measuring these streams that accurately reflects the retention time of the hazardous waste in the process.

3. For each run, determine information for each hazardous waste stream identified in subd. 2. using all of the following procedures:

a. Determine the mass quantity of each hazardous waste stream entering the process (Q_b) and the mass quantity of each hazardous waste stream exiting the process (Q_a).

b. Determine the average VO concentration at the point of waste origination of each hazardous waste stream entering the process ($\overline{C}_b$) during the run according to sub. (1)(c). Determine the average VO concentration at the point of waste treatment of each waste stream exiting the process ($\overline{C}_a$) during the run according to par. (c).

4. Calculate the waste volatile organic mass flow entering the process (E_b) and the waste volatile organic mass flow exiting the process (E_a) using the results determined according to subd. 3. and the following equations:

$$E_b = \frac{1}{10^6} \sum_{j=1}^{m} \left(Q_{bj} \cdot \overline{C}_{bj} \right)$$

$$E_a = \frac{1}{10^6} \sum_{j=1}^{m} \left(Q_{aj} \cdot \overline{C}_{aj} \right)$$

where:

E_a = Waste volatile organic mass flow exiting process, kg/hr

E_b = Waste volatile organic mass flow entering process, kg/hr

m = Total number of runs (at least 3)

j = Individual run ”j”

Q_b = Mass quantity of hazardous waste entering process during run ”j”, kg/hr

Q_a = Average mass quantity of hazardous waste exiting process during run ”j”, kg/hr

$\overline{C}_a$ = Average VO concentration of hazardous waste exiting process during run ”j” determined according to par. (c), ppmw

$\overline{C}_b$ = Average VO concentration of hazardous waste entering process during run ”j” determined according to sub. (1)(c), ppmw

5. Calculate the organic reduction efficiency of the process using the results determined according to subd. 4. and the following equation:

$$R = \frac{E_b - E_a}{E_b} \cdot 100\ \%$$

where:

R = Organic reduction efficiency, percent

E_b = Waste volatile organic mass flow entering process determined according to subd. 4., kg/hr

E_a = Waste volatile organic mass flow exiting process determined according to subd. 4., kg/hr

(f) Procedure to determine the organic biodegradation efficiency (R_{bio}) for a treated hazardous waste:

1. Determine the fraction of organics biodegraded (F_{bio}) using the procedure specified in appendix C of 40 CFR part 63, incorporated by reference in s. NR 660.11.

2. Calculate the R_{bio} using the following equation:

$$R_{bio} = F_{bio} \cdot 100\ \%$$

where:

R_{bio} = Organic biodegradation efficiency, percent

F_{bio} = Fraction of organic biodegraded determined according to subd. 1.

(g) Procedure to determine the required organic mass removal rate (RMR) for a treated hazardous waste:

1. Identify all of the hazardous waste streams entering the treatment process.

2. Determine the average VO concentration of each hazardous waste stream at the point of waste origination according to sub. (1).

3. For each individual hazardous waste stream that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination, determine the average volumetric flow rate and the density of the hazardous waste stream at the point of waste origination.

4. Calculate the RMR using the average VO concentration, average volumetric flow rate and density determined for each individual hazardous waste stream, and the following equation:

$$RMR = \sum_{y=1}^{n} \left[V_y \cdot k_y \cdot \frac{\left(\overline{C_y} - 500\ ppmw\right)}{10^6} \right]$$

where:

RMR = Required organic mass removal rate, kg/hr

y = Individual hazardous waste stream ”y” that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination determined according to sub. (1)

n = Total number of ”y” hazardous waste streams treated by process

V_y = Average volumetric flow rate of hazardous waste stream ”y” at the point of waste origination, m^3/hr

k_y = Density of hazardous waste stream ”y”, kg/m^3

$\overline{C_y}$ = Average VO concentration of hazardous waste stream ”y” at the point of waste origination determined according to sub. (1), ppmw

(h) Procedure to determine the actual organic mass removal rate (MR) for a treated hazardous waste:

1. Determine the MR based on results for a minimum of 3 consecutive runs. The sampling time for each run shall be one hour.

2. Determine the waste volatile organic mass flow entering the process (E_b) and the waste volatile organic mass flow exiting the process (E_a) according to par. (e)4.

3. Calculate the MR using the mass flow rate determined according to subd. 2. and the following equation:

$$MR = E_b - E_a$$

where:

MR = Actual organic mass removal rate, kg/hr

E_b = Waste volatile organic mass flow entering process determined according to par. (e)4., kg/hr

E_a = Waste volatile organic mass flow exiting process determined according to par. (e)4., kg/hr

(i) Procedure to determine the actual organic mass biodegradation rate (MR_{bio}) for a treated hazardous waste:

1. Determine the MR_{bio} based on results for a minimum of 3 consecutive runs. The sampling time for each run shall be one hour.

2. Determine the waste organic mass flow entering the process (E_b) according to par. (e)4.

3. Determine the fraction of organic biodegraded (F_{bio}) using the procedure in appendix C of 40 CFR part 63, incorporated by reference in s. NR 660.11.

4. Calculate the MR_{bio} using the mass flow rates and fraction of organic biodegraded determined according to subds. 2. and 3., respectively, and the following equation:

$$MR_{bio} = E_b \cdot F_{bio}$$

where:

MR_{bio} = Actual organic mass biodegradation rate, kg/hr

E_b = Waste organic mass flow entering process determined according to par. (e)4., kg/hr

F_{bio} = Fraction of organic biodegraded determined according to subd. 3.

(3) PROCEDURE TO DETERMINE THE MAXIMUM ORGANIC VAPOR PRESSURE OF A HAZARDOUS WASTE IN A TANK. (a) An owner or operator shall determine the maximum organic vapor pressure for each hazardous waste placed in a tank using Tank Level 1 controls according to the standards in s. NR 665.1085(3).

(b) An owner or operator shall use either direct measurement as specified in par. (c) or knowledge of the waste as specified in par. (d) to determine the maximum organic vapor pressure which is representative of the hazardous waste composition stored or treated in the tank.

(c) If the owner or operator uses direct measurement to determine the maximum organic vapor pressure of a hazardous waste, the owner or operator shall do all of the following:

1. 'Sampling.' Collect a sufficient number of samples to be representative of the waste contained in the tank. Collect and handle all samples according to written procedures prepared by the owner or operator and documented in a site sampling plan. The plan shall describe the procedure for collecting representative samples of the hazardous waste which minimizes loss of organics throughout the sample collection and handling process and maintains sample integrity. Maintain a copy of the written sampling plan on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in EPA SW-846 or in Method 25D in appendix A of 40 CFR part 60, both incorporated by reference in s. NR 660.11.

2. 'Analysis.' Any appropriate one of the following methods may be used to analyze the samples and compute the maximum organic vapor pressure of the hazardous waste:

a. Method 25E in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

b. Methods described in American Petroleum Institute Publication 2517, Third Edition, February 1989, "Evaporative Loss from External Floating-Roof Tanks", incorporated by reference in s. NR 660.11.

c. Methods obtained from standard reference texts.

d. ASTM Method D2879-92, incorporated by reference in s. NR 660.11.

e. Any other method approved by the department.

(d) If the owner or operator uses knowledge to determine the maximum organic vapor pressure of the hazardous waste, the owner or operator shall prepare and record documentation that presents the information used as the basis for the owner's or operator's knowledge that the maximum organic vapor pressure of the hazardous waste is less than the maximum vapor pressure limit listed in s. NR 665.1085(2)(a)1. for the applicable tank design capacity category. An example of information that may be used is documentation that the hazardous waste is generated by a process for which at other locations it previously has been determined by direct measurement that the waste maximum organic vapor pressure is less than the maximum vapor pressure limit for the appropriate tank design capacity category.

(4) PROCEDURE FOR DETERMINING NO DETECTABLE ORGANIC EMISSIONS FOR THE PURPOSE OF COMPLYING WITH THIS SUBCHAPTER. (a) Conduct the test according to Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11. Check each potential leak interface (i.e., a location where organic vapor leakage could occur) on the cover and associated closure devices. Potential

leak interfaces that are associated with covers and closure devices include, but are not limited to, the interface of the cover and its foundation mounting, the periphery of any opening on the cover and its associated closure device and the sealing seat interface on a spring-loaded pressure relief valve.

(b) Perform the test when the unit contains a hazardous waste having an organic concentration representative of the range of concentrations for the hazardous waste expected to be managed in the unit. During the test, secure the cover and closure devices in the closed position.

(c) The detection instrument shall meet the performance criteria of Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, except the instrument response factor criteria in section 3.1.2(a) shall be for the average composition of the organic constituents in the hazardous waste placed in the waste management unit, not for each individual organic constituent.

(d) Calibrate the detection instrument before use on each day of its use by the procedures in Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(e) Calibration gases shall be all of the following:

1. Zero air (less than 10 ppmv hydrocarbon in air).

2. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppmv methane or n-hexane.

(f) Determine the background level according to Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(g) Check each potential leak interface by traversing the instrument probe around the potential leak interface as close to the interface as possible, as described in Method 21 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11. In the case when the configuration of the cover or closure device prevents a complete traverse of the interface, sample all accessible portions of the interface. In the case when the configuration of the closure device prevents any sampling at the interface and the device is equipped with an enclosed extension or horn (e.g., some pressure relief devices), place the instrument probe inlet at approximately the center of the exhaust area to the atmosphere.

(h) Compare the arithmetic difference between the maximum organic concentration indicated by the instrument and the background level with the value of 500 ppmv except when monitoring a seal around a rotating shaft that passes through a cover opening, in which case the comparison shall be as specified in par. (i). If the difference is less than 500 ppmv, then the potential leak interface is determined to operate with no detectable organic emissions.

(i) For the seals around a rotating shaft that passes through a cover opening, compare the arithmetic difference between the maximum organic concentration indicated by the instrument and the background level with the value of 10,000 ppmw. If the difference is less than 10,000 ppmw, then the potential leak interface is determined to operate with no detectable organic emissions.

NR 665.1085 Standards: tanks. (1) This section applies to the control of air pollutant emissions from tanks for which s. NR 665.1083(2) references the use of this section for the air emission control.

(2) The owner or operator shall control air pollutant emissions from each tank subject to this section according to one of the following requirements, as applicable:

(a) For a tank that manages hazardous waste that meets all of the following conditions, control air pollutant emissions from the tank according to the Tank Level 1 controls specified in sub. (3) or the Tank Level 2 controls specified in sub. (4):

1. The hazardous waste in the tank has a maximum organic vapor pressure which is less than the maximum organic vapor pressure limit for the tank's design capacity category as follows:

a. For a tank design capacity equal to or greater than 151 m^3, the maximum organic vapor pressure limit for the tank is 5.2 kPa.

b. For a tank design capacity equal to or greater than 75 m^3 but less than 151 m^3, the maximum organic vapor pressure limit for the tank is 27.6 kPa.

c. For a tank design capacity less than 75 m^3, the maximum organic vapor pressure limit for the tank is 76.6 kPa.

2. The hazardous waste in the tank is not heated to a temperature that is greater than the temperature at which the maximum organic vapor pressure of the hazardous waste is determined for the purpose of complying with subd. 1.

3. The hazardous waste in the tank is not treated using a waste stabilization process, as defined in s. NR 665.1081.

(b) For a tank that manages hazardous waste that does not meet all of the conditions in par. (a)1. to 3., control air pollutant emissions from the tank using Tank Level 2 controls according to sub. (4). Examples of tanks required to use Tank Level 2 controls include a tank used for a waste stabilization process, and a tank for which the hazardous waste in the tank has a maximum organic vapor pressure that is equal to or greater than the maximum organic vapor pressure limit for the tank's design capacity category as specified in par. (a)1.

(3) Owners and operators controlling air pollutant emissions from a tank using Tank Level 1 controls shall meet all of the following requirements:

(a) Determine the maximum organic vapor pressure for a hazardous waste to be managed in the tank using Tank Level 1 controls before the first time the hazardous waste is placed in the tank. Determine the maximum organic vapor pressure using the procedures in s. NR 665.1084(3). Thereafter, perform a new determination whenever changes to the hazardous waste managed in the tank could potentially cause the maximum organic vapor pressure to increase to a level that is equal to or greater than the maximum organic vapor pressure limit for the tank design capacity category specified in sub. (2)(a)1., as applicable to the tank.

(b) Equip the tank with a fixed roof designed to meet all of the following specifications:

1. Design the fixed roof and its closure devices to form a continuous barrier over the entire surface area of the hazardous waste in the tank. The fixed roof may be a separate cover installed on the tank (e.g., a removable cover mounted on an open-top tank) or may be an integral part of the tank structural design (e.g., a horizontal cylindrical tank equipped with a hatch).

2. Install the fixed roof in a manner such that there are no visible cracks, holes, gaps or other open spaces between roof section joints or between the interface of the roof edge and the tank wall.

3. Each opening in the fixed roof, and any manifold system associated with the fixed roof, shall be any of the following:

a. Equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps or other open spaces in the closure device or between the perimeter of the opening and the closure device.

b. Connected by a closed-vent system that is vented to a control device. The control device shall remove or destroy organics in the vent stream, and shall be operating whenever hazardous waste is managed in the tank, except as follows:

1) During periods it is necessary to provide access to the tank for performing the activities of subd. 3.b.2), venting of the vapor headspace underneath the fixed roof to the control device is not required, opening of closure devices is allowed and removal of the fixed roof is allowed. After completing the activity, promptly secure the closure device in the closed position or reinstall the cover, as applicable, and resume operation of the control device.

2) During periods of routine inspection, maintenance or other activities needed for normal operations, and for the removal of accumulated sludge or other residues from the bottom of the tank.

4. Make the fixed roof and its closure devices of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to consider when selecting the materials for and designing the fixed roof and closure devices shall include organic vapor permeability, the effects of any contact with the hazardous waste or its vapors managed in the tank, the effects of outdoor exposure to wind, moisture and sunlight and the operating practices used for the tank on which the fixed roof is installed.

(c) Whenever a hazardous waste is in the tank, install the fixed roof with each closure device secured in the closed position except as follows:

1. Opening of closure devices or removal of the fixed roof is allowed at the following times:

a. To provide access to the tank for performing routine inspection, maintenance or other activities needed for normal operations. Examples of those activities include those times when a worker needs to open a port to sample the liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. After completing the activity, promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

b. To remove accumulated sludge or other residues from the bottom of the tank.

2. Opening of a spring-loaded pressure-vacuum relief valve, conservation vent or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the tank internal pressure according to the tank design specifications. Design the device to operate with no detectable organic emissions when the device is secured in the closed position. Establish the settings at which the device opens such that the device remains in the closed position whenever the tank internal pressure is within the internal pressure operating range determined by the owner or operator based on the tank manufacturer recommendations, applicable rules, fire protection and prevention codes, standard engineering codes and practices or other requirements for the safe handling of flammable, ignitable, explosive, reactive or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the tank internal pressure exceeds the internal pressure operating range for the tank as a result of loading operations or diurnal ambient temperature fluctuations.

3. Opening of a safety device, as defined in s. NR 665.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(d) Inspect the air emission control equipment according to all of the following requirements:

1. Visually inspect the fixed roof and its closure devices to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes or gaps in the roof sections or between the roof and the tank wall, broken, cracked or otherwise damaged seals or gaskets on closure devices and broken or missing hatches, access covers, caps or other closure devices.

2. Perform an initial inspection of the fixed roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, perform the inspections at least once every year except under the special conditions provided for in sub. (12).

3. In the event that a defect is detected, repair the defect according to sub. (11).

4. Maintain a record of the inspection according to s. NR 665.1090(2).

(4) Owners and operators controlling air pollutant emissions from a tank using Tank Level 2 controls shall use one of the following tanks:

(a) A fixed-roof tank equipped with an internal floating roof according to sub. (5).

(b) A tank equipped with an external floating roof according to sub. (6).

(c) A tank vented through a closed-vent system to a control device according to sub. (7).

(d) A pressure tank designed and operated according to sub. (8).

(e) A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device according to sub. (9).

(5) The owner or operator who controls air pollutant emissions from a tank using a fixed-roof with an internal floating roof shall meet pars. (a) to (c).

(a) Equip the tank with a fixed roof and an internal floating roof according to all of the following requirements:

1. Design the internal floating roof to float on the liquid surface except when the floating roof must be supported by the leg supports.

2. Equip the internal floating roof with a continuous seal between the wall of the tank and the floating roof edge that meets any of the following requirements:

a. A single continuous seal that is either a liquid-mounted seal or a metallic shoe seal, as defined in s. NR 665.1081.

b. Two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal.

3. The internal floating roof shall meet all of the following specifications:

a. Each opening in a non-contact internal floating roof, except for automatic bleeder vents (vacuum breaker vents) and the rim space vents, provides a projection below the liquid surface.

b. Each opening in the internal floating roof is equipped with a gasketed cover or a gasketed lid except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells and stub drains.

c. Each penetration of the internal floating roof for the purpose of sampling has a slit fabric cover that covers at least 90 percent of the opening.

d. Each automatic bleeder vent and rim space vent is gasketed.

e. Each penetration of the internal floating roof that allows for passage of a ladder has a gasketed sliding cover.

f. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof has a flexible fabric sleeve seal or a gasketed sliding cover.

(b) Operate the tank according to all of the following requirements:

1. When the floating roof is resting on the leg supports, the process of filling, emptying or refilling shall be continuous and shall be completed as soon as practical.

2. Set automatic bleeder vents to closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

3. Prior to filling the tank, bolt or fasten closed (i.e., no visible gaps) each cover, access hatch, gauge float well or lid on any opening in the internal floating roof. Set rim space vents to open only when the internal floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended setting.

(c) Inspect the internal floating roof according to all of the following requirements:

1. Visually inspect the floating roof and its closure devices to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, the internal floating roof is not floating on the surface of the liquid inside the tank, liquid has accumulated on top of the internal floating roof, any portion of the roof seals have detached from the roof rim, holes, tears or other openings are visible in the seal fabric, the gaskets no longer close off the hazardous waste surface from the atmosphere or the slotted membrane has more than 10 percent open area.

2. Inspect the internal floating roof components as follows, except as provided in subd. 3.:

a. Visually inspect the internal floating roof components through openings on the fixed-roof (e.g., manholes and roof hatches) at least once every 12 months after initial fill.

b. Visually inspect the internal floating roof, primary seal, secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the tank is emptied and degassed and at least every 10 years.

3. As an alternative to performing the inspections in subd. 2. for an internal floating roof equipped with 2 continuous seals mounted one above the other, visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes and sleeve seals (if any) each time the tank is emptied and degassed and at least every 5 years.

4. Prior to each inspection required by subd. 2. or 3., notify the department in advance of each inspection to provide the department with the opportunity to have an observer present during the inspection. Notify the department of the date and location of the inspection as follows:

a. Prior to each visual inspection of an internal floating roof in a tank that has been emptied and degassed, prepare and send written notification so that the department receives it at least 30 calendar days before refilling the tank, except when an inspection is not planned as provided for in subd. 4.b.

b. When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, notify the department as soon as possible, but no later than 7 calendar days before refilling the tank. Make this notification by telephone and immediately follow with a written explanation for why the inspection is unplanned. Alternatively, send written notification, including the explanation for the unplanned inspection, so that the department receives it at least 7 calendar days before refilling the tank.

5. In the event that a defect is detected, repair the defect according to sub. (11).

6. Maintain a record of the inspection according to the requirements in s. NR 665.1090(2).

(d) Safety devices, as defined in s. NR 665.1081, may be installed and operated as necessary on any tank complying with this subsection.

(6) The owner or operator who controls air pollutant emissions from a tank using an external floating roof shall meet pars. (a) to (c).

(a) Design the external floating roof according to all of the following requirements:

1. Design the external floating roof to float on the liquid surface except when the floating roof must be supported by the leg supports.

2. Equip the floating roof with 2 continuous seals, one above the other, between the wall of the tank and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

a. The primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in s. NR 665.1081. The total area of the gaps between the tank wall and the primary seal may not exceed 212 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps may not exceed 3.8 centimeters (cm). If a metallic shoe seal is used for the primary seal, design the metallic shoe seal so that one end extends into the liquid in the tank and the other end extends a vertical distance of at least 61 centimeters above the liquid surface.

b. Mount the secondary seal above the primary seal and cover the annular space between the floating roof and the wall of the tank. The total area of the gaps between the tank wall and the secondary seal may not exceed 21.2 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps may not exceed 1.3 centimeters (cm).

3. The external floating roof shall meet all of the following specifications:

a. Except for automatic bleeder vents (vacuum breaker vents) and rim space vents, each opening in a non-contact external floating roof shall project below the liquid surface.

b. Except for automatic bleeder vents, rim space vents, roof drains and leg sleeves, equip each opening in the roof with a gasketed cover, seal or lid.

c. Equip each access hatch and each gauge float well with a cover designed to be bolted or fastened when the cover is secured in the closed position.

d. Equip each automatic bleeder vent and each rim space vent with a gasket.

e. Equip each roof drain that empties into the liquid managed in the tank with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

f. Equip each unslotted and slotted guide pole well with a gasketed sliding cover or a flexible fabric sleeve seal.

g. Equip each unslotted guide pole with a gasketed cap on the end of the pole.

h. Equip each slotted guide pole with a gasketed float or other device which closes off the liquid surface from the atmosphere.

i. Equip each gauge hatch and each sample well with a gasketed cover.

(b) Operate the tank according to all of the following requirements:

1. When the floating roof is resting on the leg supports, the process of filling, emptying or refilling shall be continuous and shall be completed as soon as practical.

2. Except for automatic bleeder vents, rim space vents, roof drains and leg sleeves, secure and maintain each opening in the roof in a closed position at all times except when the closure device must be open for access.

3. Bolt or fasten covers on each access hatch and each gauge float well when secured in the closed position.

4. Set closed automatic bleeder vents at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

5. Set to open rim space vents only at those times that the roof is being floated off the roof leg supports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

6. Secure the cap on the end of each unslotted guide pole in the closed position at all times except when measuring the level of the liquid in the tank or collecting samples of the liquid.

7. Secure the cover on each gauge hatch or sample well in the closed position at all times except when the hatch or well must be opened for access.

8. Both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the tank in a continuous fashion except during inspections.

(c) Inspect the external floating roof according to all of the following procedures:

1. Measure the external floating roof seal gaps according to all of the following requirements:

a. Perform measurements of gaps between the tank wall and the primary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every 5 years.

b. Perform measurements of gaps between the tank wall and the secondary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every year.

c. If a tank ceases to hold hazardous waste for a period of one year or more, subsequent introduction of hazardous waste into the tank is an initial operation for the purposes of subd. 1.a. and b.

d. Determine the total surface area of gaps in the primary seal and in the secondary seal individually using the following procedure:

1) Perform the seal gap measurements at one or more floating roof levels when the roof is floating off the roof supports.

2) Measure seal gaps, if any, around the entire perimeter of the floating roof in each place where a 0.32-centimeter (cm) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the tank and measure the circumferential distance of each location.

3) For a seal gap measured under this paragraph, determine the gap surface area using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each width by its respective circumferential distance.

4) Calculate the total gap area by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal diameter of the tank. Then compare these total gap areas per unit of tank diameter for the primary seal and secondary seal to the respective standards for the seal type in par. (a)2.

e. In the event that the seal gap measurements do not conform to the specifications in par. (a)2., repair the defect according to sub. (11).

f. Maintain a record of the inspection according to s. NR 665.1090(2).

2. Visually inspect the external floating roof according to all of the following requirements:

a. Visually inspect the floating roof and its closure devices to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, holes, tears or other openings in the rim seal or seal fabric of the floating roof, a rim seal detached from the floating roof, all or a portion of the floating roof deck being submerged below the surface of the liquid in the tank, broken, cracked or otherwise damaged seals or gaskets on closure devices and broken or missing hatches, access covers, caps or other closure devices.

b. Perform an initial inspection of the external floating roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, perform the inspections at least once every year except for the special conditions provided for in sub. (12).

c. In the event that a defect is detected, repair the defect according to sub. (11).

d. Maintain a record of the inspection according to s. NR 665.1090(2).

3. Prior to each inspection required by subd. 1. or 2., notify the department in advance of each inspection to provide the department with the opportunity to have an observer present during the inspection. Notify the department of the date and location of the inspection as follows:

a. Prior to each inspection to measure external floating roof seal gaps as required under subd. 1., prepare and send written notification so that the department receives it at least 30 calendar days before the date the measurements are scheduled to be performed.

b. Prior to each visual inspection of an external floating roof in a tank that has been emptied and degassed, prepare and send written notification so that the department receives it at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in subd. 3.c.

c. When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, notify the department as soon as possible, but no later than 7 calendar days before refilling the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that the department receives it at least 7 calendar days before refilling the tank.

(d) Safety devices, as defined in s. NR 665.1081, may be installed and operated as necessary on any tank complying with this subsection.

(7) The owner or operator who controls air pollutant emissions from a tank by venting the tank to a control device shall meet all of the following requirements:

(a) Cover the tank with a fixed roof and vent the tank directly through a closed-vent system to a control device according to all of the following requirements:

1. Design the fixed roof and its closure devices to form a continuous barrier over the entire surface area of the liquid in the tank.

2. Equip each opening in the fixed roof not vented to the control device with a closure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, design the closure devices to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, design the closure device to operate with no detectable organic emissions.

3. Make the fixed roof and its closure devices of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to consider when selecting the materials for and designing the fixed roof and closure devices shall include organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the tank, the effects of outdoor exposure to wind, moisture and sunlight and the operating practices used for the tank on which the fixed roof is installed.

4. Design and operate the closed-vent system and control device according to s. NR 665.1088.

(b) Whenever a hazardous waste is in the tank, install the fixed roof with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

1. Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

a. To provide access to the tank for performing routine inspection, maintenance or other activities needed for normal operations. Examples of those activities include those times when a worker needs to open a port to sample liquid in the tank or when a worker needs to open a hatch to maintain or repair equipment. After completing the activity, promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

b. To remove accumulated sludge or other residues from the bottom of the tank.

2. Opening of a safety device, as defined in s. NR 665.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(c) Inspect and monitor the air emission control equipment according to all of the following procedures:

1. Visually inspect the fixed roof and its closure devices to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes or gaps in the roof sections or between the roof and the tank wall, broken, cracked or otherwise damaged seals or gaskets on closure devices and broken or missing hatches, access covers, caps or other closure devices.

2. Inspect and monitor the closed-vent system and control device according to the procedures in s. NR 665.1088.

3. Perform an initial inspection of the air emission control equipment on or before the date that the tank becomes subject to this section. Thereafter, perform the inspections at least once every year except for the special conditions provided for in sub. (12).

4. In the event that a defect is detected, repair the defect according to sub. (11).

5. Maintain a record of the inspection according to s. NR 665.1090(2).

(8) The owner or operator who controls air pollutant emissions by using a pressure tank shall meet all of the following requirements.

(a) Design the tank to not vent to the atmosphere as a result of compression of the vapor headspace in the tank during filling of the tank to its design capacity.

(b) Equip all tank openings with closure devices designed to operate with no detectable organic emissions determined using the procedure in s. NR 665.1084(4).

(c) Whenever hazardous waste is in the tank, operate the tank as a closed system that does not vent to the atmosphere except under any of the following conditions:

1. At those times when opening of a safety device, as defined in s. NR 665.1081, is required to avoid an unsafe condition.

2. At those times when purging of inerts from the tank is required and the purge stream is routed to a closed-vent system and control device designed and operated according to s. NR 665.1088.

(9) The owner or operator who controls air pollutant emissions by using an enclosure vented through a closed-vent system to an enclosed combustion control device shall meet all of the following requirements:

(a) Locate the tank inside an enclosure. Design and operate the enclosure according to the criteria for a permanent total enclosure in Method 204—"Criteria for and Verification of a Permanent or Temporary Total Enclosure" of appendix M of 40 CFR part 51, incorporated by reference in s. NR 660.11. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles or other mechanical means; entry of permanent mechanical or electrical equipment or direct airflow into the enclosure. Perform the verification procedure for the enclosure in Section 8 of Method 204 initially when the enclosure is first installed and, thereafter, annually.

(b) Vent the enclosure through a closed-vent system to an enclosed combustion control device that is designed and operated according to the standards for a vapor incinerator, boiler or process heater in s. NR 665.1088.

(c) Safety devices, as defined in s. NR 665.1081, may be installed and operated as necessary on any enclosure, closed-vent system or control device used to comply with pars. (a) and (b).

(d) Inspect and monitor the closed-vent system and control device as specified in s. NR 665.1088.

(10) The owner or operator shall transfer hazardous waste to a tank subject to this section according to all of the following requirements:

(a) Except as provided in par. (b), transfer hazardous waste to the tank from another tank subject to this section or from a surface impoundment subject to s. NR 665.1086 using continuous hard-piping or another closed system that does not allow exposure of the hazardous waste to the atmosphere. For the purpose of complying with this paragraph, an individual drain system is a closed system when it meets 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems.

(b) Paragraph (a) does not apply when transferring a hazardous waste to the tank under any of the following conditions:

1. The hazardous waste meets the average VO concentration conditions in s. NR 665.1083(3)(a) at the point of waste origination.

2. The hazardous waste has been treated by an organic destruction or removal process to meet s. NR 665.1083(3)(b).

3. The hazardous waste meets s. NR 665.1083(3)(d).

(11) The owner or operator shall repair each defect detected during an inspection performed according to sub. (3)(d), (5)(c), (6)(c) or (7)(c) as follows:

(a) Make first efforts at repair of the defect no later than 5 calendar days after detection, and complete the repair as soon as possible but no later than 45 calendar days after detection except as provided in par. (b).

(b) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the tank and no alternative tank capacity is available at the site to accept the hazardous waste normally managed in the tank. In this case, repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Complete repair of the defect before the process or unit resumes operation.

(12) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subchapter, subsequent inspection and monitoring may be performed at intervals longer than one year under the following special conditions:

(a) In the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous or other unsafe conditions, the owner or operator may designate a cover as an ”unsafe to inspect and monitor cover” and comply with all of the following requirements:

1. Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

2. Develop and implement a written plan and schedule to inspect and monitor the cover, using the procedures specified in the applicable section of this subchapter, as frequently as practicable during those times when a worker can safely access the cover.

(b) In the case when a tank is buried partially or entirely underground, inspect and monitor, as required by the applicable provisions of this section, only those portions of the tank cover and those connections to the tank (e.g., fill ports, access hatches, gauge wells, etc.) that are located on or above the ground surface.

NR 665.1086 Standards: surface impoundments. (1) This section applies to the control of air pollutant emissions from surface impoundments for which s. NR 665.1083(2) references the use of this section for the air emission control.

(2) The owner or operator shall control air pollutant emissions from the surface impoundment by installing and operating any of the following:

(a) A floating membrane cover according to sub. (3).

(b) A cover that is vented through a closed-vent system to a control device according to sub. (4).

(3) The owner or operator who controls air pollutant emissions from a surface impoundment using a floating membrane cover shall meet all of the following requirements:

(a) Equip the surface impoundment with a floating membrane cover designed to meet all of the following specifications:

1. Design the floating membrane cover to float on the liquid surface during normal operations and form a continuous barrier over the entire surface area of the liquid.

2. Fabricate the cover from a synthetic membrane material that is any of the following:

a. High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (mm).

b. A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in subd. 2.a. and chemical and physical properties that maintain the material integrity for the intended service life of the material.

3. Install the cover in a manner such that there are no visible cracks, holes, gaps or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings.

4. Except as provided for in subd. 5., equip each opening in the floating membrane cover with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

5. The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Equip each emergency cover drain with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

6. Make the closure devices of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the closure devices throughout their intended service life. Factors to consider when selecting the materials of construction and designing the cover and closure devices shall include organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the surface impoundment, the effects of outdoor exposure to wind, moisture and sunlight and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

(b) Whenever hazardous waste is in the surface impoundment, float the floating membrane cover on the liquid and secure each closure device in the closed position except as follows:

1. Opening of closure devices or removal of the cover is allowed at the following times:

a. To provide access to the surface impoundment for performing routine inspection, maintenance or other activities needed for normal operations. Examples of those activities include those times when a worker needs to open a port to sample the liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. After completing the activity, promptly replace the cover and secure the closure device in the closed position, as applicable.

b. To remove accumulated sludge or other residues from the bottom of the surface impoundment.

2. Opening of a safety device, as defined in s. NR 665.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(c) Inspect the floating membrane cover according to all of the following procedures:

1. Visually inspect the floating membrane cover and its closure devices to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked or otherwise damaged seals or gaskets on closure devices and broken or missing hatches, access covers, caps or other closure devices.

2. Perform an initial inspection of the floating membrane cover and its closure devices on or before the date that the surface impoundment becomes subject to this section. Thereafter, perform the inspections at least once every year except for the special conditions provided for in sub. (7).

3. In the event that a defect is detected, repair the defect according to sub. (6).

4. Maintain a record of the inspection according to s. NR 665.1090(3).

(4) The owner or operator who controls air pollutant emissions from a surface impoundment using a cover vented to a control device shall meet all of the following requirements:

(a) Cover the surface impoundment and directly vent it through a closed-vent system to a control device according to all of the following requirements:

1. Design the cover and its closure devices to form a continuous barrier over the entire surface area of the liquid in the surface impoundment.

2. Equip each opening in the cover not vented to the control device with a closure device. If the pressure in the vapor headspace underneath the cover is less than atmospheric pressure when the control device is operating, design the closure devices to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the cover is equal to or greater than atmospheric pressure when the control device is operating, design the closure device to operate with no detectable organic emissions using the procedure in s. NR 665.1084(4).

3. Make the cover and its closure devices of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the cover and closure devices throughout their intended service life. Factors to consider when selecting the materials of construction and designing the cover and closure devices shall include organic vapor permeability, the effects of any contact with the liquid or its vapors managed in the surface impoundment, the effects of outdoor exposure to wind, moisture and sunlight and the operating practices used for the surface impoundment on which the cover is installed.

4. Design and operate the closed-vent system and control device according to s. NR 665.1088.

(b) Whenever hazardous waste is in the surface impoundment, install the cover with each closure device secured in the closed position and the vapor headspace underneath the cover vented to the control device except as follows:

1. Venting to the control device is not required, and opening of closure devices or removal of the cover is allowed at the following times:

a. To provide access to the surface impoundment for performing routine inspection, maintenance or other activities needed for normal operations. Examples of those activities include those times when a worker needs to open a port to sample liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. After completing the activity, promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the surface impoundment.

b. To remove accumulated sludge or other residues from the bottom of the surface impoundment.

2. Opening of a safety device, as defined in s. NR 665.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(c) Inspect and monitor the air emission control equipment according to all of the following procedures:

1. Visually inspect the surface impoundment cover and its closure devices to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings, broken, cracked or otherwise damaged seals or gaskets on closure devices and broken or missing hatches, access covers, caps or other closure devices.

2. Inspect and monitor the closed vent system and control device according to s. NR 665.1088.

3. Perform an initial inspection of the air emission control equipment on or before the date that the surface impoundment becomes subject to this section. Thereafter, perform the inspections at least once every year except for the special conditions provided for in sub. (7).

4. In the event that a defect is detected, repair the defect according to sub. (6).

5. Maintain a record of the inspection according to s. NR 665.1090(3).

(5) The owner or operator shall transfer hazardous waste to a surface impoundment subject to this section according to all of the following requirements:

(a) Except as provided in par. (b), transfer hazardous waste to the surface impoundment from another surface impoundment subject to this section or from a tank subject to s. NR 665.1085 using continuous hard-piping or another closed system that does not allow exposure of the waste to the atmosphere. For the purpose of complying with this paragraph, an individual drain system is a closed system when it meets 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems.

(b) Paragraph (a) does not apply when transferring a hazardous waste to the surface impoundment under any of the following conditions:

1. The hazardous waste meets the average VO concentration conditions in s. NR 665.1083(3)(a) at the point of waste origination.

2. The hazardous waste has been treated by an organic destruction or removal process to meet s. NR 665.1083(3)(b).

3. The hazardous waste meets s. NR 665.1083(3)(d).

(6) The owner or operator shall repair each defect detected during an inspection performed according to sub. (3)(c) or (4)(c) as follows:

(a) Make first efforts at repair of the defect no later than 5 calendar days after detection, and complete the repair as soon as possible but no later than 45 calendar days after detection except as provided in par. (b).

(b) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the surface impoundment and no alternative capacity is available at the site to accept the hazardous waste normally managed in the surface impoundment. In this case, repair the defect the next time the process or unit that is generating the hazardous waste managed in the surface impoundment stops operation. Complete repair of the defect before the process or unit resumes operation.

(7) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subchapter, subsequent inspection and monitoring may be performed at intervals longer than one year in the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous or other unsafe conditions. In this case, the owner or operator may designate the cover as an ”unsafe to inspect and monitor cover” and comply with all of the following requirements:

(a) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(b) Develop and implement a written plan and schedule to inspect and monitor the cover using the procedures in the applicable section of this subchapter as frequently as practicable during those times when a worker can safely access the cover.

NR 665.1087 Standards: containers. (1) APPLICABILITY This section applies to the control of air pollutant emissions from containers for which s. NR 665.1083(2) references the use of this section for the air emission control.

(2) GENERAL REQUIREMENTS. (a) The owner or operator shall control air pollutant emissions from each container subject to this section according to the following requirements, as applicable to the container, except when the special provisions for waste stabilization processes specified in par. (b) apply to the container.

1. For a container having a design capacity greater than 0.1 m^3 and less than or equal to 0.46 m^3, control air pollutant emissions from the container according to the Container Level 1 standards in sub. (3).

2. For a container having a design capacity greater than 0.46 m^3 that is not in light material service, control air pollutant emissions from the container according to the Container Level 1 standards in sub. (3).

3. For a container having a design capacity greater than 0.46 m^3 that is in light material service, control air pollutant emissions from the container according to the Container Level 2 standards in sub. (4).

(b) When a container having a design capacity greater than 0.1 m^3 is used for treatment of a hazardous waste by a waste stabilization process, control air pollutant emissions from the container according to the Container Level 3 standards in sub. (5) at those times during the waste stabilization process when the hazardous waste in the container is exposed to the atmosphere.

(3) CONTAINER LEVEL 1 STANDARDS. (a) A container using Container Level 1 controls is one of the following:

1. A container that meets the applicable U.S. department of transportation (DOT) regulations on packaging hazardous materials for transportation as specified in sub. (6).

2. A container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there are no visible holes, gaps or other open spaces into the interior of the container. The cover may be a separate cover installed on the container (e.g., a lid on a drum or a suitably secured tarp on a roll-off box) or may be an integral part of the container structural design (e.g., a ”portable tank” or bulk cargo container equipped with a screw-type cap).

3. An open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous waste in the container such that no hazardous waste is exposed to the atmosphere. One example of such a barrier is application of a suitable organic-vapor suppressing foam.

(b) Equip a container used to meet par. (a)2. or 3. with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the hazardous waste to the atmosphere and to maintain the equipment integrity for as long as it is in service. Factors to consider in selecting the materials of construction and designing the cover and closure devices shall include organic vapor permeability, the effects of contact with the hazardous waste or its vapor managed in the container, the effects of outdoor exposure of the closure device or cover material to wind, moisture and sunlight and the operating practices for which the container is intended to be used.

(c) Whenever hazardous waste is in a container using Container Level 1 controls, install all covers and closure devices for the container, as applicable to the container, and secure and maintain each closure device in the closed position except as follows:

1. Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

a. In the case when the container is filled to the intended final level in one continuous operation, promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

b. In the case when discrete quantities or batches of material are intermittently added to the container over a period of time, promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level, the completion of a batch loading after which no additional material will be added to the container within 15 minutes, the person performing the loading operation leaving the immediate vicinity of the container or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

2. Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

a. For the purpose of meeting the requirements of this section, an empty container as defined in s. NR 661.07(2) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

b. In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container in s. NR 661.07(2), promptly secure the

closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

3. Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of those activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. After completing the activity, promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

4. Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the container internal pressure according to the design specifications of the container. Design the device to operate with no detectable organic emissions when the device is secured in the closed position. Establish the settings at which the device opens such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable rules, fire protection and prevention codes, standard engineering codes and practices or other requirements for the safe handling of flammable, ignitable, explosive, reactive or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

5. Opening of a safety device, as defined in s. NR 665.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(d) For containers using Container Level 1 controls, inspect the containers and their covers and closure devices as follows:

1. In the case when hazardous waste is already in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container in s. NR 661.07(2)), visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. Conduct the container visual inspection on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to this subchapter). For purposes of this subdivision, the date of acceptance is the date of signature that the facility owner or operator enters on item 20 of the Wisconsin manifest (department form 4400-66P and, if needed, EPA form 8700-22A), as required in s. NR 665.0071. If a defect is detected, repair the defect according to subd. 3.

2. In the case when a container used for managing hazardous waste remains at the facility for a period of one year or more, visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, repair the defect according to subd. 3.

3. When a defect is detected for the container, cover or closure devices, make first efforts at repair of the defect no later than 24 hours after detection, and complete the repair as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, remove the hazardous waste from the container and do not use the container to manage hazardous waste until the defect is repaired.

(e) Maintain at the facility a copy of the procedure used to determine that containers with capacity of 0.46 m^3 or greater, which do not meet applicable U.S. department of transportation (DOT) regulations as specified in sub. (6), are not managing hazardous waste in light material service.

(4) CONTAINER LEVEL 2 STANDARDS. (a) A container using Container Level 2 controls is one of the following:

1. A container that meets the applicable U.S. department of transportation (DOT) regulations on packaging hazardous materials for transportation as specified in sub. (6).

2. A container that operates with no detectable organic emissions as defined in s. NR 665.1081 and determined according to sub. (7).

3. A container that has been demonstrated within the preceding 12 months to be vapor-tight using Method 27 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11, according to sub. (8).

(b) Transfer hazardous waste in or out of a container using Container Level 2 controls in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive or other hazardous materials. Examples of container loading procedures that meet this paragraph include using a submerged-fill pipe or other submerged-fill method to load liquids into the container, a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(c) Whenever hazardous waste is in a container using Container Level 2 controls, install all covers and closure devices for the container, and secure and maintain each closure device in the closed position except as follows:

1. Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

a. In the case when the container is filled to the intended final level in one continuous operation, promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

b. In the case when discrete quantities or batches of material are intermittently added to the container over a period of time, promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the container being filled to the intended final level, the completion of a batch loading after which no additional material will be added to the container within 15 minutes, the person performing the loading operation leaving the immediate vicinity of the container or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

2. Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

a. For the purpose of meeting the requirements of this section, an empty container as defined in s. NR 661.07(2) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

b. In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container in s. NR 661.07(2), promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

3. Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of those activities include those times when a worker needs to open a port to measure the depth of or sample the material in the

container, or when a worker needs to open a manhole hatch to access equipment inside the container. After completing the activity, promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

4. Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container according to the container design specifications. Design the device to operate with no detectable organic emission when the device is secured in the closed position. Establish the settings at which the device opens such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable rules, fire protection and prevention codes, standard engineering codes and practices or other requirements for the safe handling of flammable, ignitable, explosive, reactive or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

5. Opening of a safety device, as defined in s. NR 665.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(d) Inspect containers using Container Level 2 controls and their covers and closure devices as follows:

1. In the case when hazardous waste is already in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container in s. NR 661.07(2)), visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. Conduct the container visual inspection on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the standards in this subchapter). For purposes of this subdivision, the date of acceptance is the date of signature that the facility owner or operator enters on item 20 of the Wisconsin manifest (department form 4400-66P and, if needed, EPA form 8700-22A), as required in s. NR 665.0071. If a defect is detected, repair the defect according to subd. 3.

2. In the case when a container used for managing hazardous waste remains at the facility for a period of one year or more, visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, repair the defect according to subd. 3.

3. When a defect is detected for the container, cover or closure devices, make first efforts at repair of the defect no later than 24 hours after detection, and complete the repair as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, remove the hazardous waste from the container and do not use the container to manage hazardous waste until the defect is repaired.

(5) CONTAINER LEVEL 3 STANDARDS. (a) A container using Container Level 3 controls is one of the following:

1. A container that is vented directly through a closed-vent system to a control device according to par. (b)2.

2. A container that is vented inside an enclosure which is exhausted through a closed-vent system to a control device according to par. (b)1. and 2.

(b) Meet the following requirements, as applicable to the type of air emission control equipment selected:

1. Design and operate the container enclosure according to the criteria for a permanent total enclosure in Method 204—"Criteria for and Verification of a Permanent or Temporary Total Enclosure" in appendix M of 40 CFR part 51, incorporated by reference in s. NR 660.11. The enclosure may have permanent or temporary openings to allow worker access, passage of containers through the enclosure by conveyor or other mechanical means, entry of permanent mechanical or electrical equipment or direct airflow into the enclosure. Perform the verification procedure for the enclosure in Section 8 of Method 204 initially when the enclosure is first installed and, thereafter, annually.

2. Design and operate the closed-vent system and control device according to s. NR 665.1088.

(c) Safety devices, as defined in s. NR 665.1081, may be installed and operated as necessary on any container, enclosure, closed-vent system or control device used to comply with par. (a).

(d) If using Container Level 3 controls according to this subchapter, inspect and monitor the closed-vent systems and control devices as specified in s. NR 665.1088.

(e) If using Container Level 3 controls according to this subchapter, prepare and maintain the records specified in s. NR 665.1090(4).

(f) Transfer hazardous waste in or out of a container using Container Level 3 controls in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive or other hazardous materials. Examples of container loading procedures that meet this paragraph include using a submerged-fill pipe or other submerged-fill method to load liquids into the container, a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations, or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(6) HAZARDOUS MATERIALS PACKAGING REQUIREMENTS. For the purpose of compliance with sub. (3)(a)1. or (4)(a)1., use containers that meet the applicable U.S. department of transportation (DOT) regulations on packaging hazardous materials for transportation as follows:

(a) The container meets the applicable requirements in 49 CFR part 178—Specifications for Packaging or part 179—Specifications for Tank Cars.

(b) Hazardous waste is managed in the container according to the applicable requirements in 49 CFR part 107, subpart B—Exemptions; 49 CFR part 172—Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements; 49 CFR part 173—Shippers—General Requirements for Shipments and Packages and 49 CFR part 180—Continuing Qualification and Maintenance of Packagings.

(c) For the purpose of complying with this subchapter, no exceptions to the 49 CFR part 178 or 179 regulations are allowed except as provided for in par. (d).

(d) For a lab pack that is managed according to 49 CFR part 178 for the purpose of complying with this subchapter, an owner or operator may comply with the exceptions for combination packagings in 49 CFR 173.12(b).

(7) PROCEDURE FOR DETERMINING NO DETECTABLE ORGANIC EMISSIONS. To determine compliance with the no detectable organic emissions requirements of sub. (4)(a)2., use the procedure in s. NR 665.1084(4) as follows:

(a) Check each potential leak interface (i.e., a location where organic vapor leakage could occur) on the container, its cover and associated closure devices, as applicable to the container. Potential leak interfaces that are associated with containers include, but are not limited to, the interface of the cover rim and the container wall, the periphery of any opening on the container or container cover and its associated closure device and the sealing seat interface on a spring-loaded, pressure-relief valve.

(b) Perform the test when the container is filled with a material having a volatile organic concentration representative of the range of volatile organic concentrations for the hazardous wastes

expected to be managed in this type of container. During the test, secure the container cover and closure devices in the closed position.

(8) PROCEDURE FOR DETERMINING A CONTAINER TO BE VAPOR-TIGHT. To determine compliance with the vapor-tight container requirement of sub. (4)(a)3., use the following procedure:

(a) Perform the test according to Method 27 in appendix A of 40 CFR part 60, incorporated by reference in s. NR 660.11.

(b) Use a pressure measurement device that has a precision of ±2.5 mm water and is capable of measuring above the pressure at which the container is to be tested for vapor tightness.

(c) If the test results determined by Method 27 indicate that the container sustains a pressure change less than or equal to 750 Pascals within 5 minutes after it is pressurized to a minimum of 4,500 Pascals, the container is vapor-tight.

NR 665.1088 Standards: closed-vent systems and control devices. (1) This section applies to each closed-vent system and control device installed and operated by the owner or operator to control air emissions according to the standards of this subchapter.

(2) The closed-vent system shall meet all of the following requirements:

(a) The closed-vent system shall route the gases, vapors and fumes emitted from the hazardous waste in the waste management unit to a control device that meets sub. (3).

(b) Design and operate the closed-vent system according to s. NR 665.1033(10).

(c) In the case when the closed-vent system includes bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device, equip each bypass device with either a flow indicator as specified in subd. 1. or a seal or locking device as specified in subd. 2. For the purpose of complying with this paragraph, low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, spring-loaded pressure relief valves and other fittings used for safety purposes are not bypass devices.

1. If a flow indicator is used to comply with this paragraph, install the indicator at the inlet to the bypass line used to divert gases and vapors from the closed-vent system to the atmosphere at a point upstream of the control device inlet. For this paragraph, a flow indicator means a device which indicates the presence of either gas or vapor flow in the bypass line.

2. If a seal or locking device is used to comply with this paragraph, place the device on the mechanism by which the bypass device position is controlled (e.g., valve handle, damper lever) when the bypass device is in the closed position such that the bypass device cannot be opened without breaking the seal or removing the lock. Examples of the devices include, but are not limited to, a car-seal or a lock-and-key configuration valve. Visually inspect the seal or closure mechanism at least once every month to verify that the bypass mechanism is maintained in the closed position.

(d) Inspect and monitor the closed-vent system according to s. NR 665.1033(11).

(3) The control device shall meet all of the following applicable requirements:

(a) The control device shall be one of the following devices:

1. A control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95 percent by weight.

2. An enclosed combustion device designed and operated according to s. NR 665.1033(3).

3. A flare designed and operated according to s. NR 665.1033(4).

(b) If using a closed-vent system and control device to comply with this section, comply with all of the following requirements:

1. Periods of planned routine maintenance of the control device, during which the control device does not meet par. (a)1., 2. or 3., as applicable, may not exceed 240 hours per year.

2. The specifications and requirements in par. (a)1., 2. and 3. for control devices do not apply during periods of planned routine maintenance.

3. The specifications and requirements in par. (a)1., 2. and 3. for control devices do not apply during a control device system malfunction.

4. Demonstrate compliance with subd. 1. (i.e., planned routine maintenance of a control device, during which the control device does not meet the specifications of par. (a)1., 2. or 3., as applicable, may not exceed 240 hours per year) by recording the information specified in s. NR 665.1090(5)(e).

5. Correct control device system malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of air pollutants.

6. Operate the closed-vent system such that gases, vapors or fumes are not actively vented to the control device during periods of planned maintenance or control device system malfunction (i.e., periods when the control device is not operating or not operating normally) except in cases when it is necessary to vent the gases, vapors or fumes to avoid an unsafe condition or to implement malfunction corrective actions or planned maintenance actions.

(c) If using a carbon adsorption system to comply with par. (a), operate and maintain the control device according to all of the following requirements:

1. Following the initial startup of the control device, replace all activated carbon in the control device with fresh carbon on a regular basis according to s. NR 665.1033(7) or (8).

2. Manage all carbon that is hazardous waste and that is removed from the control device according to s. NR 665.1033(13), regardless of the average volatile organic concentration of the carbon.

(d) If using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser or carbon adsorption system to comply with par. (a), operate and maintain the control device according to s. NR 665.1033(9).

(e) Demonstrate that a control device achieves the performance requirements of par. (a) as follows:

1. Demonstrate, using either a performance test in subd. 3. or a design analysis in subd. 4., the performance of each control device except for any of the following:

a. A flare.

b. A boiler or process heater with a design heat input capacity of 44 megawatts or greater.

c. A boiler or process heater into which the vent stream is introduced with the primary fuel.

d. A boiler or industrial furnace burning hazardous waste for which the owner or operator has been issued an operating license under ch. NR 670 and has designed and operates the unit according to subch. H of ch. NR 666.

e. A boiler or industrial furnace burning hazardous waste which the owner or operator has designed and operates according to the interim license requirements of subch. H of ch. NR 666.

2. Demonstrate the performance of each flare according to s. NR 665.1033(5).

3. For a performance test conducted to meet subd. 1., use the test methods and procedures in s. NR 665.1034(3)(a) to (d).

4. For a design analysis conducted to meet subd. 1., meet the requirements in s. NR 665.1035(2)(d)3.

5. Demonstrate that a carbon adsorption system achieves the performance requirements of par. (a) based on the total quantity of organics vented to the atmosphere from all carbon adsorption system equipment that is used for organic adsorption, organic desorption or carbon regeneration, organic recovery and carbon disposal.

(f) If the owner or operator and the department do not agree on a demonstration of control device performance using a design analysis, resolve the disagreement using the results of a performance test performed by the owner or operator according to par. (e)3.. The department may choose to have an authorized representative observe the performance test.

(g) Inspect and monitor the closed-vent system and control device according to s. NR 665.1033(6)(b) and (11). Inspect the readings from each monitoring device required by s. NR 665.1033(6)(b) at least once each operating day to check control device operation. Immediately implement any necessary corrective measures to ensure the control device is operated in compliance with this section.

NR 665.1089 Inspection and monitoring requirements. (1) The owner or operator shall inspect and monitor air emission control equipment used to comply with this subchapter according to the applicable requirements in ss. NR 665.1085 to 665.1088.

(2) The owner or operator shall develop and implement a written plan and schedule to perform the inspections and monitoring required by sub. (1). The owner or operator shall incorporate this plan and schedule into the facility inspection plan required under s. NR 665.0015.

NR 665.1090 Recordkeeping requirements. (1) Each owner or operator of a facility subject to requirements in this subchapter shall record and maintain the information specified in subs. (2) to (10), as applicable to the facility. Except for air emission control equipment design documentation and information required by subs. (9) and (10), maintain records required by this section in the operating record for a minimum of 3 years. Maintain air emission control equipment design documentation in the operating record until the air emission control equipment is replaced or otherwise no longer in service. Maintain information required by subs. (9) and (10) in the operating record for as long as the waste management unit is not using air emission controls specified in ss. NR 665.1085 to 665.1088 according to the conditions in s. NR 665.1080(4) or (2)(g), respectively.

(2) The owner or operator of a tank using air emission controls according to s. NR 665.1085 shall prepare and maintain records for the tank that include all of the following information:

(a) For each tank using air emission controls according to s. NR 665.1085, record all of the following:

1. A tank identification number (or other unique identification description selected by the owner or operator).

2. A record for each inspection required by s. NR 665.1085 that includes all of the following information:

a. Date inspection was conducted.

b. For each defect detected during the inspection, the location of the defect, a description of the defect, the date of detection and corrective action taken to repair the defect. In the event that repair of the defect is delayed according to s. NR 665.1085, also record the reason for the delay and the date that completion of repair of the defect is expected.

(b) In addition to the information required by par. (a) , record the following information, as applicable to the tank:

1. If using a fixed roof to comply with the Tank Level 1 control requirements in s. NR 665.1085(3), prepare and maintain records for each determination for the maximum organic vapor pressure of the hazardous waste in the tank performed according to s. NR 665.1085(3). The records shall include the date and time the samples were collected, the analysis method used and the analysis results.

2. If using an internal floating roof to comply with the Tank Level 2 control requirements in s. NR 665.1085(5), prepare and maintain documentation describing the floating roof design.

3. If using an external floating roof to comply with the Tank Level 2 control requirements in s. NR 665.1085(6), prepare and maintain all of the following records:

a. Documentation describing the floating roof design and the dimensions of the tank.

b. Records for each seal gap inspection required by s. NR 665.1085(6)(c) describing the results of the seal gap measurements. The records shall include the date that the measurements were performed, the raw data obtained for the measurements and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in s. NR 665.1085(6)(a), the records shall include a description of the repairs that were made, the date the repairs were made and the date the tank was emptied, if necessary.

4. If using an enclosure to comply with the Tank Level 2 control requirements in s. NR 665.1085(9), prepare and maintain all of the following records:

a. Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria for a permanent total enclosure in Method

204—"Criteria for and Verification of a Permanent or Temporary Total Enclosure" in appendix M of 40 CFR part 51, incorporated by reference in s. NR 660.11.

b. Records required for the closed-vent system and control device according to sub. (5) .

(3) The owner or operator of a surface impoundment using air emission controls according to s. NR 665.1086 shall prepare and maintain records for the surface impoundment that include all of the following information:

(a) A surface impoundment identification number (or other unique identification description selected by the owner or operator).

(b) Documentation describing the floating membrane cover or cover design, as applicable to the surface impoundment, that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the specifications in s. NR 665.1086(3).

(c) A record for each inspection required by s. NR 665.1086 that includes all of the following information:

1. Date inspection was conducted.

2. For each defect detected during the inspection, the location of the defect, a description of the defect, the date of detection and corrective action taken to repair the defect. In the event that repair of the defect is delayed according to s. NR 665.1086(6), also record the reason for the delay and the date that completion of repair of the defect is expected.

(d) For a surface impoundment equipped with a cover and vented through a closed-vent system to a control device, prepare and maintain the records specified in sub. (5).

(4) The owner or operator of containers using Container Level 3 air emission controls according to s. NR 665.1087 shall prepare and maintain records that include all of the following information:

(a) Records for the most recent set of calculations and measurements performed to verify that the enclosure meets the criteria for a permanent total enclosure in Method 204—"Criteria for and Verification of a Permanent or Temporary Total Enclosure" in appendix M of 40 CFR part 51, incorporated by reference in s. NR 660.11.

(b) Records required for the closed-vent system and control device according to sub. (5).

(5) The owner or operator using a closed-vent system and control device according to s. NR 665.1088 shall prepare and maintain records for the closed-vent system and control device that include all of the following information:

(a) Certification that is signed and dated by the owner or operator stating that the control device is designed to operate at the performance level documented by a design analysis as specified in par. (b) or by performance tests as specified in par. (c) when the tank, surface impoundment or container is or would be operating at capacity or the highest level reasonably expected to occur.

(b) If a design analysis is used, design documentation as specified in s. NR 665.1035(2)(d). The documentation shall include information prepared by the owner or operator or provided by the control device manufacturer or vendor that describes the control device design according to s. NR 665.1035(2)(d)3. and certification by the owner or operator that the control equipment meets the applicable specifications.

(c) If performance tests are used, a performance test plan as specified in s. NR 665.1035(2)(c) and all test results.

(d) Information required by s. NR 665.1035(3)(a) and (b), as applicable.

(e) On a semiannual basis record all of the following information for those planned routine maintenance operations that would require the control device not to meet s. NR 665.1088(3)(a)1., 2. or 3., as applicable:

1. A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6-month period. This description shall include the type of maintenance necessary, planned frequency of maintenance and lengths of maintenance periods.

2. A description of the planned routine maintenance that was performed for the control device during the previous 6-month period. The description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet s. NR 665.1088(3)(a)1., 2. or 3., as applicable, due to planned routine maintenance.

(f) Record all of the following information for those unexpected control device system malfunctions that would require the control device not to meet s. NR 665.1088(3)(a)1., 2. or 3., as applicable:

1. The occurrence and duration of each malfunction of the control device system.

2. The duration of each period during a malfunction when gases, vapors or fumes are vented from the waste management unit through the closed-vent system to the control device while the control device is not properly functioning.

3. Actions taken during periods of malfunction to restore a malfunctioning control device to its normal or usual manner of operation.

(g) Records of the management of carbon removed from a carbon adsorption system conducted according to s. NR 665.1088(3)(c)2.

(6) The owner or operator of a tank, surface impoundment or container exempted from standards according to s. NR 665.1083(3) shall prepare and maintain all of the following records, as applicable:

(a) For tanks, surface impoundments or containers exempted under the hazardous waste organic concentration conditions specified in s. NR 665.1083(3)(a) or (b)1. to 6., record the information used for each waste determination (e.g., test results, measurements, calculations and other documentation) in the facility operating log. If analysis results for waste samples are used for the waste determination, record the date, time and location that each waste sample is collected according to the applicable requirements of s. NR 665.1084.

(b) For tanks, surface impoundments or containers exempted under s. NR 665.1083(3)(b)7. or 8., record the identification number for the incinerator, boiler or industrial furnace in which the hazardous waste is treated.

(7) An owner or operator designating a cover as ”unsafe to inspect and monitor” pursuant to s. NR 665.1085(12) or 665.1086(7) shall record in a log that is kept in the facility operating record the identification numbers for waste management units with covers that are designated as ”unsafe to inspect and monitor”, the explanation for each cover stating why the cover is unsafe to inspect and monitor and the plan and schedule for inspecting and monitoring each cover.

(8) The owner or operator of a facility that is subject to this subchapter and to the control device standards in 40 CFR part 60, subpart VV, or s. NR 440.62, or 40 CFR part 61, subpart V, may demonstrate compliance with the applicable sections of this subchapter by documentation either pursuant to this subchapter, or pursuant to 40 CFR part 60, subpart VV, or s. NR 440.62, or 40 CFR part 61, subpart V, to the extent that the documentation required by 40 CFR part 60 or 61 or ch. NR 440 duplicates the documentation required by this section.

(9) For each tank or container not using air emission controls specified in ss. NR 665.1085 to 665.1088 according to the conditions in s. NR 665.1080(4), the owner or operator shall record and maintain all of the following information:

(a) A list of the individual organic peroxide compounds manufactured at the facility that meet the conditions in s. NR 665.1080(4)(a).

(b) A description of how the hazardous waste containing the organic peroxide compounds identified in par. (a) is managed at the facility in tanks and containers. The description shall include all of the following information:

1. For the tanks used at the facility to manage this hazardous waste, provide sufficient information to describe for each tank a facility identification number for the tank, the purpose and placement of this tank in the management train of this hazardous waste and the procedures used to ultimately dispose of the hazardous waste managed in the tanks.

2. For containers used at the facility to manage these hazardous wastes, provide sufficient information to describe a facility identification number for the container or group of containers, the purpose and placement of this container, or group of containers, in the management train of this hazardous waste and the procedures used to ultimately dispose of the hazardous waste handled in the containers.

(c) An explanation of why managing the hazardous waste containing the organic peroxide compounds identified in par. (a) in the tanks and containers described in par. (b) would create an undue safety hazard if the air emission controls, required under ss. NR 665.1085 to 665.1088, were installed and operated on these waste management units. This explanation shall include all of the following information:

1. For tanks used at the facility to manage these hazardous wastes, provide sufficient information to explain how use of the required air emission controls on the tanks would affect the tank design features and facility operating procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the tanks, and why installation of safety devices on the required air emission controls, as allowed under this subchapter, will not address those situations in which evacuation of tanks equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

2. For containers used at the facility to manage these hazardous wastes, provide sufficient information to explain how use of the required air emission controls on the containers would affect the container design features and handling procedures used to prevent an undue safety hazard during the management of this hazardous waste in the containers, and why installation of safety devices on the required air emission controls, as allowed under this subchapter, will not address those situations in which evacuation of containers equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(10) For each hazardous waste management unit not using air emission controls specified in ss. NR 665.1085 to 665.1088 according to s. NR 665.1080(2)(g), the owner and operator shall record and maintain all of the following information:

(a) Certification that the waste management unit is equipped with and operating air emission controls according to 40 CFR part 60, 61 or 63 or corresponding provisions of ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469.

(b) Identification of the specific requirements in 40 CFR part 60, 61 or 63 or in ch. NR 440, subch. III of ch. NR 446 and chs. NR 447 to 469 with which the waste management unit is in compliance.

Subchapter DD —Containment Buildings

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.1100 Applicability**. The requirements of this subchapter apply to owners or operators who store or treat hazardous waste in units designed and operated under s. NR 665.1101. The owner or operator is not subject to the definition of land disposal in s. NR 668.02(3) provided that the unit complies with all of the following:

(1) The unit is a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, uplift, physical contact with the hazardous wastes to which they are exposed, climatic conditions and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of the equipment with containment walls.

(2) The unit has a primary barrier that is designed to be sufficiently durable to withstand the movement of personnel and handling equipment within the unit.

(3) If the unit is used to manage liquids, it has all of the following:

(a) A primary barrier designed and constructed of materials to prevent migration of hazardous constituents into the barrier.

(b) A liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier.

(c) A secondary containment system designed and constructed of materials to prevent migration of hazardous constituents into the barrier, with a leak detection and liquid collection system capable of detecting, collecting and removing leaks of hazardous constituents at the earliest possible time.

(4) The unit has controls as needed to prevent fugitive dust emissions.

(5) The unit is designed and operated to ensure containment and prevent the tracking of materials from the unit by personnel or equipment.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.1101 Design and operating standards. (1)** All containment buildings shall comply with all of the following design standards:

(a) The containment building shall be completely enclosed with a floor, walls and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.

(b) The floor and containment walls of the unit, including the secondary containment system if required under sub. (2), shall be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, uplift, physical contact with the hazardous wastes to which they are exposed, climatic conditions and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of the equipment with containment walls. The unit shall be designed so that it has sufficient structural strength to prevent collapse or other failure. All surfaces to be in contact with hazardous wastes shall be chemically compatible with those wastes. The department will consider standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirements of this paragraph. If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for lightweight doors and windows that meet both of the following criteria:

1. They provide an effective barrier against fugitive dust emissions under sub. (3)(a)4.

2. The unit is designed and operated in a fashion that assures that wastes will not actually come in contact with these openings.

(c) Incompatible hazardous wastes or treatment reagents may not be placed in the unit or its secondary containment system if they could cause the unit or secondary containment system to leak, corrode or otherwise fail.

(d) A containment building shall have a primary barrier designed to withstand the movement of personnel, waste and handling equipment in the unit during the operating life of the unit and appropriate for the physical and chemical characteristics of the waste to be managed.

(2) For a containment building used to manage hazardous wastes containing free liquids or treated with free liquids (the presence of which is determined by the paint filter test, a visual examination or other appropriate means), the owner or operator shall include all of the following:

(a) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier (e.g., a geomembrane covered by a concrete wear surface).

(b) A liquid collection and removal system to prevent the accumulation of liquid on the primary barrier of the containment building in compliance with both of the following:

1. The primary barrier shall be sloped to drain liquids to the associated collection system.

2. Liquids and waste shall be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time that protects human health and the environment.

(c) A secondary containment system including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that is capable of detecting failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

1. The requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum, all of the following:

a. Constructed with a bottom slope of one percent or more.

b. Constructed of a granular drainage material with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m^2/sec or more.

2. If treatment is to be conducted in the building, an area in which the treatment will be conducted shall be designed to prevent the release of liquids, wet materials or liquid aerosols to other portions of the building.

3. The secondary containment system shall be constructed of materials that are chemically resistant to the waste and liquids managed in the containment building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying materials and by any equipment used in the containment building. (Containment buildings can serve as secondary containment systems for tanks placed within the building under certain conditions. A containment building can serve as an external liner system for a tank, provided it meets the requirements of s. NR 665.0193(4)(a). In addition, the containment building shall meet the requirements of s. NR 665.0193(2) and (3) to be considered an acceptable secondary containment system for a tank.)

(3) Owners or operators of all containment buildings shall do all of the following:

(a) Use controls and practices to ensure containment of the hazardous waste within the unit; and, at a minimum, do all of the following:

1. Maintain the primary barrier to be free of significant cracks, gaps, corrosion or other deterioration that could cause hazardous waste to be released from the primary barrier.

2. Maintain the level of the stored or treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded.

3. Take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area shall be designated to decontaminate equipment and any rinsate shall be collected and properly managed.

4. Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions. In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) shall be operated and maintained with sound air pollution control practices. This state of no visible emissions shall be maintained effectively at all times during normal operating conditions, including when vehicles and personnel are entering and exiting the unit.

(b) Obtain certification by a qualified registered professional engineer that the containment building design meets the requirements of subs. (1) and (2) and this subsection. For units placed into operation prior to June 1, 1995, this certification shall be placed in the facility's operating record (on-site files for generators who are not formally required to have operating records) no later than July 31, 1995. After June 1, 1995, PE certification shall be required prior to operation of the unit.

(c) Throughout the active life of the containment building, if the owner or operator detects a condition that could lead to or has caused a release of hazardous waste, repair the condition promptly, in accordance with all of the following procedures:

1. Upon detection of a condition that has led to a release of hazardous waste (e.g., upon detection of leakage from the primary barrier) the owner or operator shall do all of the following:

a. Enter a record of the discovery in the facility operating record.

b. Immediately remove the portion of the containment building affected by the condition from service.

c. Determine what steps must be taken to repair the containment building, remove any leakage from the secondary collection system and establish a schedule for accomplishing the cleanup and repairs.

d. Within 7 days after the discovery of the condition, notify the department of the condition, and within 14 working days, provide a written notice to the department with a description of the steps taken to repair the containment building, and the schedule for accomplishing the work.

2. The department will review the information submitted, make a determination regarding whether the containment building must be removed from service completely or partially until repairs and cleanup are complete and notify the owner or operator of the determination and the underlying rationale in writing.

3. Upon completing all repairs and cleanup the owner or operator shall notify the department in writing and provide a verification, signed by a qualified, registered professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with subd. 1.d.

(d) Inspect and record in the facility's operating record, at least once every 7 days, data gathered from monitoring equipment and leak detection equipment as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

(4) For a containment building that contains both areas with and without secondary containment, the owner or operator shall do all of the following:

(a) Design and operate each area according to the requirements in subs. (1) to (3).

(b) Take measures to prevent the release of liquids or wet materials into areas without secondary containment.

(c) Maintain in the facility's operating log a written description of the operating procedures used to maintain the integrity of areas without secondary containment.

(5) Notwithstanding any other provision of this subchapter, the department may waive requirements for secondary containment for a licensed containment building where the owner or operator demonstrates that the only free liquids in the unit are limited amounts of dust suppression liquids required to meet occupational health and safety requirements, and where containment of managed wastes and liquids can be assured without a secondary containment system.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.1102 Closure and long-term care. (1)** At closure of a containment building, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless s. NR 661.03(4) applies. The closure plan, closure activities, cost estimates for closure and financial responsibility for containment buildings shall meet all of the requirements specified in subchs. G and H.

(3) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures and equipment as required in sub. (1), the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, the owner or operator shall close the facility and perform long-term care in accordance with the closure and long-term care requirements that apply to landfills (s. NR 665.0310). In addition, for the purposes of closure, long-term care and financial responsibility, the containment building is then considered to be a landfill, and the owner or operator shall meet all of the requirements for landfills specified in subchs. G and H.

WA-10-05

Subchapter EE —Hazardous Waste Munitions and Explosives Storage

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000265&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 665.1200 Applicability.** The requirements of this subchapter apply to owners or operators who store munitions and explosive hazardous wastes, except as s. NR 665.0001 provides otherwise.

Note: Depending on explosive hazards, hazardous waste munitions and explosives may also be managed in other types of storage units, including containment buildings (subch. DD), tanks (subch. J) or containers (subch. I). See s. NR 666.205 for storage of waste military munitions.

NR 665.1201 Design and operating standards. (1) Hazardous waste munitions and explosives storage units shall be designed and operated with containment systems, controls and monitoring, that do all of the following:

(a) Minimize the potential for detonation or other means of release of hazardous waste, hazardous constituents, hazardous decomposition products or contaminated run-off to the soil, groundwater, surface water and atmosphere.

(b) Provide a primary barrier, which may be a container (including a shell) or tank, designed to contain the hazardous waste.

(c) For wastes stored outdoors, provide that the waste and containers will not be in standing precipitation.

(d) For liquid wastes, provide a secondary containment system that assures that any released liquids are contained and promptly detected and removed from the waste area, or vapor detection system that assures that any released liquids or vapors are promptly detected and an appropriate response taken (e.g., additional containment, such as overpacking, or removal from the waste area).

(e) Provide monitoring and inspection procedures that assure the controls and containment systems are working as designed and that releases that may adversely impact human health or the environment are not escaping from the unit.

(2) Hazardous waste munitions and explosives stored under this subchapter may be stored in one of the following:

(a) *Earth-covered magazines*. Earth-covered magazines shall be all of the following:

1. Constructed of waterproofed, reinforced concrete or structural steel arches, with steel doors that are kept closed when not being accessed.

2. Designed and constructed to do all of the following:

a. Be of sufficient strength and thickness to support the weight of any explosives or munitions stored and any equipment used in the unit.

b. Provide working space for personnel and equipment in the unit.

c. Withstand movement activities that occur in the unit.

3. Located and designed, with walls and earthen covers that direct an explosion in the unit in a safe direction, so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(b) *Above-ground magazines*. Above-ground magazines shall be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(c) *Outdoor or open storage areas*. Outdoor or open storage areas shall be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(3) Hazardous waste munitions and explosives shall be stored in accordance with a standard operating procedure specifying procedures to ensure safety, security and environmental protection. If these

procedures serve the same purpose as the security and inspection requirements of s. NR 665.0014, the preparedness and prevention procedures of subch. C and the contingency plan and emergency procedures requirements of subch. D, then these procedures shall be used to fulfill those requirements.

(4) Hazardous waste munitions and explosives shall be packaged to ensure safety in handling and storage.

(5) Hazardous waste munitions and explosives shall be inventoried at least annually.

(6) Hazardous waste munitions and explosives and their storage units shall be inspected and monitored as necessary to ensure explosives safety and to ensure that there is no migration of contaminants out of the unit.

NR 665.1202 Closure and long-term care. (1) At closure of a magazine or unit which stored hazardous waste under this subchapter, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste, and manage them as hazardous waste unless s. NR 661.03(4) applies. The closure plan, closure activities, cost estimates for closure and financial responsibility for magazines or units shall meet all of the requirements specified in subchs. G and H, except that the owner or operator may defer closure of the unit as long as it remains in service as a munitions or explosives magazine or storage unit.

(2) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures and equipment as required in sub. (1), the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, the owner or operator shall close the facility and perform long-term care in accordance with the closure and long-term care requirements that apply to landfills (s. NR 664.0310).

APPENDIX I
RECORDKEEPING INSTRUCTIONS

The recordkeeping provisions of s. NR 665.0073 specify that an owner or operator shall keep a written operating record at the facility. This appendix provides additional instructions for keeping portions of the operating record. See s. NR 665.0073(2) for additional recordkeeping requirements.

The following information shall be recorded, as it becomes available, and maintained in the operating record until closure of the facility in the following manner:

Records of each hazardous waste received, treated, stored or disposed of at the facility which include all of the following:

(1) A description by its common name and the EPA hazardous waste numbers from ch. NR 661 which apply to the waste. The waste description also shall include the waste's physical form, i.e., liquid, sludge, solid or contained gas. If the waste is not listed in subch. D of ch. NR 661, the description also shall include the process that produced it (for example, solid filter cake from production of ___, EPA hazardous waste number W051).

Each hazardous waste listed in subch. D of ch. NR 661, and each hazardous waste characteristic defined in subch. C of ch. NR 661, has a 4-digit EPA hazardous waste number assigned to it. This number shall be used for recordkeeping and reporting purposes. Where a hazardous waste contains more than one listed hazardous waste, or where more than one hazardous waste characteristic applies to the waste, the waste description shall include all applicable EPA hazardous waste numbers.

(2) The estimated or manifest-reported weight, or volume and density, where applicable, in one of the units of measure specified in Table 1.

TABLE 1

Unit of measure	Code [1]

Gallons.....	G

2670

WA-10-05

Gallons per Hour	E

2671

WA-10-05

Gallons per Day.....	U

2672

WA-10-05

Liters.....	L

2673

WA-10-05

Liters Per Hour	H

2674

WA-10-05

Liters Per Day.....	V

2675

WA-10-05

Short Tons Per Hour.....	D

2676

WA-10-05

Metric Tons Per Hour.....	W

2677

WA-10-05

Short Tons Per Day	N

WA-10-05

Metric Tons Per Day.....	S

2679

WA-10-05

Pounds Per Hour.....	J

2680

WA-10-05

Kilograms Per Hour.....	R

2681

WA-10-05

Cubic Yards.....	Y

2682

WA-10-05

Cubic Meters	C

2683

WA-10-05

Acres.....	B

2684

WA-10-05

Acre-feet	A

WA-10-05

Hectares	Q

2686

WA-10-05

Hectare-meter	F

WA-10-05

Btu's per Hour	I

2688

[1] Single digit symbols are used here for data processing purposes.

(3) The methods (by handling codes as specified in Table 2) and dates of treatment, storage or disposal.

TABLE 2. —HANDLING CODES FOR TREATMENT, STORAGE AND DISPOSAL METHODS

Enter the following handling codes that most closely represent the techniques used at the facility to treat, store or dispose of each quantity of hazardous waste received:

(a) Storage

S01 Container (barrel, drum, etc.)
S02 Tank
S03 Waste Pile
S04 Surface Impoundment
S05 Drip Pad
S06 Containment Building (Storage)
S99 Other Storage (specify)

(b) Treatment

1. Thermal Treatment—

T06 Liquid injection incinerator
T07 Rotary kiln incinerator
T08 Fluidized bed incinerator
T09 Multiple hearth incinerator
T10 Infrared furnace incinerator
T11 Molten salt destructor
T12 Pyrolysis
T13 Wet Air oxidation
T14 Calcination
T15 Microwave discharge
T18 Other (specify)

2. Chemical Treatment—

T19 Absorption mound
T20 Absorption field
T21 Chemical fixation
T22 Chemical oxidation
T23 Chemical precipitation
T24 Chemical reduction
T25 Chlorination
T26 Chlorinolysis
T27 Cyanide destruction
T28 Degradation
T29 Detoxification
T30 Ion exchange
T31 Neutralization
T32 Ozonation

T33 Photolysis
T34 Other (specify)

3. Physical Treatment—

a. Separation of components

T35 Centrifugation
T36 Clarification
T37 Coagulation
T38 Decanting
T39 Encapsulation
T40 Filtration
T41 Flocculation
T42 Flotation
T43 Foaming
T44 Sedimentation
T45 Thickening
T46 Ultrafiltration
T47 Other (specify)

b. Removal of Specific Components

T48 Absorption-molecular sieve
T49 Activated carbon
T50 Blending
T51 Catalysis
T52 Crystallization
T53 Dialysis
T54 Distillation
T55 Electrodialysis
T56 Electrolysis
T57 Evaporation
T58 High gradient magnetic separation
T59 Leaching
T60 Liquid ion exchange
T61 Liquid-liquid extraction
T62 Reverse osmosis
T63 Solvent recovery
T64 Stripping
T65 Sand filter
T66 Other (specify)

4. Biological Treatment

T67 Activated sludge
T68 Aerobic lagoon
T69 Aerobic tank
T70 Anaerobic tank
T71 Composting
T72 Septic tank

T73 Spray irrigation
T74 Thickening filter
T75 Trickling filter
T76 Waste stabilization pond
T77 Other (specify)

5. Boilers and Industrial Furnaces

T80 Boiler
T81 Cement Kiln
T82 Lime Kiln
T83 Aggregate Kiln
T84 Phosphate Kiln
T85 Coke Oven
T86 Blast Furnace
T87 Smelting, Melting or Refining Furnace
T88 Titanium Dioxide Chloride Process Oxidation Reactor
T89 Methane Reforming Furnace
T90 Pulping Liquor Recovery Furnace
T91 Combustion Device Used in the Recovery of Sulfur Values from Spent Sulfuric Acid
T92 Halogen Acid Furnaces
T93 Other Industrial Furnaces Listed in s. NR 660.10 (specify)

6. Other Treatment

T94 Containment Building (Treatment)

(c) Disposal

D79 Underground Injection
D80 Landfill
D82 Ocean Disposal
D83 Surface Impoundment (to be closed as a landfill)
D99 Other Disposal (specify)

(d) Miscellaneous (Subch. X)

X01 Open Burning or Open Detonation
X02 Mechanical Processing
X03 Thermal Unit
X04 Geologic Repository
X99 Other Subch. X (specify)

APPENDIX III
EPA INTERIM PRIMARY DRINKING WATER STANDARDS

Parameter	Maximum level (mg/L)

WA-10-05

Arsenic.....	0.05

WA-10-05

Barium	1.0

WA-10-05

Cadmium	0.01

WA-10-05

Chromium.....	0.05

WA-10-05

Fluoride.....	1.4-2.4

WA-10-05

Lead	0.05

WA-10-05

Mercury	0.002

WA-10-05

Nitrate (as N)	10

2700

WA-10-05

Selenium	0.01

WA-10-05

Silver.....	0.05

WA-10-05

Endrin	0.0002

WA-10-05

Lindane	0.004

WA-10-05

Methoxychlor	0.1

WA-10-05

Toxaphene	0.005

WA-10-05

2,4-D.....	0.1

WA-10-05

2,4,5-TP Silvex.....	0.01

WA-10-05

Radium	5 pCi/L

WA-10-05

Gross Alpha	15 pCi/L

WA-10-05

Gross Beta	4 millirem/yr

WA-10-05

Turbidity.....	1/TU

2712

WA-10-05

Coliform Bacteria	1/100 ml

2713

Note: Turbidity is applicable only to surface water supplies.

APPENDIX IV
TESTS FOR SIGNIFICANCE

As required in s. NR 665.0093(2) the owner or operator shall use the Student's t-test to determine statistically significant changes in the concentration or value of an indicator parameter in periodic groundwater samples when compared to the initial background concentration or value of that indicator parameter. The comparison shall consider individually each of the wells in the monitoring system. For 3 of the indicator parameters (specific conductance, total organic carbon and total organic halogen) a single-tailed Student's t-test shall be used to test at the 0.01 level of significance for significant increases over background. The difference test for pH shall be a 2-tailed Student's t-test at the overall 0.01 level of significance.

The student's t-test involves calculation of the value of a t-statistic for each comparison of the mean (average) concentration or value (based on a minimum of 4 replicate measurements) of an indicator parameter with its initial background concentration or value. The calculated value of the t-statistic shall then be compared to the value of the t-statistic found in a table for t-test of significance at the specified level of significance. A calculated value of t which exceeds the value of t found in the table indicates a statistically significant change in the concentration or value of the indicator parameter.

Formulae for calculation of the t-statistic and tables for t-test of significance can be found in most introductory statistics texts.

APPENDIX V
EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes or gases or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage and disposal facilities, and to enforcement and license granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator shall, as the rules require, adequately analyze that person's wastes in order to avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid), neutralizes them (e.g., a strong acid mixed with a strong base) or controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

WA-10-05

Group 1-A	Group 1-B

2715

WA-10-05

Acetylene sludge	Acid sludge

2716

WA-10-05

Alkaline caustic liquids	Acid and water

2717

WA-10-05

Alkaline cleaner	Battery acid

2718

WA-10-05

Alkaline corrosive liquids	Chemical cleaners

2719

WA-10-05

Alkaline corrosive battery fluid	Electrolyte, acid

2720

WA-10-05

Caustic wastewater	Etching acid liquid or solvent

2721

WA-10-05

Lime sludge and other corrosive alkalies

2722

WA-10-05

Lime wastewater

Pickling liquor and other corrosive acids

2723

WA-10-05

Lime and water	Spent acid

2724

WA-10-05

Spent caustic

Spent mixed acid

2725

WA-10-05

Spent sulfuric acid

2726

WA-10-05

Potential consequences: Heat generation; violent reaction.

WA-10-05

Group 2-A	Group 2-B

2728

WA-10-05

Aluminum	Any waste in Group 1-A or 1-B

WA-10-05
Beryllium

2730

WA-10-05
Calcium

2731

WA-10-05
Lithium

2732

WA-10-05
Magnesium

2733

WA-10-05
Potassium

2734

WA-10-05
Sodium

2735

WA-10-05

Zinc powder

2736

WA-10-05

Other reactive metals and metal hydrides

2737

WA-10-05

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

WA-10-05

Group 3-A	Group 3-B

WA-10-05

Alcohols	Any concentrated waste in Group 1-A or 1-B

WA-10-05

Water

Calcium

2741

WA-10-05

Lithium

2742

WA-10-05

Metal hydrides

2743

WA-10-05

Potassium

2744

WA-10-05

SO_2Cl_2, $SOCl_2$,
PCl_3,
CH_3SiCl_3

2745

WA-10-05

Other
water-reactive
waste

2746

WA-10-05

Potential consequences: Fire, explosion or heat generation; generation of flammable or toxic gases.

WA-10-05

Group 4-A	Group 4-B

2748

WA-10-05

Alcohols	Concentrated Group 1-A or 1-B wastes

WA-10-05	Aldehydes	Group 2-A wastes
2750		

WA-10-05

Halogenated hydrocarbons

2751

WA-10-05

Nitrated hydrocarbons

2752

WA-10-05

Unsaturated hydrocarbons

2753

WA-10-05

Other reactive organic compounds and solvents

WA-10-05

Potential consequences: Fire, explosion or violent reaction.

WA-10-05

Group 5-A	Group 5-B

WA-10-05

Spent cyanide and sulfide solutions	Group 1-B wastes

WA-10-05

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

WA-10-05

Group 6-A	Group 6-B

Chlorates	Acetic acid and other organic acids

WA-10-05 Chlorine	Concentrated mineral acids

2761

WA-10-05 Chlorites	Group 2-A wastes

WA-10-05	Chromic acid	Group 4-A wastes

WA-10-05	Hypochlorites	Other flammable and combustible wastes
2764		

WA-10-05
Nitrates

WA-10-05

Nitric acid, fuming

2766

WA-10-05

Other strong oxidizers

2770

WA-10-05

Potential consequences: Fire, explosion or violent reaction.

Note: The source of this appendix is "Law, Regulations, and Guidelines for Handling of Hazardous Waste", California department of health, February 1975.

APPENDIX VI
COMPOUNDS WITH HENRY'S LAW CONSTANT LESS THAN 0.1 Y/X

Compound name	CAS No.

Acetaldol	107-89-1

WA-10-05

Acetamide	60-35-5

WA-10-05

2-Acetylaminofluorene	53-96-3

WA-10-05

3-Acetyl-5-hydroxypiperidine.

WA-10-05

3-Acetylpiperidine	618-42-8

WA-10-05

1-Acetyl-2-thiourea.....	591-08-2

WA-10-05

Acrylamide.....	79-06-1

WA-10-05

Acrylic acid	79-10-7

WA-10-05

Adenine 73-24-5

WA-10-05

Adipic acid	124-04-9

WA-10-05

Adiponitrile	111-69-3

WA-10-05

Alachlor	15972-60-8

WA-10-05

Aldicarb	116-06-3

WA-10-05

Ametryn	834-12-8

WA-10-05

4-Aminobiphenyl	92-67-1

WA-10-05

4-Aminopyridine.....	504-24-5

WA-10-05

Aniline	62-53-3

WA-10-05

o-Anisidine.....	90-04-0

2790

WA-10-05

Anthraquinone	84-65-1

WA-10-05

Atrazine.....	1912-24-9

WA-10-05

Benzenearsonic acid.....	98-05-5

WA-10-05

Benzenesulfonic acid	98-11-3

WA-10-05

Benzidine	92-87-5

WA-10-05

Benzo(a)anthracene.....	56-55-3

2796

WA-10-05

Benzo(k)fluoranthene	207-08-9

WA-10-05

Benzoic acid	65-85-0

WA-10-05

Benzo(g,h,i)perylene	191-24-2

WA-10-05

Benzo(a)pyrene	50-32-8

2800

WA-10-05

Benzyl alcohol	100-51-6

WA-10-05

gamma-BHC	58-89-9

WA-10-05

Bis(2-ethylhexyl)phthalate.....	117-81-7

WA-10-05

Bromochloromethyl acetate.

2804

WA-10-05

Bromoxynil	1689-84-5

WA-10-05

Butyric acid	107-92-6

2806

WA-10-05

Caprolactam (hexahydro-2H-azepin-2-one)	105-60-2

2807

WA-10-05

Catechol (o-dihydroxybenzene).....	120-80-9

WA-10-05

Cellulose	9004-34-6

2809

WA-10-05
Cell wall.

2810

WA-10-05

Chlorhydrin (3-Chloro-1,2-propanediol)	96-24-2

2811

WA-10-05

Chloroacetic acid	79-11-8

2812

WA-10-05

2-Chloroacetophenone	93-76-5

2813

WA-10-05

p-Chloroaniline	106-47-8

WA-10-05

p-Chlorobenzophenone	134-85-0

2815

WA-10-05

Chlorobenzilate	510-15-6

WA-10-05

p-Chloro-m-cresol (6-chloro-m-cresol)	59-50-7

2817

WA-10-05

3-Chloro-2,5-diketopyrrolidine.

2818

WA-10-05

Chloro-1,2-ethane diol.

2819

WA-10-05

4-Chlorophenol	106-48-9

WA-10-05

Chlorophenol polymers (2-chlorophenol & 4-chlorophenol)	95-57-8 & 106-48-9

WA-10-05

1-(o-Chlorophenyl)thiourea	5344-82-1

WA-10-05

Chrysene	218-01-9

WA-10-05

Citric acid.....	77-92-9

WA-10-05

Creosote	8001-58-9

2825

WA-10-05

m-Cresol.....	108-39-4

WA-10-05

o-Cresol.....	95-48-7

2827

WA-10-05

p-Cresol.....	106-44-5

WA-10-05

Cresol (mixed isomers)	1319-77-3

2829

WA-10-05

4-Cumylphenol	27576-86-9

WA-10-05

Cyanide	57-12-5

WA-10-05

4-Cyanomethyl benzoate.

WA-10-05

Diazinon.....	333-41-5

WA-10-05

Dibenzo(a,h)anthracene	53-70-3

WA-10-05

Dibutylphthalate.....	84-74-2

2835

WA-10-05

2,5-Dichloroaniline (N,N'-dichloroaniline)	95-82-9

WA-10-05

2,6-Dichlorobenzonitrile11	1194-65-6

2837

WA-10-05

2,6-Dichloro-4-nitroaniline	99-30-9

WA-10-05

2,5-Dichlorophenol	333-41-5

WA-10-05

3,4-Dichlorotetrahydrofuran.

2840

WA-10-05

Dichlorvos (DDVP)	62-73-7

WA-10-05

Diethanolamine	111-42-2

WA-10-05

N,N-Diethylaniline.....	91-66-7

WA-10-05

Diethylene glycol	111-46-6

WA-10-05

Diethylene glycol dimethyl ether (dimethyl Carbitol)	111-96-6

2845

WA-10-05

Diethylene glycol monobutyl ether (butyl Carbitol).....	112-34-5

2846

WA-10-05

Diethylene glycol monoethyl ether acetate (Carbitol acetate)	112-15-2

2847

WA-10-05

Diethylene glycol monoethyl ether (Carbitol Cellosolve)	111-90-0

2848

WA-10-05

Diethylene glycol monomethyl ether (methyl Carbitol)	111-77-3

2849

WA-10-05

N,N'-Diethylhydrazine	1615-80-1

2850

WA-10-05

Diethyl (4-methylumbelliferyl) thionophosphate	299-45-6

2851

WA-10-05

Diethyl phosphorothioate.....	126-75-0

2852

WA-10-05

N,N'-Diethylpropionamide	15299-99-7

2853

WA-10-05

Dimethoate.....	60-51-5

2854

WA-10-05

2,3-Dimethoxystrychnidin-10-one	357-57-3

WA-10-05

4-Dimethylaminoazobenzene	60-11-7

WA-10-05

7,12-Dimethylbenz(a)anthracene	57-97-6

WA-10-05

3,3-Dimethylbenzidine.....	119-93-7

WA-10-05

Dimethylcarbamoyl chloride	79-44-7

2859

WA-10-05

Dimethyldisulfide	624-92-0

2860

WA-10-05

Dimethylformamide	68-12-2

2861

WA-10-05

1,1-Dimethylhydrazine	57-14-7

WA-10-05

Dimethylphthalate	131-11-3

WA-10-05

Dimethylsulfone.....	67-71-0

WA-10-05

Dimethylsulfoxide	67-68-5

4,6-Dinitro-o-cresol	534-52-1

WA-10-05

1,2-Diphenylhydrazine.....	122-66-7

2867

WA-10-05

Dipropylene glycol (1,1’-oxydi-2-propanol)	110-98-5

2868

WA-10-05

Endrin.....	72-20-8

2869

WA-10-05

Epinephrine	51-43-4

2870

WA-10-05

mono-Ethanolamine	141-43-5

2871

WA-10-05

Ethyl carbamate (urethane)	51-79-6

WA-10-05

Ethylene glycol	107-21-1

2873

WA-10-05

Ethylene glycol monobutyl ether (butyl Cellosolve)	111-76-2

2874

WA-10-05

Ethylene glycol monoethyl ether (Cellosolve).....	110-80-5

2875

WA-10-05

Ethylene glycol monoethyl ether acetate (Cellosolve acetate)	111-15-9

2876

WA-10-05

Ethylene glycol monomethyl ether (methyl Cellosolve)	109-86-4

2877

WA-10-05

Ethylene glycol monophenyl ether (phenyl Cellosolve).....	122-99-6

WA-10-05

Ethylene glycol monopropyl ether (propyl Cellosolve).....	2807-30-9

2879

WA-10-05

Ethylene thiourea (2-imidazolidinethione)	96-45-7

WA-10-05

4-Ethylmorpholine	100-74-3

2881

WA-10-05

3-Ethylphenol.....	620-17-7

WA-10-05

Fluoroacetic acid, sodium salt.....	62-74-8

2883

WA-10-05

Formaldehyde	50-00-0

WA-10-05

Formamide	75-12-7

WA-10-05

Formic acid	64-18-6

2886

WA-10-05

Fumaric acid	110-17-8

WA-10-05

Glutaric acid.....	110-94-1

WA-10-05

Glycerin (Glycerol)	56-81-5

WA-10-05

Glycidol	556-52-5

2890

WA-10-05

Glycinamide	598-41-4

2891

WA-10-05

Glyphosate	1071-83-6

WA-10-05

Guthion 86-50-0

2893

WA-10-05

Hexamethylene-1,6-diisocyanate (1,6-diisocyanatohexane)	822-06-0

WA-10-05

Hexamethyl phosphoramide	680-31-9

2895

WA-10-05

Hexanoic acid	142-62-1

WA-10-05

Hydrazine..... 302-01-2

WA-10-05

Hydrocyanic acid	74-90-8

2898

WA-10-05

Hydroquinone	123-31-9

2899

WA-10-05

Hydroxy-2-propionitrile (hydracrylonitrile)	109-78-4

2900

WA-10-05

Indeno (1,2,3-cd) pyrene.....	193-39-5

2901

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2902

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2903

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2904

WA-10-05

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2905

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2906

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2907

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Mesityl oxide	141-79-7

2908

WA-10-05

Methane sulfonic acid	75-75-2

2909

WA-10-05

Methomyl	16752-77-5

2910

WA-10-05

p-Methoxyphenol	150-76-5

2911

WA-10-05

Methyl acrylate	96-33-3

2912

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4,4’-Methylene-bis-(2-chloroaniline)	101-14-4

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5-Methylfurfural	620-02-0

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2918

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2919

WA-10-05

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2920

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WA-10-05

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WA-10-05

beta-Naphthylamine	91-59-8

2930

WA-10-05

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Niacinamide	98-92-0

WA-10-05

o-Nitroaniline	88-74-4

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WA-10-05

Nitroglycerin	55-63-0

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CHAPTER NR 666
STANDARDS FOR MANAGING SPECIFIC HAZARDOUS WASTES AND SPECIFIC TYPES OF HAZARDOUS WASTE MANAGEMENT FACILITIES

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Subchapter C —Recyclable Materials Used in a Manner Constituting Disposal

Note: This subchapter is similar to federal regulations contained in 40 CFR part 266 subpart C, as revised on July 24, 2002

NR 666.020 Applicability. (1) This subchapter applies to recyclable materials that are applied to or placed on the land in one of the following ways:

(a) Without mixing with any other substance.

(b) After mixing or combination with any other substance or substances. These materials will be referred to throughout this subchapter as ”materials used in a manner that constitutes disposal”.

(2) Products produced for the general public’s use that are used in a manner that constitutes disposal and that contain recyclable materials are not presently regulated if the recyclable materials have undergone a chemical reaction in the course of producing the products so as to become inseparable by physical means and if the products meet the applicable treatment standards in subch. D of ch. NR 668 (or applicable prohibition levels in s. NR 668.32, where no treatment standards have been established) for each recyclable material (i.e., hazardous waste) that they contain.

(3) Anti-skid and deicing uses of slags, which are generated from high temperature metals recovery (HTMR) processing of hazardous waste K061, K062 and F006, in a manner constituting disposal are not covered by the exemption in sub. (2) and remain regulated.

(4) Fertilizers that contain recyclable materials are not regulated if any of the following apply:

(a) They are zinc fertilizers excluded from the definition of solid waste according to s. NR 661.04(1)(u).

(b) They meet the applicable treatment standards in subch. D of ch. NR 668 for each hazardous waste that they contain.

NR 666.021 Standards applicable to generators and transporters of materials used in a manner that constitutes disposal. Generators and transporters of materials that are used in a manner that constitutes disposal are subject to the applicable requirements of chs. NR 662 and 663, and the notification requirement under s. NR 660.07.

NR 666.022 Standards applicable to storers of materials that are to be used in a manner that constitutes disposal who are not the ultimate users. Owners or operators of facilities that store

recyclable materials that are to be used in a manner that constitutes disposal, but who are not the ultimate users of the materials, are regulated under all applicable provisions of subchs. A to L of chs. NR 664 and 665, ch. NR 670 and the notification requirement under s. NR 660.07.

NR 666.023 Standards applicable to users of materials that are used in a manner that constitutes disposal. (1) Owners or operators of facilities that use recyclable materials in a manner that constitutes disposal are regulated under all applicable provisions of subchs. A to N of chs. NR 664 and 665, and chs. NR 668 and 670 and the notification requirement under s. NR 660.07. (These requirements do not apply to products which contain these recyclable materials under the provisions of s. NR 666.020(2).)

(2) The use of waste or used oil or other material, which is contaminated with dioxin or any other hazardous waste (other than a waste identified solely on the basis of ignitability), for dust suppression or road treatment is prohibited.

Subchapter F —Recyclable Materials Used for Precious Metal Recovery

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.070 Applicability and requirements. (1)** This subchapter applies to recyclable materials that are reclaimed to recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium or any combination of these.

(2) Persons who generate, transport or store recyclable materials that are regulated under this subchapter are subject to all of the following requirements:

(a) Notification requirements under s. NR 660.07.

(b) Subchapter B of ch. NR 662 for generators, ss. NR 663.20 and 663.21 for transporters and ss. NR 665.0071 and 665.0072 for persons who store.

(c) For precious metals exported to or imported from designated OECD member countries for recovery, persons who generate, transport or store recyclable materials are subject to subch. H of ch. NR 662 and s. NR 665.0012(1)(b). For precious metals exported to or imported from non-OECD countries for recovery, persons who generate, transport or store recyclable materials are subject to subchs. E and F of ch. NR 662.

(3) Persons who store recycled materials that are regulated under this subchapter shall keep all of the following records to document that they are not accumulating these materials speculatively (as defined in s. NR 661.01(3)):

(a) Records showing the volume of these materials stored at the beginning of the calendar year.

(b) The amount of these materials generated or received during the calendar year.

(c) The amount of materials remaining at the end of the calendar year.

(4) Recyclable materials that are regulated under this subchapter that are accumulated speculatively (as defined in s. NR 661.01(3)) are subject to all applicable provisions of chs. NR 662 to 665 and 670.

Subchapter G —Spent Lead-Acid Batteries Being Reclaimed

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NR 666.080 Applicability and requirements. (1) Are spent lead-acid batteries exempt from hazardous waste management requirements? If you generate, collect, transport, store or regenerate lead-acid batteries for reclamation purposes, you may be exempt from certain hazardous waste management requirements. Use the following table to determine which requirements apply to you.

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Alternatively, you may choose to manage your spent lead-acid batteries under the ”Universal Waste” rule in ch. NR 673.

Note: In addition to the requirements of this subchapter or ch. NR 673, s. 287.18, Stats., applies to persons who sell lead acid batteries.

If your batteries * * *	And if you * * *	Then you * * *	

(a) Will be reclaimed through regeneration (such as by electrolyte replacement).		are exempt from chs. NR 662 (except for s. NR 662.11), 663, 664, 665, 666, 668 and 670, and the notification requirements at s. NR 660.07.	are subje 662.11

(b) Will be reclaimed other than	generate, collect or transport	are exempt from chs. NR 662 (except fors. NR 662.11), 663, 664, 665, 666 and 670, and the notification requirements at s. NR	are subje 662.11

through regeneration.	these batteries.	660.07.	under

(c) Will be reclaimed other than	store these batteries but you	are exempt from chs. NR 662 (except for s. NR 662.11), 663, 664, 665, 666 and 670, and the notification requirements at s. NR	are subje 662.11

through regeneration.	aren't the reclaimer.	660.07.	under

(d) Will be reclaimed other than through regeneration.	store these batteries before you reclaim them.	shall comply with sub. (2).	are subje 662.11 under

(e) Will be reclaimed other than	don’t store these batteries before	are exempt from chs. NR 662 (except for s. NR 662.11), 663, 664, 665, 666 and 670, and the notification requirements at s. NR	are subje 662.11

through regeneration.	you reclaim them.	660.07.	under

Subchapter H —Hazardous Waste Burned in Boilers and Industrial Furnaces

Note: This subchapter is similar to federal regulations contained in 40 CFR part 266 subpart H, revised as of July 1, 2003.

NR 666.100 Applicability. (1) The regulations of this subchapter apply to hazardous waste burned or processed in a boiler or industrial furnace (as defined in s. NR 660.10) irrespective of the purpose of burning or processing, except as provided by subs. (2), (3), (4), (7) and (8). In this subchapter, the term ”burn” means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient. The emissions standards of ss. NR 666.104, 666.105, 666.106 and 666.107 apply to facilities operating under an interim license or under a license as specified in ss. NR 666.102 and 666.103.

(2) (a) Except as provided by par. (b), the standards of this subchapter no longer apply when an affected source demonstrates compliance with the maximum achievable control technology (MACT) requirements of 40 CFR part 63, subpart EEE, by conducting a comprehensive performance test and submitting to the department a notification of compliance under 40 CFR 63.1207(j) and 63.1210(b) documenting compliance with 40 CFR part 63, subpart EEE. Nevertheless, even after this demonstration of compliance with the MACT standards, hazardous waste license conditions that were based on the standards of this chapter shall continue to be in effect until the conditions are removed from the license or the license is terminated or revoked, unless the license expressly provides otherwise.

(b) The following standards all continue to apply:

1. If you elect to comply with s. NR 670.235(1)(a)1. to minimize emissions of toxic compounds from startup, shutdown and malfunction events, s. NR 666.102(5)(a) requiring operations in accordance with the operating requirements specified in the license at all times that hazardous waste is in the unit, and s. NR 666.102(5)(b)3. requiring compliance with the emission standards and operating requirements during startup and shutdown if hazardous waste is in the combustion chamber, except for particular hazardous wastes. These provisions apply only during startup, shutdown and malfunction events.

2. The closure requirements of ss. NR 666.102(5)(k) and 666.103(12).

3. The standards for direct transfer of s. NR 666.111.

4. The standards for regulation of residues of s. NR 666.212.

5. The applicable requirements of subchs. A to H, BB and CC of chs. NR 664 and 665.

(3) The following hazardous wastes and facilities are not subject to regulation under this subchapter:

(a) Used oil burned for energy recovery that is also a hazardous waste solely because it exhibits a characteristic of hazardous waste identified in subch. C of ch. NR 661. Such used oil is subject to regulation under ch. NR 679.

(b) Gas recovered from hazardous or solid waste landfills when such gas is burned for energy recovery.

(c) Hazardous wastes that are exempt from regulation under ss. NR 661.04 and 661.06(1)(c)3. and 4., and hazardous wastes that are subject to the special requirements for conditionally exempt small quantity generators under s. NR 661.05.

(d) Coke ovens, if the only hazardous waste burned is EPA hazardous waste number K087, decanter tank tar sludge from coking operations.

(4) Owners and operators of smelting, melting and refining furnaces (including pyrometallurgical devices such as cupolas, sintering machines, roasters and foundry furnaces, but not including cement

kilns, aggregate kilns or halogen acid furnaces burning hazardous waste) that process hazardous waste solely for metal recovery are conditionally exempt from regulation under this subchapter, except for ss. NR 666.101 and 666.112.

(a) To be exempt from ss. NR 666.102 to 666.111, an owner or operator of a metal recovery furnace or mercury recovery furnace shall comply with all of the following requirements, except that an owner or operator of a lead or a nickel-chromium recovery furnace, or a metal recovery furnace that burns baghouse bags used to capture metallic dusts emitted by steel manufacturing, shall comply with par. (c), and owners or operators of lead recovery furnaces that are subject to regulation under the Secondary Lead Smelting national emission standards for hazardous air pollutants (NESHAP) shall comply with sub. (8).

1. Provide a one-time written notice to the department indicating all of the following:

a. The owner or operator claims exemption under this subsection.

b. The hazardous waste is burned solely for metal recovery consistent with par. (b).

c. The hazardous waste contains recoverable levels of metals.

d. The owner or operator will comply with the sampling and analysis and recordkeeping requirements of this subsection.

2. Sample and analyze the hazardous waste and other feedstocks as necessary to comply with this subsection under procedures specified by Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, incorporated by reference in s. NR 660.11, or alternative methods that meet or exceed the SW-846 method performance capabilities. If SW-846 does not prescribe a method for a particular determination, the owner or operator shall use the best available method.

3. Maintain at the facility for at least 3 years records to document compliance with this subsection including limits on levels of toxic organic constituents and Btu value of the waste, and levels of recoverable metals in the hazardous waste compared to normal nonhazardous waste feedstocks.

(b) A hazardous waste meeting either of the following criteria is not processed solely for metal recovery:

1. The hazardous waste has a total concentration of organic compounds listed in ch. NR 661, Appendix VIII, exceeding 500 ppm by weight, as-fired, and so is considered to be burned for destruction. The concentration of organic compounds in a waste as-generated may be reduced to the 500 ppm limit by bona fide treatment that removes or destroys organic constituents. Blending for dilution to meet the 500 ppm limit is prohibited and documentation that the waste has not been impermissibly diluted shall be retained in the records required by par.(a)3.

2. The hazardous waste has a heating value of 5,000 Btu/lb or more, as-fired, and so is considered to be burned as fuel. The heating value of a waste as-generated may be reduced to below the 5,000 Btu/lb limit by bona fide treatment that removes or destroys organic constituents. Blending for dilution to meet the 5,000 Btu/lb limit is prohibited and documentation that the waste has not been impermissibly diluted shall be retained in the records required by par. (a)3.

(c) To be exempt from ss. NR 666.102 to 666.111, an owner or operator of a lead or nickel-chromium or mercury recovery furnace (except for owners or operators of lead recovery furnaces subject to regulation under the Secondary Lead Smelting national emission standards for hazardous air pollutants (NESHAP)) or a metal recovery furnace that burns baghouse bags used to capture metallic dusts emitted by steel manufacturing, shall provide a one-time written notice to the department identifying each hazardous waste burned and specifying whether the owner or operator claims an exemption for each waste under this paragraph or par. (a). The owner or operator shall comply with par. (a) for those wastes claimed to be exempt under par. (a) and shall comply with the requirements below for those wastes claimed to be exempt under this paragraph.

1. The hazardous wastes listed in Appendices XI, XII and XIII, and baghouse bags used to capture metallic dusts emitted by steel manufacturing, are exempt from par. (a), if all of the following conditions are met:

a. A waste listed in Appendix IX shall contain recoverable levels of lead, a waste listed in Appendix XII shall contain recoverable levels of nickel or chromium, a waste listed in Appendix XIII shall contain recoverable levels of mercury and contain less than 500 ppm of ch. NR 661, Appendix VIII organic constituents, and baghouse bags used to capture metallic dusts emitted by steel manufacturing shall contain recoverable levels of metal.

b. The waste does not exhibit the toxicity characteristic of s. NR 661.24 for an organic constituent.

c. The waste is not a hazardous waste listed in subch. D of ch. NR 661 because it is listed for an organic constituent as identified in ch. NR 661, Appendix VII.

d. The owner or operator certifies in the one-time notice that hazardous waste is burned under this paragraph and that sampling and analysis will be conducted or other information will be obtained as necessary to ensure continued compliance with these requirements. Sampling and analysis shall be conducted according to par. (a)2. and records to document compliance with this paragraph shall be kept for at least 3 years.

2. The department may decide on a case-by-case basis that the toxic organic constituents in a material listed in Appendix XI, XII or XIII that contains a total concentration of more than 500 ppm toxic organic compounds listed in ch. NR 661, Appendix VIII may pose a hazard to human health and the environment when burned in a metal recovery furnace exempt from this subchapter. In that situation, after adequate notice and opportunity for comment, the metal recovery furnace shall become subject to this subchapter when burning that material. In making the hazard determination, the department will consider all of the following factors:

a. The concentration and toxicity of organic constituents in the material.

b. The level of destruction of toxic organic constituents provided by the furnace.

c. Whether the acceptable ambient levels established in Appendices IV or V may be exceeded for any toxic organic compound that may be emitted based on dispersion modeling to predict the maximum annual average off-site ground level concentration.

(5) The standards for direct transfer operations under s. NR 666.111 apply only to facilities subject to the license standards of s. NR 666.102 or the interim license standards of s. NR 666.103.

(6) The management standards for residues under s. NR 666.112 apply to any boiler or industrial furnace burning hazardous waste.

(7) Owners and operators of smelting, melting and refining furnaces (including pyrometallurgical devices such as cupolas, sintering machines, roasters and foundry furnaces) that process hazardous waste for recovery of economically significant amounts of the precious metals gold, silver, platinum, palladium, iridium, osmium, rhodium or ruthenium, or any combination of these are conditionally exempt from regulation under this subchapter, except for s. NR 666.112. To be exempt from ss. NR 666.101 to 666.111, an owner or operator shall do all of the following:

(a) Provide a one-time written notice to the department indicating all of the following:

1. The owner or operator claims exemption under this subsection.

2. The hazardous waste is burned for legitimate recovery of precious metal.

3. The owner or operator will comply with the sampling and analysis and recordkeeping requirements of this subsection.

(b) Sample and analyze the hazardous waste as necessary to document that the waste is burned for recovery of economically significant amounts of precious metal using procedures specified by Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, incorporated by reference in s. NR 660.11 or alternative methods that meet or exceed the SW-846 method performance capabilities. If SW-846 does not prescribe a method for a particular determination, the owner or operator shall use the best available method.

(c) Maintain at the facility for at least 3 years records to document that all hazardous wastes burned are burned for recovery of economically significant amounts of precious metal.

(8) Starting June 23, 1997, owners or operators of lead recovery furnaces that process hazardous waste for recovery of lead and that are subject to regulation under the Secondary Lead Smelting national standards for hazardous air pollutants (NESHAP), are conditionally exempt from regulation under this subchapter, except for s. NR 666.101. To be exempt, an owner or operator shall provide a one-time notice to the department identifying each hazardous waste burned and specifying that the owner or operator claims an exemption under this subsection. The notice also shall state that the waste burned has a total concentration of non-metal compounds listed in ch. NR 661, Appendix VIII, of less than 500 ppm by weight, as fired and as provided in sub. (4)(b)1., or is listed in Appendix XI.

NR 666.101 Management prior to burning. (1) GENERATORS. Generators of hazardous waste that is burned in a boiler or industrial furnace are subject to ch. NR 662 .

(2) TRANSPORTERS. Transporters of hazardous waste that is burned in a boiler or industrial furnace are subject to ch. NR 663 .

(3) STORAGE AND TREATMENT FACILITIES. (a) Owners and operators of facilities that store or treat hazardous waste that is burned in a boiler or industrial furnace are subject to the applicable provisions of chs. NR 664, 665 and 670, except as provided by sub. (3)(b). These standards apply to storage and treatment by the burner as well as to storage and treatment facilities operated by intermediaries (processors, blenders, distributors, etc.) between the generator and the burner.

(b) Owners and operators of facilities that burn, in an onsite boiler or industrial furnace exempt from regulation under the small quantity burner provisions of s. NR 666.108, hazardous waste that they generate are exempt from the regulations of chs. NR 664, 665 and 670 applicable to storage units for those storage units that store mixtures of hazardous waste and the primary fuel to the boiler or industrial furnace in tanks that feed the fuel mixture directly to the burner. Storage of hazardous waste prior to mixing with the primary fuel is subject to regulation as prescribed in par. (a).

NR 666.102 License standards for burners. (1) APPLICABILITY (a) *General.* Owners and operators of boilers and industrial furnaces burning hazardous waste and not operating under an interim license shall comply with this section and ss. NR 670.022 and 670.066, unless exempt under the small quantity burner exemption of s. NR 666.108.

(b) *Applicability of ch. NR 664 standards.* Owners and operators of boilers and industrial furnaces that burn hazardous waste are subject to the following provisions of ch. NR 664, except as provided otherwise by this subchapter:

1. In subch. A of ch. NR 664 (General), s. NR 664.0004.
2. In subch. B of ch. NR 664 (General facility standards), s. NR 664.0011 to 664.0018.
3. In subch. C of ch. NR 664 (Preparedness and prevention), ss. NR 664.0031 to 664.0037.
4. In subch. D of ch. NR 664 (Contingency plan and emergency procedures), ss. NR 664.0051 to 664.0056.
5. In subch. E of ch. NR 664 (Manifest system, recordkeeping and reporting), the applicable provisions of ss. NR 664.0071 to 664.0077.
6. In subch. F of ch. NR 664 (Corrective Action), ss. NR 664.0090 and 664.0101.
7. In subch. G of ch. NR 664 (Closure and post-closure), ss. NR 664.0111 to 664.0115.
8. In subch. H of ch. NR 664 (Financial requirements), ss. NR 664.0141, 664.0142, 664.0143 and 664.0147 to 664.0151, except that states and the federal government are exempt from s. NR 664.0147.
9. Subchapter BB (Air emission standards for equipment leaks), except s. NR 664.1050(1).

(2) HAZARDOUS WASTE ANALYSIS. (a) The owner or operator shall provide an analysis of the hazardous waste that quantifies the concentration of any constituent identified in ch. NR 661, Appendix VIII that may reasonably be expected to be in the waste. Such constituents shall be identified and quantified if present, at levels detectable by analytical procedures prescribed by Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, incorporated by reference in s. NR 660.11. Alternative methods that meet or exceed the method performance capabilities of SW-846

methods may be used. If SW-846 does not prescribe a method for a particular determination, the owner or operator shall use the best available method. The ch. NR 661, Appendix VIII constituents excluded from this analysis shall be identified and the basis for their exclusion explained. This analysis shall be used to provide all information required by this subchapter and ss. NR 670.022 and 670.066 and to enable the department to prescribe such license conditions as necessary to protect human health and the environment. Such analysis shall be included as a portion of the feasibility and plan of operation report, or, for facilities operating under the interim license standards of this subchapter, as a portion of the trial burn plan that may be submitted before the feasibility and plan of operation report under provisions of s. NR 670.066(7) as well as any other analysis required by the department in preparing the license. Owners and operators of boilers and industrial furnaces not operating under the interim license standards shall provide the information required by s. NR 670.022 or 670.066(3) in the feasibility and plan of operation report to the greatest extent possible.

(b) Throughout normal operation, the owner or operator shall conduct sampling and analysis as necessary to ensure that the hazardous waste, other fuels, and industrial furnace feedstocks fired into the boiler or industrial furnace are within the physical and chemical composition limits specified in the license.

(3) EMISSIONS STANDARDS. Owners and operators shall comply with emissions standards provided by ss. NR 666.104 to 666.107.

(4) LICENSES. (a) The owner or operator may burn only hazardous wastes specified in the facility license and only under the operating conditions specified under sub. (5), except in approved trial burns under the conditions specified in s. NR 670.066.

(b) Hazardous wastes not specified in the license may not be burned until operating conditions have been specified under a new license or license modification, as applicable. Operating requirements for new wastes may be based on either trial burn results or alternative data included with feasibility and plan of operation report under s. NR 670.022.

(c) Boilers and industrial furnaces operating under the interim license standards of s. NR 666.103 are permitted under procedures provided by s. NR 670.066(7).

(d) A license for a new boiler or industrial furnace (those boilers and industrial furnaces not operating under the interim license standards) shall establish appropriate conditions for each of the applicable requirements of this section, including but not limited to allowable hazardous waste firing rates and operating conditions necessary to meet sub. (5), in order to comply with all of the following standards:

1. For the period beginning with initial introduction of hazardous waste and ending with initiation of the trial burn, and only for the minimum time required to bring the device to a point of operational readiness to conduct a trial burn, not to exceed a duration of 720 hours operating time when burning hazardous waste, the operating requirements shall be those most likely to ensure compliance with the emission standards of ss. NR 666.104 to 666.107, based on the department's engineering judgment. If the applicant is seeking a waiver from a trial burn to demonstrate conformance with a particular emission standard, the operating requirements during this initial period of operation shall include those specified by the applicable provisions of s. NR 666.104, 666.105, 666.106 or 666.107. The department may extend the duration of this period for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

2. For the duration of the trial burn, the operating requirements shall be sufficient to demonstrate compliance with the emissions standards of ss. NR 666.104 to 666.107 and shall be in accordance with the approved trial burn plan.

3. For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, submission of the trial burn results by the applicant, review of the trial burn results and modification of the facility license by the department to reflect the trial burn results, the operating requirements shall be those most likely to ensure compliance

with the emission standards of ss. NR 666.104 to 666.107 based on the department's engineering judgment.

4. For the remaining duration of the license, the operating requirements shall be those demonstrated in a trial burn or by alternative data specified in s. NR 670.022, as sufficient to ensure compliance with the emissions standards of ss. NR 666.104 to 666.107.

(5) OPERATING REQUIREMENTS (a) *General.* A boiler or industrial furnace burning hazardous waste shall be operated in accordance with the operating requirements specified in the license at all times where there is hazardous waste in the unit.

(b) *Requirements to ensure compliance with the organic emissions standards* 1. 'DRE standard.' Operating conditions shall be specified either on a case-by-case basis for each hazardous waste burned as those demonstrated (in a trial burn or by alternative data as specified in s. NR 670.022) to be sufficient to comply with the destruction and removal efficiency (DRE) performance standard of s. NR 666.104(1) or as those special operating requirements provided by s. NR 666.104(1)(d) for the waiver of the DRE trial burn. When the DRE trial burn is not waived under s. NR 666.104(1)(d), each set of operating requirements shall specify the composition of the hazardous waste (including acceptable variations in the physical and chemical properties of the hazardous waste which will not affect compliance with the DRE performance standard) to which the operating requirements apply. For each such hazardous waste, the license shall specify acceptable operating limits including, but not limited to, the following conditions as appropriate:

a. Feed rate of hazardous waste and other fuels measured and specified as prescribed in par. (f).

b. Minimum and maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in par. (f).

c. Appropriate controls of the hazardous waste firing system.

d. Allowable variation in boiler and industrial furnace system design or operating procedures.

e. Minimum combustion gas temperature measured at a location indicative of combustion chamber temperature, measured and specified as prescribed in par. (f).

f. An appropriate indicator of combustion gas velocity, measured and specified as prescribed in par. (f), unless documentation is provided under s. NR 670.066 demonstrating adequate combustion gas residence time.

g. Such other operating requirements as are necessary to ensure that the DRE performance standard of s. NR 666.104(1) is met.

2. 'Carbon monoxide and hydrocarbon standards.' The license shall incorporate a carbon monoxide (CO) limit and, as appropriate, a hydrocarbon (HC) limit as provided by s. NR 666.104(2), (3), (4), (5) and (6). The license limits shall be specified as follows:

a. When complying with the CO standard of s. NR 666.104(2)(a), the license limit is 100 ppmv.

b. When complying with the alternative CO standard under s. NR 666.104(3), the license limit for CO is based on the trial burn and is established as the average over all valid runs of the highest hourly rolling average CO level of each run, and the license limit for HC is 20 ppmv (as defined in s. NR 666.104(3)(a)), except as provided in s. NR 666.104(6).

c. When complying with the alternative HC limit for industrial furnaces under s. NR 666.104(6), the license limit for HC and CO is the baseline level when hazardous waste is not burned as specified by that subsection.

3. 'Startup and shutdown.' During startup and shutdown of the boiler or industrial furnace, hazardous waste (except waste fed solely as an ingredient under the Tier I (or adjusted Tier I) feed rate screening limits for metals and chloride or chlorine, and except low risk waste exempt from the trial burn requirements under ss. NR 666.104(1)(e), 666.105, 666.106 and 666.107) may not be fed into the device unless the device is operating within the conditions of operation specified in the license.

(c) *Requirements to ensure conformance with the particulate standard.* 1. Except as provided in subds. 2. and 3., the license shall specify the following operating requirements to ensure conformance with the particulate standard specified in s. NR 666.105:

a. Total ash feed rate to the device from hazardous waste, other fuels and industrial furnace feedstocks, measured and specified as prescribed in par. (f).

b. Maximum device production rate when producing normal product expressed in appropriate units, and measured and specified as prescribed in par. (f).

c. Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system.

d. Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures.

e. Such other operating requirements as are necessary to ensure that the particulate standard in s. NR 666.111(2) is met.

2. License conditions to ensure conformance with the particulate matter standard may not be provided for facilities exempt from the particulate matter standard under s. NR 666.105(2).

3. For cement kilns and light-weight aggregate kilns, license conditions to ensure compliance with the particulate standard may not limit the ash content of hazardous waste or other feed materials.

(d) *Requirements to ensure conformance with the metals emissions standard.* 1. For conformance with the Tier I (or adjusted Tier I) metals feed rate screening limits of s. NR 666.106(2) or (5), the license shall specify the following operating requirements:

a. Total feed rate of each metal in hazardous waste, other fuels, and industrial furnace feedstocks measured and specified under provisions of par. (f).

b. Total feed rate of hazardous waste measured and specified as prescribed in par. (f).

c. A sampling and metals analysis program for the hazardous waste, other fuels and industrial furnace feedstocks.

2. For conformance with the Tier II metals emission rate screening limits under s. NR 666.106(3) and the Tier III metals controls under s. NR 666.106(4), the license shall specify the following operating requirements:

a. Maximum emission rate for each metal specified as the average emission rate during the trial burn.

b. Feed rate of total hazardous waste and pumpable hazardous waste, each measured and specified as prescribed in par. (f)1.

c. Feed rate of each metal in the following feedstreams, measured and specified as prescribed in par. (f):

1) Total feedstreams.

2) Total hazardous waste feed.

3) Total pumpable hazardous waste feed.

d. Total feed rate of chlorine and chloride in total feedstreams measured and specified as prescribed in par. (f).

e. Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured and specified as prescribed in par. (f).

f. Maximum flue gas temperature at the inlet to the particulate matter air pollution control system measured and specified as prescribed in par. (f).

g. Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in par. (f).

h. Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system.

i. Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures.

j. Such other operating requirements as are necessary to ensure that the metals standards under s. NR 666.106(3) or (4) are met.

3. For conformance with an alternative implementation approach approved by the department under s. NR 666.106(6), the license shall specify all of the following operating requirements:

a. Maximum emission rate for each metal specified as the average emission rate during the trial burn.

b. Feed rate of total hazardous waste and pumpable hazardous waste, each measured and specified as prescribed in par. (f)1.

c. Feed rate of each metal in the following feedstreams, measured and specified as prescribed in par. (f):

1) Total hazardous waste feed.

2) Total pumpable hazardous waste feed.

d. Total feed rate of chlorine and chloride in total feedstreams measured and specified prescribed in par. (f).

e. Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured and specified as prescribed in par. (f).

f. Maximum flue gas temperature at the inlet to the particulate matter air pollution control system measured and specified as prescribed in par. (f).

g. Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in par. (f).

h. Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system.

i. Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures.

j. Such other operating requirements as are necessary to ensure that the metals standards under s. NR 666.106(3) or (4) are met.

(e) *Requirements to ensure conformance with the hydrogen chloride and chlorine gas standards.* 1. For conformance with the Tier I total chloride and chlorine feed rate screening limits of s. NR 666.107(2)(a), the license shall specify all of the following operating requirements:

a. Feed rate of total chloride and chlorine in hazardous waste, other fuels, and industrial furnace feedstocks measured and specified as prescribed in par. (f).

b. Feed rate of total hazardous waste measured and specified as prescribed in par. (f).

c. A sampling and analysis program for total chloride and chlorine for the hazardous waste, other fuels and industrial furnace feedstocks.

2. For conformance with the Tier II HCl and Cl_2 emission rate screening limits under s. NR 666.107(2)(b) and the Tier III HCl and Cl_2 controls under s. NR 666.107(3), the license shall specify the following operating requirements:

a. Maximum emission rate for HCl and for Cl_2 specified as the average emission rate during the trial burn.

b. Feed rate of total hazardous waste measured and specified as prescribed in par. (f).

c. Total feed rate of chlorine and chloride in total feedstreams, measured and specified as prescribed in par. (f).

d. Maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in par. (f).

e. Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system.

f. Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures.

g. Such other operating requirements as are necessary to ensure that the HCl and Cl_2 standards under s. NR 666.107(2)(b) or (3) are met.

(f) *Measuring parameters and establishing limits based on trial burn data* 1. 'General requirements.' As specified in pars. (b) to (e), each operating parameter shall be measured, and license limits on the parameter shall be established, according to either of the following procedures:

a. A parameter may be measured and recorded on an instantaneous basis (i.e., the value that occurs at any time) and the license limit specified as the time-weighted average during all valid runs of the trial burn.

b.1)The limit for a parameter may be established and continuously monitored on an hourly rolling average basis defined as follows:

a) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

b) An hourly rolling average is the arithmetic mean of the 60 most recent 1-minute average values recorded by the continuous monitoring system.

2) The license limit for the parameter shall be established based on trial burn data as the average over all valid test runs of the highest hourly rolling average value for each run.

2. 'Rolling average limits for carcinogenic metals and lead.' Feed rate limits for the carcinogenic metals (i.e., arsenic, beryllium, cadmium and chromium) and lead may be established either on an hourly rolling average basis as prescribed by subd. 1. or on (up to) a 24 hour rolling average basis. If the owner or operator elects to use an average period from 2 to 24 hours:

a. The feed rate of each metal shall be limited at any time to 10 times the feed rate that would be allowed on an hourly rolling average basis.

b. The continuous monitor shall meet all of the following specifications:

1) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

2) The rolling average for the selected averaging period is defined as the arithmetic mean of one hour block averages for the averaging period. A one hour block average is the arithmetic mean of the one minute averages recorded during the 60-minute period beginning at one minute after the beginning of preceding clock hour.

c. The license limit for the feed rate of each metal shall be established based on trial burn data as the average over all valid test runs of the highest hourly rolling average feed rate for each run.

3. 'Feed rate limits for metals, total chloride and chlorine, and ash.' Feed rate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (i.e., metals, chloride and chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream shall be monitored under the continuous monitoring requirements of subds. 1. and 2.

4. 'Conduct of trial burn testing.' a. If compliance with all applicable emissions standards of ss. NR 666.104 to 666.107 is not demonstrated simultaneously during a set of test runs, the operating conditions of additional test runs required to demonstrate compliance with remaining emissions standards shall be as close as possible to the original operating conditions.

b. Prior to obtaining test data for purposes of demonstrating compliance with the emissions standards of ss. NR 666.104 to 666.107 or establishing limits on operating parameters under this section, the facility shall operate under trial burn conditions for a sufficient period to reach steady-state operations. The department may determine, however, that industrial furnaces that recycle collected particulate matter back into the furnace and that comply with an alternative implementation approach for metals under s. NR 666.106(6) need not reach steady state conditions with respect to the flow of metals in the system prior to beginning compliance testing for metals emissions.

c. Trial burn data on the level of an operating parameter for which a limit shall be established in the license shall be obtained during emissions sampling for the pollutant or pollutants (i.e., metals, PM,

HCl/Cl_2, organic compounds) for which the parameter shall be established as specified by this subsection.

(g) *General requirements* 1. 'Fugitive emissions.' Fugitive emissions shall be controlled by one of the following:

a. Keeping the combustion zone totally sealed against fugitive emissions.

b. Maintaining the combustion zone pressure lower than atmospheric pressure.

c. An alternate means of control demonstrated (with the feasibility and plan of operation report) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

2. 'Automatic waste feed cutoff.' A boiler or industrial furnace shall be operated with a functioning system that automatically cuts off the hazardous waste feed when operating conditions deviate from those established under this section. The department may limit the number of cutoffs per an operating period on a case-by-case basis. In addition, all of the following conditions shall be met:

a. The license limit for (the indicator of) minimum combustion chamber temperature shall be maintained while hazardous waste or hazardous waste residues remain in the combustion chamber.

b. Exhaust gases shall be ducted to the air pollution control system operated in accordance with the license requirements while hazardous waste or hazardous waste residues remain in the combustion chamber.

c. Operating parameters for which license limits are established shall continue to be monitored during the cutoff, and the hazardous waste feed may not be restarted until the levels of those parameters comply with the license limits. For parameters that may be monitored on an instantaneous basis, the department shall establish a minimum period of time after a waste feed cutoff during which the parameter may not exceed the license limit before the hazardous waste feed may be restarted.

3. 'Changes.' A boiler or industrial furnace shall cease burning hazardous waste when changes in combustion properties, or feed rates of the hazardous waste, other fuels or industrial furnace feedstocks, or changes in the boiler or industrial furnace design or operating conditions deviate from the limits as specified in the license.

(h) *Monitoring and Inspections.* 1. The owner or operator shall monitor and record all of the following, at a minimum, while burning hazardous waste:

a. If specified by the license, feed rates and composition of hazardous waste, other fuels and industrial furnace feedstocks, and feed rates of ash, metals, and total chloride and chlorine.

b. If specified by the license, carbon monoxide (CO), hydrocarbons (HC) and oxygen on a continuous basis at a common point in the boiler or industrial furnace downstream of the combustion zone and prior to release of stack gases to the atmosphere in accordance with operating requirements specified in par. (b)2. CO, HC and oxygen monitors shall be installed, operated and maintained in accordance with methods specified in Appendix IX.

c. Upon the request of the department, sampling and analysis of the hazardous waste (and other fuels and industrial furnace feedstocks as appropriate), residues and exhaust emissions shall be conducted to verify that the operating requirements established in the license achieve the applicable standards of ss. NR 666.104, 666.105, 666.106 and 666.107.

2. All monitors shall record data in units corresponding to the license limit unless otherwise specified in the license.

3. The boiler or industrial furnace and associated equipment (pumps, values, pipes, fuel storage tanks, etc.) shall be subjected to thorough visual inspection when it contains hazardous waste, at least daily for leaks, spills, fugitive emissions and signs of tampering.

4. The automatic hazardous waste feed cutoff system and associated alarms shall be tested at least once every 7 days when hazardous waste is burned to verify operability, unless the applicant demonstrates to the department that weekly inspections will unduly restrict or upset operations and that

less frequent inspections will be adequate. At a minimum, operational testing shall be conducted at least once every 30 days.

5. These monitoring and inspection data shall be recorded and the records shall be placed in the operating record required by s. NR 664.0073.

(i) *Direct transfer to the burner.* If hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit, the owner and operator shall comply with s. NR 666.111.

(j) *Recordkeeping.* The owner or operator shall keep in the operating record of the facility all information and data required by this section until closure of the facility.

(k) *Closure.* At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters and scrubber sludges) from the boiler or industrial furnace.

NR 666.103 Interim license standards for burners. (1) PURPOSE, SCOPE, APPLICABILITY (a) *General.* 1. The purpose of this section is to establish minimum national standards for owners and operators of ”existing” boilers and industrial furnaces that burn hazardous waste where such standards define the acceptable management of hazardous waste during the period of interim license. The standards of this section apply to owners and operators of existing facilities until either a license is issued under s. NR 666.102(4) or until closure responsibilities identified in this section are fulfilled.

2. “Existing” or “in existence” means a boiler or industrial furnace that on or before August 21, 1991 is either in operation burning or processing hazardous waste or for which construction (including the ancillary facilities to burn or to process the hazardous waste) has commenced. A facility has commenced construction if the owner or operator has obtained the federal, state and local approvals or licenses necessary to begin physical construction; and one of the following applies:

a. A continuous on-site, physical construction program has begun.

b. The owner or operator has entered into contractual obligations—which cannot be canceled or modified without substantial loss—for physical construction of the facility to be completed within a reasonable time.

3. If a boiler or industrial furnace is located at a facility that already has a license or interim license, then the facility shall comply with the applicable regulations dealing with license modifications in s. NR 670.042 or changes in interim license in s. NR 670.072.

(b) *Exemptions.* The requirements of this section do not apply to hazardous waste and facilities exempt under ss. NR 666.100(2) or 666.108.

(c) *Prohibition on burning dioxin-listed wastes.* The following hazardous waste listed for dioxin and hazardous waste derived from any of these wastes may not be burned in a boiler or industrial furnace operating under an interim license: F020, F021, F022, F023, F026 and F027.

(d) *Applicability of ch. NR 665 standards.* Owners and operators of boilers and industrial furnaces that burn hazardous waste and are operating under an interim license are subject to all of the following provisions of ch. NR 665, except as provided otherwise by this section:

1. In subch. A of ch. NR 665 (General), s. NR 665.0004.

2. In subch. B of ch. NR 665 (General facility standards), ss. NR 665.0011 to 665.0017.

3. In subch. C of ch. NR 665 (Preparedness and prevention), ss. NR 665.0031 to 665.0037.

4. In subch. D of ch. NR 665 (Contingency plan and emergency procedures), ss. NR 665.0051 to 665.0056.

5. In subch. E of ch. NR 665 (Manifest system, recordkeeping and reporting), ss. NR 665.0071 to 665.0077, except that ss. NR 665.0071, 665.0072 and 665.0076 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources.

6. In subch. G of ch. NR 665 (Closure and long-term care), ss. NR 665.0111 to 665.0115.

7. In subch. H of ch. NR 665 (Financial requirements), ss. NR 665.0141, 665.0142, 665.0143 and 665.0147 to 665.0151, except that states and the federal government are exempt from s. NR 665.0147.

8. Subchapter BB of ch. NR 665 (Air emission standards for equipment leaks), except s. NR 665.1050(1).

(e) *Special requirements for furnaces.* The following controls apply during an interim license to industrial furnaces (e.g., kilns, cupolas) that feed hazardous waste for a purpose other than solely as an ingredient (see subd. 2.) at any location other than the hot end where products are normally discharged or where fuels are normally fired:

1. 'Controls.' a. The hazardous waste shall be fed at a location where combustion gas temperatures are at least 1800 °F.

b. The owner or operator shall determine that adequate oxygen is present in combustion gases to combust organic constituents in the waste and retain documentation of such determination in the facility record.

c. For cement kiln systems, the hazardous waste shall be fed into the kiln.

d. The hydrocarbon controls of s. NR 666.104(3) or sub. (3)(e) apply upon certification of compliance under sub. (3) irrespective of the CO level achieved during the compliance test.

2. 'Burning hazardous waste solely as an ingredient.' A hazardous waste is burned for a purpose other than solely as an ingredient if it meets one of these criteria:

a. The hazardous waste has a total concentration of nonmetal compounds listed in ch. NR 661, Appendix VIII, exceeding 500 ppm by weight, as-fired, and so is considered to be burned for destruction. The concentration of nonmetal compounds in a waste as-generated may be reduced to the 500 ppm limit by bona fide treatment that removes or destroys nonmetal constituents. Blending for dilution to meet the 500 ppm limit is prohibited and documentation that the waste has not been impermissibly diluted shall be retained in the facility record.

b. The hazardous waste has a heating value of 5,000 Btu/lb or more, as-fired, and so is considered to be burned as fuel. The heating value of a waste as-generated may be reduced to below the 5,000 Btu/lb limit by bona fide treatment that removes or destroys organic constituents. Blending to augment the heating value to meet the 5,000 Btu/lb limit is prohibited and documentation that the waste has not been impermissibly blended shall be retained in the facility record.

(f) *Restrictions on burning hazardous waste that is not a fuel.* Prior to certification of compliance under sub. (3), owners and operators may not feed hazardous waste that has a heating value less than 5,000 Btu/lb, as-generated, (except that the heating value of a waste as-generated may be increased to above the 5,000 Btu/lb limit by bona fide treatment; however, blending to augment the heating value to meet the 5,000 Btu/lb limit is prohibited and records shall be kept to document that impermissible blending has not occurred) in a boiler or industrial furnace, except that:

1. Hazardous waste may be burned solely as an ingredient.

2. Hazardous waste may be burned for purposes of compliance testing (or testing prior to compliance testing) for a total period of time not to exceed 720 hours.

3. Such waste may be burned if the department has documentation to show that, prior to August 21, 1991, all of the following conditions were met:

a. The boiler or industrial furnace was operating under the interim license standards for incinerators provided by subch. O of ch. NR 665, or the interim license standards for thermal treatment units provided by subch. P of ch. NR 665.

b. The boiler or industrial furnace met the interim license eligibility requirements under s. NR 670.70 for subch. O or subch. P of ch. NR 665.

c. Hazardous waste with a heating value less than 5,000 Btu/lb was burned prior to that date.

4. Such waste may be burned in a halogen acid furnace if the waste was burned as an excluded ingredient under s. NR 661.02(5) prior to February 21, 1991 and documentation is kept on file supporting this claim.

(g) *Direct transfer to the burner.* If hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit, the owner and operator shall comply with s. NR 666.111.

(2) CERTIFICATION OF PRECOMPLIANCE (a) *General.* The owner or operator shall provide complete and accurate information specified in par. (b) to the department on or before August 21, 1991, and shall establish limits for the operating parameters specified in par. (c). Such information is termed a ”certification of precompliance” and constitutes a certification that the owner or operator has determined that, when the facility is operated within the limits specified in par. (c), the owner or operator believes that, using best engineering judgment, emissions of particulate matter, metals, HCl and Cl_2 are not likely to exceed the limits provided by ss. NR 666.105, 666.106 and 666.107. The facility may burn hazardous waste only under the operating conditions that the owner or operator establishes under par. (c) until the owner or operator submits a revised certification of precompliance under par. (h) or a certification of compliance under sub.(3), or until a license is issued.

(b) *Information required.* All of the following information shall be submitted with the certification of precompliance to support the determination that the limits established for the operating parameters identified in par.(c) are not likely to result in an exceedance of the allowable emission rates for particulate matter, metals, HCl and Cl_2:

1. General facility information:

a. EPA facility ID number.

b. Facility name, contact person, telephone number and address.

c. Description of boilers and industrial furnaces burning hazardous waste, including type and capacity of device.

d. A scaled plot plan showing the entire facility and location of the boilers and industrial furnaces burning hazardous waste.

e. A description of the air pollution control system on each device burning hazardous waste, including the temperature of the flue gas at the inlet to the particulate matter control system.

2. Except for facilities complying with the Tier I or adjusted Tier I feed rate screening limits for metals or total chlorine and chloride provided by ss. NR 666.106 (2) or (5) and 666.107(2)(a) or (5), respectively, the estimated uncontrolled (at the inlet to the air pollution control system) emissions of particulate matter, each metal controlled by s. NR 666.106, and hydrogen chloride and chlorine, and all of the following information to support such determinations:

a. The feed rate (lb/hr) of ash, chlorine, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver and thallium in each feedstream (hazardous waste, other fuels, industrial furnace feedstocks).

b. The estimated partitioning factor to the combustion gas for the materials identified in subd. 2.a. and the basis for the estimate and an estimate of the partitioning to HCl and Cl_2 of total chloride and chlorine in feed materials. To estimate the partitioning factor, the owner or operator shall use either best engineering judgment or the procedures specified in Appendix IX.

c. For industrial furnaces that recycle collected particulate matter (PM) back into the furnace and that will certify compliance with the metals emissions standards under sub. (3)(c)2.a., the estimated enrichment factor for each metal. To estimate the enrichment factor, the owner or operator shall use either best engineering judgment or the procedures specified in “Alternative Methodology for Implementing Metals Controls” in Appendix IX.

d. If best engineering judgment is used to estimate partitioning factors or enrichment factors under subd. 2.b. or c. respectively, the basis for the judgment. When best engineering judgment is used to develop or evaluate data or information and make determinations under this section, the determinations shall be made by a qualified, registered professional engineer and a certification of the engineer’s determinations in accordance with s. NR 670.011(4) shall be provided in the certification of precompliance.

3. For facilities complying with the Tier I or adjusted Tier I feed rate screening limits for metals or total chlorine and chloride provided by ss. NR 666.106 (2) or (5) and 666.107(2)(a) or (5), the feed rate (lb/hr) of total chloride and chlorine, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver and thallium in each feed stream (hazardous waste, other fuels, industrial furnace feedstocks).

4. For facilities complying with the Tier II or Tier III emission limits for metals or HCl and Cl_2 (under ss. NR 666.106 (3) or (4) or 666.107(2)(b) or (3)), the estimated controlled (outlet of the air pollution control system) emissions rates of particulate matter, each metal controlled by s. NR 666.106, and HCl and Cl_2, and the following information to support such determinations:

a. The estimated air pollution control system (APCS) removal efficiency for particulate matter, HCl, Cl_2, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver and thallium.

b. To estimate APCS removal efficiency, the owner or operator shall use either best engineering judgment or the procedures prescribed in Appendix IX.

c. If best engineering judgment is used to estimate APCS removal efficiency, the basis for the judgment. Use of best engineering judgment shall be in conformance with provisions of subd. 2.d..

5. Determination of allowable emissions rates for HCl, Cl_2, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver and thallium, and the following information to support such determinations:

a. For all facilities, all of the following:

1) Physical stack height.

2) Good engineering practice stack height as defined by 40 CFR 51.100(ii).

3) Maximum flue gas flow rate.

4) Maximum flue gas temperature.

5) Attach a US geological service topographic map (or equivalent) showing the facility location and surrounding land within 5 km of the facility.

6) Identify terrain type: complex or noncomplex.

7) Identify land use: urban or rural.

b. For owners and operators using Tier III site specific dispersion modeling to determine allowable levels under s. NR 666.106(4) or 666.107(3), or adjusted Tier I feed rate screening limits under s. NR 666.106(5) or 666.107(5):

1) Dispersion model and version used.

2) Source of meterological data.

3) The dilution factor in micrograms per cubic meter per gram per second of emissions for the maximum annual average off-site (unless on-site is required) ground level concentration (MEI location).

4) Indicate the MEI location on the map required under subd. 5.a.5).

6. For facilities complying with the Tier II or III emissions rate controls for metals or HCl and Cl_2, a comparison of the estimated controlled emissions rates determined under subd. 4. with the allowable emission rates determined under subd. 5.

7. For facilities complying with the Tier I (or adjusted Tier I) feed rate screening limits for metals or total chloride and chlorine, a comparison of actual feed rates of each metal and total chlorine and chloride determined under subd. 3. to the Tier I allowable feed rates.

8. For industrial furnaces that feed hazardous waste for any purpose other than solely as an ingredient (as defined by sub. (1)(e)2.) at any location other than the product discharge end of the device, documentation of compliance with sub. (1)(e)1.a., b. and c.

9. For industrial furnaces that recycle collected particulate matter (PM) back into the furnace and that will certify compliance with the metals emissions standards under sub. (3)(c)2.a., both of the following:

a. The applicable particulate matter standard in lb/hr.

b. The precompliance limit on the concentration of each metal in collected PM.

(c) *Limits on operating conditions.* The owner and operator shall establish limits on the following parameters consistent with the determinations made under par. (b) and certify (under provisions of par. (i)) to the department that the facility will operate within the limits during interim license when there is hazardous waste in the unit until revised certification of precompliance under par. (h) or certification of compliance under sub. (3):

1. Feed rate of total hazardous waste and (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under s. NR 666.106(2) or (5)) pumpable hazardous waste.

2. Feed rate of each metal in all of the following feed streams:

a. Total feed streams, except that industrial furnaces that comply with the alternative metals implementation approach under par. (d) shall specify limits on the concentration of each metal in collected particulate matter in lieu of feed rate limits for total feedstreams.

b. Total hazardous waste feed, unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under s. NR 666.106(2) or (5).

c. Total pumpable hazardous waste feed, unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under s. NR 666.106(2) or (5).

3. Total feed rate of chlorine and chloride in total feed streams.

4. Total feed rate of ash in total feed streams, except that the ash feed rate for cement kilns and light-weight aggregate kilns is not limited.

5. Maximum production rate of the device in appropriate units when producing normal product, unless complying with the Tier I or adjusted Tier I feed rate screening limits for chlorine under s. NR 666.107(2)(a) or (5) and for all metals under s. NR 666.106(2) or (5), and the uncontrolled particulate emissions do not exceed the standard under s. NR 666.105.

(d) *Operating requirements for furnaces that recycle PM.* Owners and operators of furnaces that recycle collected particulate matter (PM) back into the furnace and that will certify compliance with the metals emissions controls under sub. (3)(c)2.a. shall comply with the special operating requirements provided in "Alternative Methodology for Implementing Metals Controls" in Appendix IX.

(e) *Measurement of feed rates and production rate* 1. 'General requirements.' Limits on each of the parameters specified in par. (c) (except for limits on metals concentrations in collected particulate matter (PM) for industrial furnaces that recycle collected PM) shall be established and continuously monitored under either of the following methods:

a. A limit for a parameter may be established and continuously monitored and recorded on an instantaneous basis (i.e., the value that occurs at any time) not to be exceeded at any time.

b. A limit for a parameter may be established and continuously monitored on an hourly rolling average basis defined as follows:

1) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

2) An hourly rolling average is the arithmetic mean of the 60 most recent 1-minute average values recorded by the continuous monitoring system.

2. 'Rolling average limits for carcinogenic metals and lead.' Feed rate limits for the carcinogenic metals (arsenic, beryllium, cadmium and chromium) and lead may be established either on an hourly rolling average basis as prescribed by subd. 1.b. or on (up to) a 24 hour rolling average basis. If the owner or operator elects to use an averaging period from 2 to 24 hours:

a. The feed rate of each metal shall be limited at any time to 10 times the feed rate that would be allowed on a hourly rolling average basis.

b. The continuous monitor shall meet all of the following specifications:

1) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

2) The rolling average for the selected averaging period is defined as the arithmetic mean of one hour block averages for the averaging period. A one hour block average is the arithmetic mean of the one minute averages recorded during the 60-minute period beginning at one minute after the beginning of preceding clock hour.

3. 'Feed rate limits for metals, total chloride and chlorine, and ash.' Feed rate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (i.e., metals, chloride and chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream shall be monitored under the continuous monitoring requirements of subd. 1. and 2.

(f) *Public notice requirements at precompliance.* On or before August 21, 1991 the owner or operator shall submit a notice with the following information for publication in a major local newspaper of general circulation and send a copy of the notice to the appropriate units of state and local government. The owner and operator shall provide to the department with the certification of precompliance evidence of submitting the notice for publication. The notice, which shall be entitled "Notice of Certification of Precompliance with Hazardous Waste Burning Requirements of s. NR 666.103(2), Wis. Adm. Code", shall include all of the following:

1. Name and address of the owner and operator of the facility as well as the location of the device burning hazardous waste.

2. Date that the certification of precompliance is submitted to the department.

3. Brief description of the regulatory process required to comply with the interim license requirements including required emissions testing to demonstrate conformance with emissions standards for organic compounds, particulate matter, metals, HCl and Cl_2.

4. Types and quantities of hazardous waste burned including, but not limited to, source, whether solids or liquids, as well as an appropriate description of the waste.

5. Type of device or devices in which the hazardous waste is burned including a physical description and maximum production rate of each device.

6. Types and quantities of other fuels and industrial furnace feedstocks fed to each unit.

7. Brief description of the basis for this certification of precompliance as specified in par. (b).

8. Locations where the record for the facility can be viewed and copied by interested parties. These records and locations shall at a minimum include both of the following:

a. The administrative record kept by the department office where the supporting documentation was submitted or another location designated by the department.

b. The BIF correspondence file kept at the facility site where the device is located. The correspondence file shall include all correspondence between the facility and the department, state and local regulatory officials, including copies of all certifications and notifications, such as the precompliance certification, precompliance public notice, notice of compliance testing, compliance test report, compliance certification, time extension requests and approvals or denials, enforcement notifications of violations, and copies of EPA and state site visit reports submitted to the owner or operator.

9. Notification of the establishment of a facility mailing list whereby interested parties may notify the department that they wish to be placed on the mailing list to receive future information and notices about this facility.

10. Location (mailing address) of the department bureau of waste management where further information can be obtained on department regulation of hazardous waste burning.

(g) *Monitoring other operating parameters.* When the monitoring systems for the operating parameters listed in sub. (3)(a)5. to 13. are installed and operating in conformance with vendor specifications or (for CO, HC and oxygen) specifications provided by Appendix IX, as appropriate, the parameters shall be continuously monitored and records shall be maintained in the operating record.

(h) *Revised certification of precompliance.* The owner or operator may revise at any time the information and operating conditions documented under pars. (b) and (c) in the certification of precompliance by submitting a revised certification of precompliance under procedures provided by those paragraphs.

1. The public notice requirements of par. (f) do not apply to recertifications.

2. The owner and operator shall operate the facility within the limits established for the operating parameters under par. (c) until a revised certification is submitted under this paragraph or a certification of compliance is submitted under sub. (3).

(i) *Certification of precompliance statement.* The owner or operator shall include the following signed statement with the certification of precompliance submitted to the department:

"I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation. Copies of all emissions tests, dispersion modeling results and other information used to determine conformance with s. NR 666.103(2) are available at the facility and can be obtained from the facility contact person listed above. Based on my inquiry of the person or persons who manages the facility, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also acknowledge that the operating limits established in this certification pursuant to s. NR 666.103(2) (c)and (d) are enforceable limits at which the facility can legally operate during interim license until: (1) A revised certification of precompliance is submitted, (2) a certification of compliance is submitted, or (3) an operating license is issued."

(3) CERTIFICATION OF COMPLIANCE. The owner or operator shall conduct emissions testing to document compliance with the emissions standards of ss. NR 666.104 (2) to (5), 666.105, 666.106, 666.107 and sub. (1)(e)1.d., under the procedures prescribed by this subsection, except under extensions of time provided by par. (g). Based on the compliance test, the owner or operator shall submit to the department on or before August 21, 1992 a complete and accurate "certification of compliance" (under par. (d)) with those emission standards establishing limits on the operating parameters specified in par. (a).

(a) *Limits on operating conditions.* The owner or operator shall establish limits on the following parameters based on operations during the compliance test (under procedures prescribed in par. (d)4.) or as otherwise specified and include these limits with the certification of compliance. The boiler or industrial furnace shall be operated in accordance with these operating limits and the applicable emissions standards of ss. NR 666.104(2) to (5), 666.105, 666.106, 666.107 and sub. (1)(e)1.d. at all times when there is hazardous waste in the unit.

1. Feed rate of total hazardous waste and (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under s. NR 666.106(2) or (5) and the total chlorine and chloride feed rate screening limits under s. NR 666.107(2) or (5)), pumpable hazardous waste.

2. Feed rate of each metal in the following feedstreams:

a. Total feedstreams, except that:

1) Facilities that comply with Tier I or adjusted Tier I metals feed rate screening limits may set their operating limits at the metals feed rate screening limits determined under s. NR 666.106(2) or (5).

2) Industrial furnaces that shall comply with the alternative metals implementation approach under par. (c)2. shall specify limits on the concentration of each metal in the collected particulate matter in lieu of feed rate limits for total feedstreams.

b. Total hazardous waste feed (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under s. NR 666.106(2) or (5)).

c. Total pumpable hazardous waste feed (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under s. NR 666.106(2) or (5)).

3. Total feed rate of chlorine and chloride in total feed streams, except that facilities that comply with Tier I or adjusted Tier I feed rate screening limits may set their operating limits at the total chlorine and chloride feed rate screening limits determined under s. NR 666.107(2)(a) or (5).

4. Total feed rate of ash in total feed streams, except that the ash feed rate for cement kilns and light-weight aggregate kilns is not limited.

5. Carbon monoxide concentration, and where required, hydrocarbon concentration in stack gas. When complying with the CO controls of s. NR 666.104(2), the CO limit is 100 ppmv, and when complying with the HC controls of s. NR 666.104(3), the HC limit is 20 ppmv. When complying with the CO controls of s. NR 666.104(3), the CO limit is established based on the compliance test.

6. Maximum production rate of the device in appropriate units when producing normal product, unless complying with the Tier I or adjusted Tier I feed rate screening limits for chlorine under s. NR 666.107(2)(a) or (5) and for all metals under s. NR 666.106(2) or (5), and the uncontrolled particulate emissions do not exceed the standard under s. NR 666.105.

7. Maximum combustion chamber temperature where the temperature measurement is as close to the combustion zone as possible and is upstream of any quench water injection (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under s. NR 666.106(2) or (5)).

8. Maximum flue gas temperature entering a particulate matter control device (unless complying with Tier I or adjusted Tier I metals feed rate screening limits under s. NR 666.106(2) or (5) and the total chlorine and chloride feed rate screening limits under s. NR 666.107(2) or (5)).

9. For systems using wet scrubbers, including wet ionizing scrubbers (unless complying with Tier I or adjusted Tier I metals feed rate screening limits under s. NR 666.106(2)(a) or (5)):

a. Minimum liquid to flue gas ration.

b. Minimum scrubber blowdown from the system or maximum suspended solids content of scrubber water.

c. Minimum pH level of the scrubber water.

10. For systems using venturi scrubbers, the minimum differential gas pressure across the venturi (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under s. NR 666.106(2) or (5) and the total chlorine and chloride feed rate screening limits under s. NR 666.107(2)(a) or (5)).

11. For systems using dry scrubbers (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under s. NR 666.106(2) or (5) and the total chlorine and chloride feed rate screening limits under s. NR 666.107(2)(a) or (5)):

a. Minimum caustic feed rate.

b. Maximum flue gas flow rate.

12. For systems using wet ionizing scrubbers or electrostatic precipitators (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under s. NR 666.106(2) or (5) and the total chlorine and chloride feed rate screening limits under s. NR 666.107(2)(a) or (5)):

a. Minimum electrical power in kilovolt amperes (kVA) to the precipitator plates.

b. Maximum flue gas flow rate.

13. For systems using fabric filters (baghouses), the minimum pressure drop (unless complying with the Tier I or adjusted Tier I metal feed rate screening limits under s. NR 666.106(2) or (5) and the total chlorine and chloride feed rate screening limits under s. NR 666.107(2)(a) or (5)).

(b) *Prior notice of compliance testing.* At least 30 days prior to the compliance testing required by par. (c), the owner or operator shall notify the department and submit all of the following information:

1. General facility information including:

a. EPA facility ID number.

b. Facility name, contact person, telephone number and address.

c. Person responsible for conducting compliance test, including company name, address and telephone number, and a statement of qualifications.

d. Planned date of the compliance test.

2. Specific information on each device to be tested including:

a. Description of boiler or industrial furnace.

b. A scaled plot plan showing the entire facility and location of the boiler or industrial furnace.

c. A description of the air pollution control system.

d. Identification of the continuous emission monitors that are installed, including:

1) Carbon monoxide monitor.

2) Oxygen monitor.

3) Hydrocarbon monitor, specifying the minimum temperature of the system and, if the temperature is less than 150 °C, an explanation of why a heated system is not used (see par. (e)) and a brief description of the sample gas conditioning system.

e. Indication of whether the stack is shared with another device that will be in operation during the compliance test.

f. Other information useful to an understanding of the system design or operation.

3. Information on the testing planned, including a complete copy of the test protocol and quality assurance/quality control (QA/QC) plan, and a summary description for each test providing all of the following information at a minimum:

a. Purpose of the test (e.g., demonstrate compliance with emissions of particulate matter).

b. Planned operating conditions, including levels for each pertinent parameter specified in par. (a).

(c) *Compliance testing* 1. 'General.' Compliance testing shall be conducted under conditions for which the owner or operator has submitted a certification of precompliance under sub. (2) and under conditions established in the notification of compliance testing required by par. (b). The owner or operator may seek approval on a case-by-case basis to use compliance test data from one unit in lieu of testing a similar onsite unit. To support the request, the owner or operator shall provide a comparison of the hazardous waste burned and other feedstreams, and the design, operation and maintenance of both the tested unit and the similar unit. The department shall provide a written approval to use compliance test data in lieu of testing a similar unit if it finds that the hazardous wastes, the devices and the operating conditions are sufficiently similar, and the data from the other compliance test is adequate to meet the requirements of this subsection.

2. 'Special requirements for industrial furnaces that recycle collected PM.' Owners and operators of industrial furnaces that recycle back into the furnace particulate matter (PM) from the air pollution control system shall comply with one of the following procedures for testing to determine compliance with the metals standards of s. NR 666.106(3) or (4):

a. The special testing requirements prescribed in "Alternative Method for Implementing Metals Controls" in Appendix IX.

b. Stack emissions testing for a minimum of 6 hours each day while hazardous waste is burned during an interim license. The testing shall be conducted when burning normal hazardous waste for that day at normal feed rates for that day and when the air pollution control system is operated under normal conditions. During an interim license, hazardous waste analysis for metals content shall be sufficient for the owner or operator to determine if changes in metals content may affect the ability of the facility to meet the metals emissions standards established under s. NR 666.106(3) or (4). Under this option, operating limits (under par. (a)) shall be established during compliance testing under this paragraph only on the following parameters:

1) Feed rate of total hazardous waste.

2) Total feed rate of chlorine and chloride in total feed streams.

3) Total feed rate of ash in total feed streams, except that the ash feed rate for cement kilns and light-weight aggregate kilns is not limited.

4) Carbon monoxide concentration, and where required, hydrocarbon concentration in stack gas.

5) Maximum production rate of the device in appropriate units when producing normal product.

c. Conduct compliance testing to determine compliance with the metals standards to establish limits on the operating parameters of par. (a) only after the kiln system has been conditioned to enable it to reach equilibrium with respect to metals fed into the system and metals emissions. During conditioning, hazardous waste and raw materials having the same metals content as will be fed during the compliance test shall be fed at the feed rates that will be fed during the compliance test.

3. 'Conduct of compliance testing.' a. If compliance with all applicable emissions standards of ss. NR 666.104 to 666.107 is not demonstrated simultaneously during a set of test runs, the operating conditions of additional test runs required to demonstrate compliance with remaining emissions standards shall be as close as possible to the original operating conditions.

b. Prior to obtaining test data for purposes of demonstrating compliance with the applicable emissions standards of ss. NR 666.104 to 666.107 or establishing limits on operating parameters under this section, the facility shall operate under compliance test conditions for a sufficient period to reach steady-state operations. Industrial furnaces that recycle collected particulate matter back into the furnace and that comply with subd. 2.a. or b., however, need not reach steady state conditions with respect to the flow of metals in the system prior to beginning compliance testing for metals.

c. Compliance test data on the level of an operating parameter for which a limit shall be established in the certification of compliance shall be obtained during emissions sampling for the pollutant or pollutants (i.e., metals, PM, HCl/Cl_2, organic compounds) for which the parameter shall be established as specified by par. (a).

(d) *Certification of compliance.* Within 90 days of completing compliance testing, the owner or operator shall certify to the department compliance with the emissions standards of ss. NR 666.104 (2), (3) and (5), 666.105, 666.106, 666.107 and sub. (1)(e)1.d.. The certification of compliance shall include all of the following information:

1. General facility and testing information including:

a. EPA facility ID number.

b. Facility name, contact person, telephone number and address.

c. Person responsible for conducting compliance testing, including company name, address and telephone number, and a statement of qualifications.

d. Date or dates of each compliance test.

e. Description of boiler or industrial furnace tested.

f. Person responsible for quality assurance/quality control (QA/QC), title and telephone number, and statement that procedures prescribed in the QA/QC plan submitted under s. NR 666.103(3)(b)3. have been followed, or a description of any changes and an explanation of why changes were necessary.

g. Description of any changes in the unit configuration prior to or during testing that would alter any of the information submitted in the prior notice of compliance testing under par. (b), and an explanation of why the changes were necessary.

h. Description of any changes in the planned test conditions prior to or during the testing that alter any of the information submitted in the prior notice of compliance testing under par. (b), and an explanation of why the changes were necessary.

i. The complete report on results of emissions testing.

2. Specific information on each test including:

a. Purpose or purposes of test (e.g., demonstrate conformance with the emissions limits for particulate matter, metals, HCl, Cl_2, and CO).

b. Summary of test results for each run and for each test including the following information:

1) Date of run.

2) Duration of run.

3) Time-weighted average and highest hourly rolling average CO level for each run and for the test.

4) Highest hourly rolling average HC level, if HC monitoring is required for each run and for the test.

5) If dioxin and furan testing is required under s. NR 666.104(5), time-weighted average emissions for each run and for the test of chlorinated dioxin and furan emissions, and the predicted maximum annual average ground level concentration of the toxicity equivalency factor.

6) Time-weighted average particulate matter emissions for each run and for the test.

7) Time-weighted average HCl and Cl_2 emissions for each run and for the test.

8) Time-weighted average emissions for the metals subject to regulation under s. NR 666.106 for each run and for the test.

9) QA/QC results.

3. Comparison of the actual emissions during each test with the emissions limits prescribed by ss. NR 666.104 (2), (3) and (5), 666.105, 666.106 and 666.107 and established for the facility in the certification of precompliance under sub. (2).

4. Determination of operating limits based on all valid runs of the compliance test for each applicable parameter listed in par. (a) using either of the following procedures:

a. A parameter may be measured and recorded on an instantaneous basis (i.e., the value that occurs at any time) and the operating limit specified as the time-weighted average during all runs of the compliance test.

b. 1) The limit for a parameter may be established and continuously monitored on an hourly rolling average basis defined as follows:

a) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

b) An hourly rolling average is the arithmetic mean of the 60 most recent 1-minute average values recorded by the continuous monitoring system.

2) The operating limit for the parameter shall be established based on compliance test data as the average over all test runs of the highest hourly rolling average value for each run.

c. Feed rate limits for the carcinogenic metals (i.e., arsenic, beryllium, cadmium and chromium) and lead may be established either on an hourly rolling average basis as prescribed by subd. 4.b. or on (up to) a 24 hour rolling average basis. If the owner or operator elects to use an averaging period from 2 to 24 hours:

1) The feed rate of each metal shall be limited at any time to 10 times the feed rate that would be allowed on a hourly rolling average basis.

2) The continuous monitor shall meet the following specifications:

a) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

b) The rolling average for the selected averaging period is defined as arithmetic mean of one hour block averages for the averaging period. A one hour block average is the arithmetic mean of the one minute averages recorded during the 60-minute period beginning at one minute after the beginning of preceding clock hour.

3) The operating limit for the feed rate of each metal shall be established based on compliance test data as the average over all test runs of the highest hourly rolling average feed rate for each run.

d. Feed rate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (i.e., metals, chloride and chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream shall be monitored under the continuous monitoring requirements of subd. 4.a. to c.

5. The following statement shall accompany the certification of compliance:

”I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation. Copies of all emissions tests, dispersion modeling results and other information used to determine conformance with s. NR 666.103(3) are available at the facility and can be obtained from the facility contact person listed above. Based on my inquiry of the person or persons who manages the facility, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also acknowledge that the operating conditions established in this certification pursuant to s. NR 666.103(3)(d)4. are enforceable limits at which the facility can legally operate during an interim license until a revised certification of compliance is submitted.”

(e) *Special requirements for HC monitoring systems.* When an owner or operator is required to comply with the hydrocarbon (HC) controls provided by s. NR 666.104(3) or sub. (1)(e)1.d., a conditioned gas monitoring system may be used in conformance with specifications provided in Appendix IX if the owner or operator submits a certification of compliance without using extensions of time provided by par. (g).

(f) *Special operating requirements for industrial furnaces that recycle collected PM.* Owners and operators of industrial furnaces that recycle back into the furnace particulate matter (PM) from the air pollution control system shall do all of the following:

1. When complying with par. (c)2.a., comply with the operating requirements prescribed in “Alternative Method to Implement the Metals Controls” in Appendix IX.

2. When complying with par. (c)2.b., comply with the operating requirements prescribed by that subdivision paragraph.

(g) *Extensions of time.* 1. If the owner or operator does not submit a complete certification of compliance for all of the applicable emissions standards of ss. NR 666.104, 666.105, 666.106 and 666.107 by August 21, 1992, the owner or operator shall do one of the following:

a. Stop burning hazardous waste and begin closure activities under sub. (12) for the hazardous waste portion of the facility.

b. Limit hazardous waste burning only for purposes of compliance testing (and pretesting to prepare for compliance testing) a total period of 720 hours for the period of time beginning August 21, 1992, submit a notification to the department by August 21, 1992 stating that the facility is operating under restricted interim license and intends to resume burning hazardous waste, and submit a complete certification of compliance by August 23, 1993.

c. Obtain a case-by-case extension of time under subd. 2.

2. The owner or operator may request a case-by-case extension of time to extend any time limit provided by this paragraph if compliance with the time limit is not practicable for reasons beyond the control of the owner or operator.

a. In granting an extension, the department may apply conditions as the facts warrant to ensure timely compliance with this section and that the facility operates in a manner that does not pose a hazard to human health and the environment.

b. When an owner or operator requests an extension of time to enable the facility to comply with the alternative hydrocarbon provisions of s. NR 666.104(6) and obtain a hazardous waste license because the facility cannot meet the HC limit of s. NR 666.104(3):

1) The department shall, in considering whether to grant the extension, do all of the following:

a) Determine whether the owner and operator have submitted in a timely manner a complete feasibility and plan of operation report that includes information required under s. NR 670.022(2).

b) Consider whether the owner and operator have made a good faith effort to certify compliance with all other emission controls, including the controls on dioxins and furans of s. NR 666.104(5) and the controls on PM, metals, HCl and Cl_2.

2) If an extension is granted, the department shall, as a condition of the extension, require the facility to operate under flue gas concentration limits on CO and HC that, based on available information, including information in the feasibility and plan of operation report, are baseline CO and HC levels as defined by s. NR 666.104(6)(a).

(h) *Revised certification of compliance.* The owner or operator may submit at any time a revised certification of compliance (recertification of compliance) under the following procedures:

1. Prior to submittal of a revised certification of compliance, hazardous waste may not be burned for more than a total of 720 hours under operating conditions that exceed those established under a current certification of compliance, and such burning may be conducted only for purposes of determining whether the facility can operate under revised conditions and continue to meet the applicable emissions standards of ss. NR 666.104, 666.105, 666.106 and 666.107.

2. At least 30 days prior to first burning hazardous waste under operating conditions that exceed those established under a current certification of compliance, the owner or operator shall notify the department and submit the following information:

a. EPA facility ID number, and facility name, contact person, telephone number and address.

b. Operating conditions that the owner or operator is seeking to revise and description of the changes in facility design or operation that prompted the need to seek to revise the operating conditions.

c. A determination that when operating under the revised operating conditions, the applicable emissions standards of ss. NR 666.104, 666.105, 666.106 and 666.107 are not likely to be exceeded. To document this determination, the owner or operator shall submit the applicable information required under sub. (2)(b).

d. Complete emissions testing protocol for any pretesting and for a new compliance test to determine compliance with the applicable emissions standards of ss. NR 666.104, 666.105, 666.106 and 666.107 when operating under revised operating conditions. The protocol shall include a schedule of pre-testing and compliance testing. If the owner or operator revises the scheduled date for the compliance test, the owner or operator shall notify the department in writing at least 30 days prior to the revised date of the compliance test.

3. Conduct a compliance test under the revised operating conditions and the protocol submitted to the department to determine compliance with the applicable emissions standards of ss. NR 666.104, 666.105, 666.106 and 666.107.

4. Submit a revised certification of compliance under par. (d).

(4) PERIODIC RECERTIFICATIONS. The owner or operator shall conduct compliance testing and submit to the department a recertification of compliance under provisions of sub. (3) within 3 years from submitting the previous certification or recertification. If the owner or operator seeks to recertify compliance under new operating conditions, the owner or operator shall comply with sub. (3)(h).

(5) NONCOMPLIANCE WITH CERTIFICATION SCHEDULE. If the owner or operator does not comply with the interim license compliance schedule provided by subs. (2), (3) and (4), hazardous waste burning shall terminate on the date that the deadline is missed, closure activities shall begin under sub. (12), and hazardous waste burning may not resume except under an operating license issued under s. NR 670.066. For purposes of compliance with the closure provisions of sub. (12) and ss. NR 665.0112(4)(b) and 665.0113 the boiler or industrial furnace has received "the known final volume of hazardous waste" on the date that the deadline is missed.

(6) STARTUP AND SHUTDOWN. Hazardous waste (except waste fed solely as an ingredient under the Tier I (or adjusted Tier I) feed rate screening limits for metals and chloride and chlorine) may not be fed into the device during startup and shutdown of the boiler or industrial furnace, unless the device is operating within the conditions of operation specified in the certification of compliance.

(7) AUTOMATIC WASTE FEED CUTOFF. During the compliance test required by sub. (3)(c), and upon certification of compliance under sub. (3), a boiler or industrial furnace shall be operated with a functioning system that automatically cuts off the hazardous waste feed when the applicable operating conditions specified in sub. (3)(a)1. and 5. to 13. deviate from those established in the certification of compliance. In addition:

(a) To minimize emissions of organic compounds, the minimum combustion chamber temperature (or the indicator of combustion chamber temperature) that occurred during the compliance test shall be maintained while hazardous waste or hazardous waste residues remain in the combustion chamber, with the minimum temperature during the compliance test defined as either of the following:

1. If compliance with the combustion chamber temperature limit is based on a hourly rolling average, the minimum temperature during the compliance test is considered to be the average over all runs of the lowest hourly rolling average for each run.

2. If compliance with the combustion chamber temperature limit is based on an instantaneous temperature measurement, the minimum temperature during the compliance test is considered to be the time-weighted average temperature during all runs of the test.

(b) Operating parameters limited by the certification of compliance shall continue to be monitored during the cutoff, and the hazardous waste feed may not be restarted until the levels of those parameters comply with the limits established in the certification of compliance.

(8) FUGITIVE EMISSIONS. Fugitive emissions shall be controlled by one of the following:

(a) Keeping the combustion zone totally sealed against fugitive emissions.

(b) Maintaining the combustion zone pressure lower than atmospheric pressure.

(c) An alternate means of control that the owner or operator can demonstrate provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure. Support for such demonstration shall be included in the operating record.

(9) CHANGES. A boiler or industrial furnace shall cease burning hazardous waste when changes in combustion properties, or feed rates of the hazardous waste, other fuels, or industrial furnace feedstocks, or changes in the boiler or industrial furnace design or operating conditions deviate from the limits specified in the certification of compliance.

(10) MONITORING AND INSPECTIONS. (a) The owner or operator shall monitor and record all of the following, at a minimum, while burning hazardous waste:

1. Feed rates and composition of hazardous waste, other fuels, and industrial furnace feed stocks, and feed rates of ash, metals, and total chloride and chlorine as necessary to ensure conformance with the certification of precompliance or certification of compliance.

2. Carbon monoxide (CO), oxygen, and if applicable, hydrocarbons (HC), on a continuous basis at a common point in the boiler or industrial furnace downstream of the combustion zone and prior to release of stack gases to the atmosphere in accordance with the operating limits specified in the certification of compliance. CO, HC and oxygen monitors shall be installed, operated and maintained in accordance with methods specified in Appendix IX.

3. Upon the request of the department, sampling and analysis of the hazardous waste (and other fuels and industrial furnace feed stocks as appropriate) and the stack gas emissions shall be conducted to verify that the operating conditions established in the certification of precompliance or certification of compliance achieve the applicable standards of ss. NR 666.104, 666.105, 666.106 and 666.107.

(b) The boiler or industrial furnace and associated equipment (pumps, valves, pipes, fuel storage tanks, etc.) shall be subjected to thorough visual inspection when they contain hazardous waste, at least daily for leaks, spills, fugitive emissions and signs of tampering.

(c) The automatic hazardous waste feed cutoff system and associated alarms shall be tested at least once every 7 days when hazardous waste is burned to verify operability, unless the owner or operator can demonstrate that weekly inspections will unduly restrict or upset operations and that less frequent

inspections will be adequate. Support for such demonstration shall be included in the operating record. At a minimum, operational testing shall be conducted at least once every 30 days.

(d) These monitoring and inspection data shall be recorded and the records shall be placed in the operating log.

(11) RECORDKEEPING. The owner or operator shall keep in the operating record of the facility all information and data required by this section until closure of the boiler or industrial furnace unit.

(12) CLOSURE. At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters and scrubber sludges) from the boiler or industrial furnace and shall comply with ss. NR 665.0111 to 665.0115 .

NR 666.104 Standards to control organic emissions. (1) DRE STANDARD (a) *General.* Except as provided in par. (c), a boiler or industrial furnace burning hazardous waste shall achieve a destruction and removal efficiency (DRE) of 99.99% for all organic hazardous constituents in the waste feed. To demonstrate conformance with this requirement, 99.99% DRE shall be demonstrated during a trial burn for each principal organic hazardous constituent (POHC) designated (under par. (b)) in its license for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \left[1 - \frac{W_{out}}{W_{in}}\right] \cdot 100$$

where:

W_{in}= Mass feed rate of one principal organic hazardous constituent (POHC) in the hazardous waste fired to the boiler or industrial furnace

W_{out}= Mass emission rate of the same POHC present in stack gas prior to release to the atmosphere

(b) *Designation of POHCs.* Principal organic hazardous constituents (POHCs) are those compounds for which compliance with the DRE requirements shall be demonstrated in a trial burn in conformance with procedures prescribed in s. NR 670.066. One or more POHCs shall be designated by the department for each waste feed to be burned. POHCs shall be designated based on the degree of difficulty of destruction of the organic constituents in the waste and on their concentrations or mass in the waste feed considering the results of waste analyses submitted with the feasibility and plan of operation report. POHCs are most likely to be selected from among those compounds listed in ch. 661, Appendix VIII that are also present in the normal waste feed. However, if the applicant demonstrates to the department's satisfaction in writing that a compound not listed in Appendix VIII or not present in the normal waste feed is a suitable indicator of compliance with the DRE requirements, that compound may be designated as a POHC. Such POHCs need not be toxic or organic compounds.

(c) *Dioxin-listed waste.* A boiler or industrial furnace burning hazardous waste containing (or derived from) EPA hazardous waste numbers F020, F021, F022, F023, F026 or F027 shall achieve a destruction and removal efficiency (DRE) of 99.9999% for each POHC designated (under par. (b)) in its license. This performance shall be demonstrated on POHCs that are more difficult to burn than tetra-, penta- and hexachlorodibenzo-*p*-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in par. (a). In addition, the owner or operator of the boiler or industrial furnace shall notify the department of intent to burn EPA hazardous waste numbers F020, F021, F022, F023, F026 or F027.

(d) *Automatic waiver of DRE trial burn.* Owners and operators of boilers operated under the special operating requirements provided by s. NR 666.110 are considered to be in compliance with the DRE standard of par. (a) and are exempt from the DRE trial burn.

(e) *Low risk waste.* Owners and operators of boilers or industrial furnaces that burn hazardous waste in compliance with s. NR 666.109(1) are considered to be in compliance with the DRE standard of par. (a) and are exempt from the DRE trial burn.

(2) CARBON MONOXIDE STANDARD. (a) Except as provided in sub. (3), the stack gas concentration of carbon monoxide (CO) from a boiler or industrial furnace burning hazardous waste cannot exceed 100

ppmv on an hourly rolling average basis (i.e., over any 60 minute period), continuously corrected to 7% oxygen, dry gas basis.

(b) CO and oxygen shall be continuously monitored in conformance with "Performance Specifications for Continuous Emission Monitoring of Carbon Monoxide and Oxygen for Incinerators, Boilers and Industrial Furnaces Burning Hazardous Waste" in Appendix IX.

(c) Compliance with the 100 ppmv CO limit shall be demonstrated during the trial burn (for new facilities or an interim license facility applying for an operating license) or the compliance test (for interim license facilities). To demonstrate compliance, the highest hourly rolling average CO level during any valid run of the trial burn or compliance test may not exceed 100 ppmv.

(3) ALTERNATIVE CARBON MONOXIDE STANDARD. (a) The stack gas concentration of carbon monoxide (CO) from a boiler or industrial furnace burning hazardous waste may exceed the 100 ppmv limit if stack gas concentrations of hydrocarbons (HC) do not exceed 20 ppmv, except as provided by sub. (6) for certain industrial furnaces.

(b) HC limits shall be established under this section on an hourly rolling average basis (i.e., over any 60 minute period), reported as propane, and continuously corrected to 7% oxygen, dry gas basis.

(c) HC shall be continuously monitored in conformance with "Performance Specifications for Continuous Emission Monitoring of Hydrocarbons for Incinerators, Boilers and Industrial Furnaces Burning Hazardous Waste" in Appendix IX. CO and oxygen shall be continuously monitored in conformance with sub. (2)(b).

(d) The alternative CO standard is established based on CO data during the trial burn (for a new facility) and the compliance test (for an interim license facility). The alternative CO standard is the average over all valid runs of the highest hourly average CO level for each run. The CO limit is implemented on an hourly rolling average basis, and continuously corrected to 7% oxygen, dry gas basis.

(4) SPECIAL REQUIREMENTS FOR FURNACES. Owners and operators of industrial furnaces (e.g., kilns, cupolas) that feed hazardous waste for a purpose other than solely as an ingredient (see s. NR 666.103(1)(e)2.) at any location other than the end where products are normally discharged and where fuels are normally fired shall comply with the hydrocarbon limits provided by sub. (3) or (6) irrespective of whether stack gas CO concentrations meet the 100 ppmv limit of sub. (2).

(5) CONTROLS FOR DIOXINS AND FURANS. Owners and operators of boilers and industrial furnaces that are equipped with a dry particulate matter control device that operates within the temperature range of 450 to 750 °F, and industrial furnaces operating under an alternative hydrocarbon limit established under sub. (6) shall conduct a site-specific risk assessment as follows to demonstrate that emissions of chlorinated dibenzo-p-dioxins and dibenzofurans do not result in an increased lifetime cancer risk to the hypothetical maximum exposed individual (MEI) exceeding 1 in 100,000:

(a) During the trial burn (for new facilities or an interim license facility applying for an operating license) or compliance test (for interim license facilities), determine emission rates of the tetra-octa congeners of chlorinated dibenzo-p-dioxins and dibenzofurans (CDDs/CDFs) using Method 0023A, Sampling Method for Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans Emissions from Stationary Sources, EPA SW-846, as incorporated by reference in s. NR 660.11.

(b) Estimate the 2,3,7,8-TCDD toxicity equivalence of the tetra-octa CDDs/CDFs congeners using "Procedures for Estimating the Toxicity Equivalence of Chlorinated Dibenzo-p-Dioxin and Dibenzofuran Congeners" in Appendix IX. Multiply the emission rates of CDD/CDF congeners with a toxicity equivalence greater than 0 (see the procedure) by the calculated toxicity equivalence factor to estimate the equivalent emission rate of 2,3,7,8-TCDD.

(c) Conduct dispersion modeling using methods recommended in Appendix W of 40 CFR part 51 ("Guideline on Air Quality Models (Revised)" (1986) and its supplements, incorporated by reference in s. NR 660.11), the "Hazardous Waste Combustion Air Quality Screening Procedure", provided in Appendix IX, or in Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised, EPA-450/R-92-019, incorporated by reference in s. NR 660.11, to predict the maximum annual average

off-site ground level concentration of 2,3,7,8-TCDD equivalents determined under par. (b). The maximum annual average concentration shall be used when a person resides on-site.

(d) The ratio of the predicted maximum annual average ground level concentration of 2,3,7,8-TCDD equivalents to the risk-specific dose for 2,3,7,8-TCDD provided in Appendix V (2.2×10^{-7}) may not exceed 1.0.

(6) MONITORING CO AND HC IN THE BY-PASS DUCT OF A CEMENT KILN. Cement kilns may comply with the carbon monoxide and hydrocarbon limits provided by subs. (2), (3) and (4) by monitoring in the by-pass duct if both of the following conditions are met:

(a) Hazardous waste is fired only into the kiln and not at any location downstream from the kiln exit relative to the direction of gas flow.

(b) The by-pass duct diverts a minimum of 10% of kiln off-gas into the duct.

(7) USE OF EMISSIONS TEST DATA TO DEMONSTRATE COMPLIANCE AND ESTABLISH OPERATING LIMITS. Compliance with this section shall be demonstrated simultaneously by emissions testing or during separate runs under identical operating conditions. Further, data to demonstrate compliance with the CO and HC limits of this section or to establish alternative CO or HC limits under this section shall be obtained during the time that DRE testing, and where applicable, CDD/CDF testing under sub. (5) and comprehensive organic emissions testing under par. (6) is conducted.

(8) ENFORCEMENT. For the purposes of license enforcement, compliance with the operating requirements specified in the license (under s. NR 666.102) shall be regarded as compliance with this section. However, evidence that compliance with those license conditions is insufficient to ensure compliance with this section may be information justifying modification or revocation and re-issuance of a license under s. NR 670.041.

NR 666.105 Standards to control particulate matter. (1) A boiler or industrial furnace burning hazardous waste may not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) after correction to a stack gas concentration of 7% oxygen, using procedures prescribed in 40 CFR part 60, appendix A, methods 1 to 5, incorporated by reference in s. NR 660.11, and Appendix IX.

(2) An owner or operator meeting s. NR 666.109(2) for the low risk waste exemption is exempt from the particulate matter standard.

(3) Oxygen correction. (a) Measured pollutant levels shall be corrected for the amount of oxygen in the stack gas according to the formula:

$$Pc = Pm \cdot 14 / (E - Y)$$

where:

Pc is the corrected concentration of the pollutant in the stack gas, Pm is the measured concentration of the pollutant in the stack gas, E is the oxygen concentration on a dry basis in the combustion air fed to the device, and Y is the measured oxygen concentration on a dry basis in the stack.

(b) For devices that feed normal combustion air, E will equal 21%. For devices that feed oxygen-enriched air for combustion (that is, air with an oxygen concentration exceeding 21%), the value of E will be the concentration of oxygen in the enriched air.

(c) Compliance with all emission standards provided by this subchapter shall be based on correcting to 7% oxygen using this procedure.

(4) For the purposes of license enforcement, compliance with the operating requirements specified in the license (under s. NR 666.102) shall be regarded as compliance with this section. However, evidence that compliance with those license conditions is insufficient to ensure compliance with this section may be information justifying modification or revocation and re-issuance of a license under s. NR 670.041.

NR 666.106 Standards to control metals emissions. (1) GENERAL. The owner or operator shall comply with the metals standards provided by subs. (2), (3), (4), (5) or (6) for each metal listed in sub. (2) that is present in the hazardous waste at detectable levels using analytical procedures specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, incorporated by reference in s. NR 660.11.

(2) TIER I FEED RATE SCREENING LIMITS. Feed rate screening limits for metals are specified in Appendix I as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. Criteria for facilities that are not eligible to comply with the screening limits are provided in par. (g).

(a) *Noncarcinogenic metals.* The feed rates of antimony, barium, lead, mercury, thallium and silver in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks may not exceed the screening limits specified in Appendix I.

1. The feed rate screening limits for antimony, barium, mercury, thallium and silver are based on either of the following:

a. An hourly rolling average as defined in s. NR 666.102(5)(f)1.b.

b. An instantaneous limit not to be exceeded at any time.

2. The feed rate screening limit for lead is based on one of the following:

a. An hourly rolling average as defined in s. NR 666.102(5)(f)1.b.

b. An averaging period of 2 to 24 hours as defined in s. NR 666.102(5)(f)2. with an instantaneous feed rate limit not to exceed 10 times the feed rate that would be allowed on an hourly rolling average basis.

c. An instantaneous limit not to be exceeded at any time.

(b) *Carcinogenic metals.* 1. The feed rates of arsenic, cadmium, beryllium and chromium in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks may not exceed values derived from the screening limits specified in Appendix I. The feed rate of each of these metals is limited to a level such that the sum of the ratios of the actual feed rate to the feed rate screening limit specified in Appendix I may not exceed 1.0, as provided by the following equation:

$$\sum_{i=1}^{n} \frac{AFR_{(i)}}{FRSL_{(i)}} \leq 1.0$$

where:

n=number of carcinogenic metals

AFR=actual feed rate to the device for metal ”i”

FRSL=feed rate screening limit provided by Appendix I for metal ”i”

2. The feed rate screening limits for the carcinogenic metals are based on either of the following:

a. An hourly rolling average.

b. An averaging period of 2 to 24 hours as defined in s. NR 666.102(5)(f)2. with an instantaneous feed rate limit not to exceed 10 times the feed rate that would be allowed on an hourly rolling average basis.

(c) *TESH.* 1. The terrain-adjusted effective stack height is determined according to the following equation:

$$TESH=Ha+H1-Tr$$

where:

Ha=Actual physical stack height

H1=Plume rise as determined from Appendix VI as a function of stack flow rate and stack gas exhaust temperature

Tr=Terrain rise within 5 kilometers of the stack

2. The stack height (Ha) may not exceed good engineering practice as specified in 40 CFR 51.100(ii).

3. If the TESH for a particular facility is not listed in the table in the appendices, the nearest lower TESH listed in the table shall be used. If the TESH is 4 meters or less, a value of 4 meters shall be used.

(d) *Terrain type.* The screening limits are a function of whether the facility is located in noncomplex or complex terrain. A device located where any part of the surrounding terrain within 5 kilometers of the stack equals or exceeds the elevation of the physical stack height (Ha) is considered to be in complex terrain and the screening limits for complex terrain apply. Terrain measurements are to be made from U.S. geological survey 7.5-minute topographic maps of the area surrounding the facility.

(e) *Land use.* The screening limits are a function of whether the facility is located in an area where the land use is urban or rural. To determine whether land use in the vicinity of the facility is urban or rural, procedures provided in Appendices IX or X shall be used.

(f) *Multiple stacks.* Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator or other thermal treatment unit subject to controls of metals emissions under an operating license or interim license shall comply with the screening limits for all such units assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics. The worst-case stack is determined from the following equation as applied to each stack:

$$K=HVT$$

where:

K=a parameter accounting for relative influence of stack height and plume rise

H=physical stack height (meters)

V=stack gas flow rate (m^3/second)

T=exhaust temperature (°K)

The stack with the lowest value of K is the worst-case stack.

(g) *Criteria for facilities not eligible for screening limits.* If any of the following criteria are met, the Tier I and Tier II screening limits do not apply. Owners and operators of such facilities shall comply with either the Tier III standards provided by sub. (4) or with the adjusted Tier I feed rate screening limits provided by sub. (5).

1. The device is located in a narrow valley less than one kilometer wide.

2. The device has a stack taller than 20 meters and is located such that the terrain rises to the physical height within one kilometer of the facility.

3. The device has a stack taller than 20 meters and is located within 5 kilometers of a shoreline of a large body of water such as an ocean or large lake.

4. The physical stack height of any stack is less than 2.5 times the height of any building within 5 building heights or 5 projected building widths of the stack and the distance from the stack to the closest boundary is within 5 building heights or 5 projected building widths of the associated building.

5. The department determines that standards based on site-specific dispersion modeling are required.

(h) *Implementation.* The feed rate of metals in each feedstream shall be monitored to ensure that the feed rate screening limits are not exceeded.

(3) TIER II EMISSION RATE SCREENING LIMITS. Emission rate screening limits are specified in Appendix I as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. Criteria for facilities that are not eligible to comply with the screening limits are provided in sub. (2)(g).

(a) *Noncarcinogenic metals.* The emission rates of antimony, barium, lead, mercury, thallium and silver may not exceed the screening limits specified in Appendix I.

(b) *Carcinogenic metals.* The emission rates of arsenic, cadmium, beryllium and chromium may not exceed values derived from the screening limits specified in Appendix I. The emission rate of each of these metals is limited to a level such that the sum of the ratios of the actual emission rate to the emission rate screening limit specified in Appendix I may not exceed 1.0, as provided by the following equation:

$$\sum_{i=1}^{n} \frac{AER_{(i)}}{ERSL_{(i)}} \leq 1.0$$

where:

n=number of carcinogenic metals

AER=actual emission rate for metal "i"

ERSL=emission rate screening limit provided by Appendix I for metal "i"

(c) *Implementation.* The emission rate limits shall be implemented by limiting feed rates of the individual metals to levels during the trial burn (for new facilities or an interim license facility applying for a license) or the compliance test (for interim license facilities). The feed rate averaging periods are the same as provided by sub. (2)(a)1. and 2. and (b)2. The feed rate of metals in each feedstream shall be monitored to ensure that the feed rate limits for the feedstreams specified under s. NR 666.102 or 666.103 are not exceeded.

(d) *Definitions and limitations.* The definitions and limitations provided by sub. (2) for the following terms also apply to the Tier II emission rate screening limits provided by this subsection: terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use and criteria for facilities not eligible to use the screening limits.

(e) *Multiple stacks*. 1. Owners and operators of facilities with more than one onsite stack from a boiler, industrial furnace, incinerator or other thermal treatment unit subject to controls on metals emissions under an operating license or interim license shall comply with the emissions screening limits for any such stacks assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics.

2. The worst-case stack is determined by procedures provided in sub. (2)(f).

3. For each metal, the total emissions of the metal from those stacks may not exceed the screening limit for the worst-case stack.

(4) TIER III AND ADJUSTED TIER I SITE-SPECIFIC RISK ASSESSMENT. The requirements of this subsection apply to facilities complying with either the Tier III or adjusted Tier I controls, except where specified otherwise.

(a) *General.* Conformance with the Tier III metals controls shall be demonstrated by emissions testing to determine the emission rate for each metal. In addition, conformance with either the Tier III or adjusted Tier I metals controls shall be demonstrated by air dispersion modeling to predict the maximum annual average off-site ground level concentration for each dispersion modeling to predict the maximum annual average off-site ground level concentration for each metal, and a demonstration that acceptable ambient levels are not exceeded.

(b) *Acceptable ambient levels.* Appendices IV and V list the acceptable ambient levels for purposes of this rule. Reference air concentrations (RACs) are listed for the noncarcinogenic metals and 10^{-5} risk-specific doses (RSDs) are listed for the carcinogenic metals. The RSD for a metal is the acceptable ambient level for that metal if only one of the 4 carcinogenic metals is emitted. If more than one carcinogenic metal is emitted, the acceptable ambient level for the carcinogenic metals is a fraction of the RSD as described in par. (c).

(c) *Carcinogenic metals*. For the carcinogenic metals, arsenic, cadmium, beryllium and chromium, the sum of the ratios of the predicted maximum annual average off-site ground level concentrations (except that on-site concentrations shall be considered if a person resides on site) to the risk-specific dose (RSD) for all carcinogenic metals emitted may not exceed 1.0 as determined by the following equation:

$$\sum_{i=1}^{n} \frac{\text{Predicted Ambient Concentration}_{(i)}}{\text{Risk-Specific Dose}_{(i)}} \leq 1.0$$

where:

n=number of carcinogenic metals

(d) *Noncarcinogenic metals.* For the noncarcinogenic metals, the predicted maximum annual average off-site ground level concentration for each metal may not exceed the reference air concentration (RAC).

(e) *Multiple stacks.* Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator or other thermal treatment unit subject to controls on metals emissions under an operating license or interim license shall conduct emissions testing (except that facilities complying with adjusted Tier I controls need not conduct emissions testing) and dispersion modeling to demonstrate that the aggregate emissions from all such on-site stacks do not result in an exceedance of the acceptable ambient levels.

(f) *Implementation.* Under Tier III, the metals controls shall be implemented by limiting feed rates of the individual metals to levels during the trial burn (for new facilities or an interim license facility applying for an operating license) or the compliance test (for interim license facilities). The feed rate averaging periods are the same as provided by sub. (2)(a)1. and 2. and (b)2. The feed rate of metals in each feedstream shall be monitored to ensure that the feed rate limits for the feedstreams specified under s. NR 666.102 or 666.103 are not exceeded.

(5) ADJUSTED TIER 1 FEED RATE SCREENING LIMITS. The owner or operator may adjust the feed rate screening limits provided by Appendix I to account for site-specific dispersion modeling. Under this approach, the adjusted feed rate screening limit for a metal is determined by back-calculating from the acceptable ambient level provided by Appendices IV and V using dispersion modeling to determine the maximum allowable emission rate. This emission rate becomes the adjusted Tier I feed rate screening limit. The feed rate screening limits for carcinogenic metals are implemented as prescribed in sub. (2)(b).

(6) ALTERNATIVE IMPLEMENTATION APPROACHES. (a) The department may approve on a case-by-case basis approaches to implement the Tier II or Tier III metals emission limits provided by sub. (3) or (4) alternative to monitoring the feed rate of metals in each feedstream.

(b) The emission limits provided by sub. (4) shall be determined as follows:

1. For each noncarcinogenic metal, by back-calculating from the RAC provided in Appendix IV to determine the allowable emission rate for each metal using the dilution factor for the maximum annual average ground level concentration predicted by dispersion modeling in conformance with sub. (8).

2. For each carcinogenic metal by all of the following:

a. Back-calculating from the RSD provided in Appendix V to determine the allowable emission rate for each metal if that metal were the only carcinogenic metal emitted using the dilution factor for the maximum annual average ground level concentration predicted by dispersion modeling in conformance with sub. (8).

b. If more than one carcinogenic metal is emitted, selecting an emission limit for each carcinogenic metal not to exceed the emission rate determined by subd. 2.a. such that the sum for all carcinogenic metals of the ratios of the selected emission limit to the emission rate determined by subd. 2.a. does not exceed 1.0.

(7) EMISSION TESTING (a) *General.* Emission testing for metals shall be conducted using Method 0060, Determinations of Metals in Stack Emissions, EPA SW-846, as incorporated by reference in s. NR 660.11 .

(b) *Hexavalent chromium.* Emissions of chromium are assumed to be hexavalent chromium unless the owner or operator conducts emissions testing to determine hexavalent chromium emissions using procedures prescribed in Method 0061, Determination of Hexavalent Chromium Emissions from Stationary Sources, EPA SW-846, as incorporated by reference in s. NR 660.11.

(8) DISPERSION MODELING. Dispersion modeling required under this section shall be conducted according to methods recommended in Appendix W of 40 CFR part 51 (”Guideline on Air Quality Models (Revised)” (1986) and its supplements, incorporated by reference in s. NR 660.11), the “Hazardous Waste Combustion Air Quality Screening Procedure”, provided in Appendix IX , or in

Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised, EPA-450/R-92-019, incorporated by reference in s. NR 660.11, to predict the maximum annual average off-site ground level concentration. However, on-site concentrations shall be considered when a person resides on-site.

(9) ENFORCEMENT. For the purposes of license enforcement, compliance with the operating requirements specified in the license (under s. NR 666.102) shall be regarded as compliance with this section. However, evidence that compliance with those license conditions is insufficient to ensure compliance with this section may be information justifying modification or revocation and re-issuance of a license under s. NR 670.041.

NR 666.107 Standards to control hydrogen chloride (HCl) and chlorine gas (Cl_2) emissions.

(1) GENERAL. The owner or operator shall comply with the hydrogen chloride (HCl) and chlorine (Cl_2) controls provided by sub. (2), (3) or (5).

(2) SCREENING LIMITS (a) *Tier I feed rate screening limits.* Feed rate screening limits are specified for total chlorine in Appendix II as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. The feed rate of total chlorine and chloride, both organic and inorganic, in all feed streams, including hazardous waste, fuels and industrial furnace feed stocks may not exceed the levels specified.

(b) *Tier II emission rate screening limits.* Emission rate screening limits for HCl and Cl_2 are specified in Appendix III as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. The stack emission rates of HCl and Cl_2 may not exceed the levels specified.

(c) *Definitions and limitations.* The definitions and limitations provided by s. NR 666.106(2) for the following terms also apply to the screening limits provided by this subsection: terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use and criteria for facilities not eligible to use the screening limits.

(d) *Multiple stacks.* Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator or other thermal treatment unit subject to controls on HCl or Cl_2 emissions under an operating license or interim license shall comply with the Tier I and Tier II screening limits for those stacks assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics.

1. The worst-case stack is determined by procedures provided in s. NR 666.106(2)(f).

2. Under Tier I, the total feed rate of chlorine and chloride to all subject devices may not exceed the screening limit for the worst-case stack.

3. Under Tier II, the total emissions of HCl and Cl_2 from all subject stacks may not exceed the screening limit for the worst-case stack.

(3) TIER III SITE-SPECIFIC RISK ASSESSMENTS (a) *General.* Conformance with the Tier III controls shall be demonstrated by emissions testing to determine the emission rate for HCl and Cl_2, air dispersion modeling to predict the maximum annual average off-site ground level concentration for each compound, and a demonstration that acceptable ambient levels are not exceeded.

(b) *Acceptable ambient levels.* Appendix IV lists the reference air concentrations (RACs) for HCl (7 micrograms per cubic meter) and Cl_2 (0.4 micrograms per cubic meter).

(c) *Multiple stacks.* Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator or other thermal treatment unit subject to controls on HCl or Cl_2 emissions under an operating license or interim license shall conduct emissions testing and dispersion modeling to demonstrate that the aggregate emissions from all such on-site stacks do not result in an exceedance of the acceptable ambient levels for HCl and Cl_2.

(4) AVERAGING PERIODS. The HCl and Cl_2 controls are implemented by limiting the feed rate of total chlorine and chloride in all feedstreams, including hazardous waste, fuels and industrial furnace feed stocks. Under Tier I, the feed rate of total chloride and chlorine is limited to the Tier I screening limits. Under Tier II and Tier III, the feed rate of total chloride and chlorine is limited to the feed rates during the

trial burn (for new facilities or an interim license facility applying for a license) or the compliance test (for interim license facilities). The feed rate limits are based on either of the following:

(a) An hourly rolling average as defined in s. NR 666.102(5)(f).

(b) An instantaneous basis not to be exceeded at any time.

(5) ADJUSTED TIER I FEED RATE SCREENING LIMITS. The owner or operator may adjust the feed rate screening limit provided by Appendix II to account for site-specific dispersion modeling. Under this approach, the adjusted feed rate screening limit is determined by back-calculating from the acceptable ambient level for Cl_2 provided by Appendix IV using dispersion modeling to determine the maximum allowable emission rate. This emission rate becomes the adjusted Tier I feed rate screening limit.

(6) EMISSIONS TESTING. Emissions testing for HCl and Cl_2 shall be conducted using the procedures described in Methods 0050 or 0051, EPA SW-846, as incorporated by reference in s. NR 660.11.

(7) DISPERSION MODELING. Dispersion modeling shall be conducted according to s. NR 666.106(8).

(8) ENFORCEMENT. For the purposes of license enforcement, compliance with the operating requirements specified in the license (under s. NR 666.102) shall be regarded as compliance with this section. However, evidence that compliance with those license conditions is insufficient to ensure compliance with this section may be information justifying modification or revocation and re-issuance of a license under s. NR 670.041.

NR 666.108 Small quantity on-site burner exemption. (1) EXEMPT QUANTITIES. Owners and operators of facilities that burn hazardous waste in an on-site boiler or industrial furnace are exempt from this subchapter if all of the following conditions are met:

(a) The quantity of hazardous waste burned in a device for a calendar month does not exceed the limits provided in the following table based on the terrain-adjusted effective stack height as defined in s. NR 666.102(2)(c):

WA-10-05

EXEMPT QUANTITIES FOR SMALL QUANTITY BURNER EXEMPTION

Terrain-adjusted effective stack height of device	Allowable hazardous waste burning rate (gallons/	Terrain-adjusted effective stack height of	Allowable hazardous waste burning rate (gallons/

(meters)	month)	device (meters)	month)

0 to 3.9	0	40.0 to 44.9	210

WA-10-05

4.0 to 5.9	13	45.0 to 49.9	260

3038

WA-10-05

6.0 to 7.9	18	50.0 to 54.9	330

3039

WA-10-05

8.0 to 9.9	27	55.0 to 59.9	400

3040

WA-10-05

10.0 to 11.9	40	60.0 to 64.9	490

3041

WA-10-05

12.0 to 13.9	48	65.0 to 69.9	610

3042

WA-10-05

14.0 to 15.9	59	70.0 to 74.9	680

3043

WA-10-05

16.0 to 17.9	69	75.0 to 79.9	760

3044

WA-10-05

18.0 to 19.9	76	80.0 to 84.9	850

3045

WA-10-05

20.0 to 21.9	84	85.0 to 89.9	960

3046

WA-10-05

22.0 to 23.9	93	90.0 to 94.9	1,100

3047

WA-10-05

24.0 to 25.9	100	95.0 to 99.9	1,200

3048

WA-10-05

26.0 to 27.9	110	100.0 to 104.9	1,300

3049

WA-10-05

28.0 to 29.9	130	105.0 to 109.9	1,500

3050

WA-10-05

30.0 to 34.9	140	110.0 to 114.9	1,700

3051

WA-10-05

35.0 to 39.9	170	115.0 or greater	1,900

(b) The maximum hazardous waste firing rate does not exceed at any time one percent of the total fuel requirements for the device (hazardous waste plus other fuel) on a total heat input or mass input basis, whichever results in the lower mass feed rate of hazardous waste.

(c) The hazardous waste has a minimum heating value of 5,000 Btu/lb, as generated.

(d) The hazardous waste fuel does not contain (and is not derived from) EPA hazardous waste numbers F020, F021, F022, F023, F026 or F027.

(2) MIXING WITH NONHAZARDOUS FUELS. If hazardous waste fuel is mixed with a nonhazardous fuel, the quantity of hazardous waste before such mixing is used to comply with sub. (1).

(3) MULTIPLE STACKS. If an owner or operator burns hazardous waste in more than one on-site boiler or industrial furnace exempt under this section, the quantity limits provided by sub. (1)(a) are implemented according to the following equation:

$$\sum_{i=1}^{n} \frac{\text{Actual Quantity Burned}_{(i)}}{\text{Allowable Quantity Burned}_{(i)}} \leq 1.0$$

where:

n means the number of stacks.

Actual Quantity Burned means the waste quantity burned per month in device ”i”.

Allowable Quantity Burned means the maximum allowable exempt quantity for stack ”i” from the table in sub. (1)(a)

Note: Hazardous wastes that are subject to the special requirements for small quantity generators under s. NR 661.05 may be burned in an off-site device under the exemption provided by this section, but shall be included in the quantity determination for the exemption.

(4) NOTIFICATION REQUIREMENTS. The owner or operator of facilities qualifying for the small quantity burner exemption under this section shall provide a one-time signed, written notice to the department indicating all of the following:

(a) The combustion unit is operating as a small quantity burner of hazardous waste.

(b) The owner and operator are in compliance with this section.

(c) The maximum quantity of hazardous waste that the facility may burn per month as provided by sub. (1)(a).

(5) RECORDKEEPING REQUIREMENTS. The owner or operator shall maintain at the facility for at least 3 years sufficient records documenting compliance with the hazardous waste quantity, firing rate and heating value limits of this section. At a minimum, these records shall indicate the quantity of hazardous waste and other fuel burned in each unit per calendar month, and the heating value of the hazardous waste.

NR 666.109 Low risk waste exemption. (1) WAIVER OF DRE STANDARD. The DRE standard of s. NR 666.104(1) does not apply if the boiler or industrial furnace is operated in conformance with par. (a) and the owner or operator demonstrates by procedures prescribed in par. (b) that the burning will not result in unacceptable adverse health effects.

(a) The device shall be operated with all of the following conditions:

1. A minimum of 50% of fuel fired to the device shall be fossil fuel, fuels derived from fossil fuel, tall oil, or, if approved by the department on a case-by-case basis, other nonhazardous fuel with combustion characteristics comparable to fossil fuel. Such fuels are termed primary fuel for purposes of this section. (Tall oil is a fuel derived from vegetable and rosin fatty acids.) The 50% primary fuel firing rate shall be determined on a total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired.

2. Primary fuels and hazardous waste fuels shall have a minimum as-fired heating value of 8,000 Btu/lb.

3. The hazardous waste shall be fired directly into the primary fuel flame zone of the combustion chamber.

4. The device shall operate in conformance with the carbon monoxide controls provided by s. NR 666.104(2)(a). Devices subject to the exemption provided by this section are not eligible for the alternative carbon monoxide controls provided by s. NR 666.104(3).

(b) Procedures to demonstrate that the hazardous waste burning will not pose unacceptable adverse public health effects are all of the following:

1. Identify and quantify those nonmetal compounds listed in ch. NR 661, Appendix VIII that could reasonably be expected to be present in the hazardous waste. The constituents excluded from analysis shall be identified and the basis for their exclusion explained.

2. Calculate reasonable, worst case emission rates for each constituent identified in subd. 1. by assuming the device achieves 99.9% destruction and removal efficiency. That is, assume that 0.1% of the mass weight of each constituent fed to the device is emitted.

3. For each constituent identified in subd. 1., use emissions dispersion modeling to predict the maximum annual average ground level concentration of the constituent.

a. Dispersion modeling shall be conducted using methods specified in s. NR 666.106(8).

b. Owners and operators of facilities with more than one on-site stack from a boiler or industrial furnace that is exempt under this section shall conduct dispersion modeling of emissions from all stacks exempt under this section to predict ambient levels prescribed by this subdivision.

4. Ground level concentrations of constituents predicted under subd. 3. may not exceed all of the following levels:

a. For the noncarcinogenic compounds listed in Appendix IV, the levels established in Appendix IV.

b. For the carcinogenic compounds listed in Appendix V, the sum for all constituents of the ratios of the actual ground level concentration to the level established in Appendix V cannot exceed 1.0.

c. For constituents not listed in Appendix IV or V, 0.1 micrograms per cubic meter.

(2) WAIVER OF PARTICULAR MATTER STANDARD. The particulate matter standard of s. NR 666.105 does not apply if both of the following conditions are met:

(a) The DRE standard is waived under sub. (1).

(b) The owner or operator complies with the Tier I or adjusted Tier I metals feed rate screening limits provided by s. NR 666.106(2) or (5).

NR 666.110 Waiver of DRE trial burn for boilers. Boilers that operate under the special requirements of this section, and that do not burn hazardous waste containing (or derived from) EPA hazardous waste numbers F020, F021, F022, F023, F026 or F027, are considered to be in conformance with the DRE standard of s. NR 666.104(1), and a trial burn to demonstrate DRE is waived. When burning hazardous waste, all of the following apply:

(1) A minimum of 50% of fuel fired to the device shall be fossil fuel, fuels derived from fossil fuel, tall oil, or, if approved by the department on a case-by-case basis, other nonhazardous fuel with combustion characteristics comparable to fossil fuel. Such fuels are termed primary fuel for purposes of this section. (Tall oil is a fuel derived from vegetable and rosin fatty acids.) The 50% primary fuel firing rate shall be determined on a total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired.

(2) Boiler load may not be less than 40%. Boiler load is the ratio at any time of the total heat input to the maximum design heat input.

(3) Primary fuels and hazardous waste fuels shall have a minimum as-fired heating value of 8,000 Btu/lb, and each material fired in a burner where hazardous waste is fired shall have a heating value of at least 8,000 Btu/lb, as-fired.

(4) The device shall operate in conformance with the carbon monoxide standard provided by s. NR 666.104(2)(a). Boilers subject to the waiver of the DRE trial burn provided by this section are not eligible for the alternative carbon monoxide standard provided by s. NR 666.104(3).

(5) The boiler shall be a watertube type boiler that does not feed fuel using a stoker or stoker type mechanism.

(6) The hazardous waste shall be fired directly into the primary fuel flame zone of the combustion chamber with an air or steam atomization firing system, mechanical atomization system, or a rotary cup atomization system under any of the following conditions:

(a) *Viscosity.* The viscosity of the hazardous waste fuel as-fired may not exceed 300 SSU.

(b) *Particle size.* When a high pressure air or steam atomizer, low pressure atomizer or mechanical atomizer is used, 70% of the hazardous waste fuel shall pass through a 200 mesh (74 micron) screen, and when a rotary cup atomizer is used, 70% of the hazardous waste shall pass through a 100 mesh (150 micron) screen.

(c) *Mechanical atomization systems.* Fuel pressure within a mechanical atomization system and fuel flow rate shall be maintained within the design range taking into account the viscosity and volatility of the fuel.

(d) *Rotary cup atomization systems.* Fuel flow rate through a rotary cup atomization system shall be maintained within the design range taking into account the viscosity and volatility of the fuel.

NR 666.111 Standards for direct transfer. (1) APPLICABILITY. The regulations in this section apply to owners and operators of boilers and industrial furnaces subject to s. NR 666.102 or 666.103 if hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit.

(2) DEFINITIONS. (a) When used in this section, the following terms have the meanings given in subds. 1. and 2.:

1. *Direct transfer equipment* means any device (including but not limited to, such devices as piping, fittings, flanges, valves and pumps) that is used to distribute, meter or control the flow of hazardous waste between a container (i.e., transport vehicle) and a boiler or industrial furnace.

2. *Container* means any portable device in which hazardous waste is transported, stored, treated or otherwise handled, and includes transport vehicles that are containers themselves (e.g., tank trucks, tanker-trailers and rail tank cars), and containers placed on or in a transport vehicle.

(b) This section references several requirements provided in subchs. I and J of chs. NR 664 and 665. For purposes of this section, the term tank systems in those referenced requirements means direct transfer equipment as defined in par. (a).

(3) GENERAL OPERATING REQUIREMENTS. (a) No direct transfer of a pumpable hazardous waste shall be conducted from an open-top container to a boiler or industrial furnace.

(b) Direct transfer equipment used for pumpable hazardous waste shall always be closed, except when necessary to add or remove the waste, and may not be opened, handled or stored in a manner that may cause any rupture or leak.

(c) The direct transfer of hazardous waste to a boiler or industrial furnace shall be conducted so that it does not do any of the following:

1. Generate extreme heat or pressure, fire, explosion or violent reaction.

2. Produce uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health.

3. Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions.

4. Damage the structural integrity of the container or direct transfer equipment containing the waste.

5. Adversely affect the capability of the boiler or industrial furnace to meet the standards provided by ss. NR 666.104 to 666.107.

6. Threaten human health or the environment.

(d) Hazardous waste may not be placed in direct transfer equipment, if it could cause the equipment or its secondary containment system to rupture, leak, corrode or otherwise fail.

(e) The owner or operator of the facility shall use appropriate controls and practices to prevent spills and overflows from the direct transfer equipment or its secondary containment systems. These include, at a minimum, all of the following:

1. Spill prevention controls (e.g., check valves, dry discount couplings).

2. Automatic waste feed cutoff to use if a leak or spill occurs from the direct transfer equipment.

(4) AREAS WHERE DIRECT TRANSFER VEHICLES (CONTAINERS) ARE LOCATED. Applying the definition of container under this section, owners and operators shall comply with all of the following requirements:

(a) The containment requirements of s. NR 664.0175.

(b) The use and management requirements of subch. I of ch. NR 665, except for ss. NR 665.0170 and 665.0174, and except that in lieu of the special requirements of s. NR 665.0176 for ignitable or reactive waste, the owner or operator may comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjacent property line that can be built upon as required in Tables 2-1 to 2-6 of the National Fire Protection Association's (NFPA) "Flammable and Combustible Liquids Code," (1977 or 1981), incorporated by reference in s. NR 660.11. The owner or operator shall obtain and keep on file at the facility a written certification by the local fire marshal that the installation meets the subject NFPA codes.

(c) The closure requirements of s. NR 664.0178.

(5) DIRECT TRANSFER EQUIPMENT. Direct transfer equipment shall meet all of the following requirements:

(a) *Secondary containment.* Owners and operators shall comply with the secondary containment requirements of s. NR 665.0193, except for s. NR 665.0193(1), (4), (5) and (9) as follows:

1. For all new direct transfer equipment, prior to their being put into service.

2. For existing direct transfer equipment within 2 years after August 21, 1991.

(b) *Requirements prior to meeting secondary containment requirements.* 1. For existing direct transfer equipment that does not have secondary containment, the owner or operator shall determine whether the equipment is leaking or is unfit for use. The owner or operator shall obtain and keep on file at the facility a written assessment reviewed and certified by a qualified, registered professional engineer in accordance with s. NR 670.011 that attests to the equipment's integrity by August 21, 1992.

2. The assessment under subd. 1. shall determine whether the direct transfer equipment is adequately designed and has sufficient structural strength and compatibility with the wastes to be transferred to ensure that it will not collapse, rupture or fail. At a minimum, this assessment shall consider all of the following:

a. Design standards, if available, according to which the direct transfer equipment was constructed.

b. Hazardous characteristics of the wastes that have been or will be handled.

c. Existing corrosion protection measures.

d. Documented age of the equipment, if available (otherwise, an estimate of the age).

e. Results of a leak test or other integrity examination such that the effects of temperature variations, vapor pockets, cracks, leaks, corrosion and erosion are accounted for.

3. If, as a result of the assessment specified above, the direct transfer equipment is found to be leaking or unfit for use, the owner or operator shall comply with s. NR 665.0196(1) and (2).

(c) *Inspections and recordkeeping.* 1. The owner or operator shall inspect at least once each operating hour when hazardous waste is being transferred from the transport vehicle (container) to the boiler or industrial furnace all of the following:

a. Overfill or spill control equipment (e.g., waste-feed cutoff systems, bypass systems and drainage systems) to ensure that it is in good working order.

b. The above ground portions of the direct transfer equipment to detect corrosion, erosion or releases of waste (e.g., wet spots, dead vegetation).

c. Data gathered from monitoring equipment and leak-detection equipment, (e.g., pressure and temperature gauges) to ensure that the direct transfer equipment is being operated according to its design.

2. The owner or operator shall inspect cathodic protection systems, if used, to ensure that they are functioning properly according to the schedule provided by s. NR 665.0195(2).

3. Records of inspections made under this paragraph shall be maintained in the operating record at the facility, and available for inspection for at least 3 years from the date of the inspection.

(d) *Design and installation of new ancillary equipment.* Owners and operators shall comply with s. NR 665.0192.

(e) *Response to leaks or spills.* Owners and operators shall comply with s. NR 665.0196.

(f) *Closure.* Owners and operators shall comply with s. NR 665.0197, except for s. NR 665.0197(3)(b) to (d).

NR 666.112 Regulation of residues. A residue derived from the burning or processing of hazardous waste in a boiler or industrial furnace is not excluded from the definition of a hazardous waste under s. NR 661.04(2)(d), (g) or (h) unless the device and the owner or operator meet all of the following requirements:

(1) The device meets the following criteria:

(a) *Boilers.* Boilers shall burn at least 50% coal on a total heat input or mass input basis, whichever results in the greater mass feed rate of coal.

(b) *Ore or mineral furnaces.* Industrial furnaces subject to s. NR 661.04(2)(g) shall process at least 50% by weight normal, nonhazardous raw materials.

(c) *Cement kilns.* Cement kilns shall process at least 50% by weight normal cement-production raw materials.

(2) The owner or operator demonstrates that the hazardous waste does not significantly affect the residue by demonstrating conformance with either of the following criteria:

(a) *Comparison of waste-derived residue with normal residue.* The waste-derived residue may not contain ch. NR 661, Appendix VIII constituents (toxic constituents) that could reasonably be attributable to the hazardous waste at concentrations significantly higher than in residue generated without burning or processing of hazardous waste, using the following procedure. Toxic compounds that could reasonably be attributable to burning or processing the hazardous waste (constituents of concern) include toxic constituents in the hazardous waste, and the organic compounds listed in Appendix VIII that may be generated as products of incomplete combustion. Sampling and analyses shall be in conformance with procedures prescribed in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA SW-846, incorporated by reference in s. NR 660.11(1). For polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans, analyses shall be performed to determine specific congeners and homologues, and the results converted to 2,3,7,8-TCDD equivalent values using the procedure specified in section 4.0 of Appendix IX .

1. 'Normal residue.' Concentrations of toxic constituents of concern in normal residue shall be determined based on analyses of a minimum of 10 samples representing a minimum of 10 days of operation. Composite samples may be used to develop a sample for analysis if the compositing period does not exceed 24 hours. The upper tolerance limit (at 95% confidence with a 95% proportion of the sample distribution) of the concentration in the normal residue shall be considered the statistically-derived concentration in the normal residue. If changes in raw materials or fuels reduce the statistically-derived concentrations of the toxic constituents of concern in the normal residue, the statistically-derived concentrations shall be revised or statistically-derived concentrations of toxic constituents in normal residue shall be established for a new mode of operation with the new raw material or fuel. To determine the upper tolerance limit in the normal residue, the owner or operator shall use statistical procedures prescribed in "Statistical Methodology for Bevill Residue Determinations" in Appendix IX.

2. 'Waste-derived residue.' Waste-derived residue shall be sampled and analyzed as often as necessary to determine whether the residue generated during each 24-hour period has concentrations of

toxic constituents that are higher than the concentrations established for the normal residue under subd. 1. If so, hazardous waste burning has significantly affected the residue and the residue may not be excluded from the definition of a hazardous waste. Concentrations of toxic constituents of concern in the waste-derived residue shall be determined based on analysis of one or more samples obtained over a 24-hour period. Multiple samples may be analyzed, and multiple samples may be taken to form a composite sample for analysis if the sampling period does not exceed 24 hours. If more than one sample is analyzed to characterize waste-derived residues generated over a 24-hour period, the concentration of each toxic constituent shall be the arithmetic mean of the concentrations in the samples. No results may be disregarded.

(b) *Comparison of waste-derived residue concentrations with health-based limits* 1. 'Nonmetal constituents.' The concentration of each nonmetal toxic constituent of concern (specified in par. (a)) in the waste-derived residue may not exceed the health-based level specified in Appendix VII, or the level of detection (using analytical procedures prescribed in SW-846), whichever is higher. If a health-based limit for a constituent of concern is not listed in Appendix VII, then a limit of 0.002 micrograms per kilogram or the level of detection (using analytical procedures contained in SW-846, or other appropriate methods), whichever is higher, shall be used. The levels specified in Appendix VII (and the default level of 0.002 micrograms per kilogram or the level of detection for constituents as identified in Note 1 of Appendix VII) are administratively stayed under the condition, for those constituents specified in par. (a), that the owner or operator complies with alternative levels defined as the land disposal restriction limits specified in s. NR 668.43 for F039 nonwastewaters. In complying with those alternative levels, if an owner or operator is unable to detect a constituent despite documenting use of best good-faith efforts as defined by applicable department guidance or standards, the owner or operator is deemed to be in compliance for that constituent. Until new guidance or standards are developed, the owner or operator may demonstrate such good faith efforts by achieving a detection limit for the constituent that does not exceed an order of magnitude above the level provided by s. NR 668.43 for F039 nonwastewaters. In complying with the s. NR 668.43 F039 nonwastewater levels for polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans, analyses shall be performed for total hexachlorodibenzo-p-dioxins, total hexachlorodibenzofurans, total pentachlorodibenzo-p-dioxins, total pentachlorodibenzofurans, total tetrachlorodibenzo-p-dioxins and total tetrachlorodibenzofurans.

Note: The administrative stay, under the condition that the owner or operator complies with alternative levels defined as the land disposal restriction limits specified in s. NR 668.43 for F039 nonwastewaters, remains in effect until further administrative action is taken and notice is published in the federal register and the Code of Federal Regulations.

2. 'Metal constituents.' The concentration of metals in an extract obtained using the toxicity characteristic leaching procedure of s. NR 661.24 may not exceed the levels specified in Appendix VII.

3. 'Sampling and analysis.' Waste-derived residue shall be sampled and analyzed as often as necessary to determine whether the residue generated during each 24-hour period has concentrations of toxic constituents that are higher than the health-based levels. Concentrations of toxic constituents of concern in the waste-derived residue shall be determined based on analysis of one or more samples obtained over a 24-hour period. Multiple samples may be analyzed, and multiple samples may be taken to form a composite sample for analysis if the sampling period does not exceed 24 hours. If more than one sample is analyzed to characterize waste-derived residues generated over a 24-hour period, the concentration of each toxic constituent shall be the arithmetic mean of the concentrations in the samples. No results may be disregarded.

(3) Records sufficient to document compliance with this section shall be retained until closure of the boiler or industrial furnace unit. At a minimum, all of the following shall be recorded:

(a) Levels of constituents in ch. NR 661, Appendix VIII that are present in waste-derived residues.

(b) If the waste-derived residue is compared with normal residue under sub. (2)(a), both of the following:

1. The levels of constituents in ch. NR 661, Appendix VIII that are present in normal residues.

2. Data and information, including analyses of samples as necessary, obtained to determine if changes in raw materials or fuels would reduce the concentration of toxic constituents of concern in the normal residue.

APPENDIX I
TIER I AND TIER II FEED RATE AND EMISSIONS SCREENING LIMITS FOR METALS

related chemicals that have the same degree of chlorination. For example, there are eight homologues of

CDs, monochlorinated through octachlorinated. Dibenzo-p-dioxins and dibenzofurans that are

chlorinated at the 2,3,7, and 8 positions are denoted as ”2378” congeners, except when 2,3,7,8-TCDD is

uniquely referred to: e.g., 1,2,3,7,8-PeCDF and 2,3,4,7,8-PeCDF are both referred to as ”2378-PeCDFs.”

worst-case stack.

WA-10-05

0.0-2.5 km is used.

conducting site area inspections. This process can require extensive analysis, which, for many

applications, can be greatly streamlined without sacrificing confidence in selecting the appropriate urban

or rural classification. The fundamental simplifying assumption is based on the premise that many

applications will have clear-cut urban/rural designations, i.e., most will be in rural settings that can be

definitively characterized through a review of aerial photographs, zoning maps, or U.S. Geological

WA-10-05

Survey topographical maps.

5.0-4 and 5.0-5.

stack's physical height is less than the minimum GEP, use generic source number 11 in the subsequent

steps of this analysis. Follow the procedure in Steps 5(A) and 5(B) to determine the effective height of

each stack.

threshold.

[12] Refer to Step 8 of the basic screening procedure. At this point in the screening procedure, annual emissions are

used to represent hourly average emission rates. These values will be adjusted by the annual/hourly ratio to

estimate annual average concentrations.

APPENDIX XI
LEAD-BEARING MATERIALS THAT MAY BE PROCESSED IN EXEMPT LEAD SMELTERS

A. Exempt Lead-Bearing Materials When Generated or Originally Produced By Lead-Associated Industries[14]

Acid dump/fill solids
Sump mud
Materials from laboratory analyses
Acid filters
Baghouse bags
Clothing (e.g., coveralls, aprons, shoes, hats, gloves)
Sweepings
Air filter bags and cartridges
Respiratory cartridge filters
Shop abrasives
Stacking boards
Waste shipping containers (e.g., cartons, bags, drums, cardboard)
Paper hand towels
Wiping rags and sponges
Contaminated pallets
Water treatment sludges, filter cakes, residues, and solids
Emission control dusts, sludges, filter cakes, residues, and solids from lead-associated industries (e.g., K069 and D008 wastes)
Spent grids, posts, and separators
Spent batteries
Lead oxide and lead oxide residues
Lead plates and groups
Spent battery cases, covers, and vents
Pasting belts
Water filter media
Cheesecloth from pasting rollers
Pasting additive bags
Asphalt paving materials

B. Exempt Lead-Bearing Materials When Generated or Originally Produced By Any Industry

Charging jumpers and clips
Platen abrasive
Fluff from lead wire and cable casings
Lead-based pigments and compounding pigment dust

APPENDIX XII

[14] Lead-associated industries are lead smelters, lead-acid battery manufacturing, and lead chemical manufacturing (e.g., manufacturing of lead oxide or other lead compounds).

NICKEL OR CHROMIUM-BEARING MATERIALS THAT MAY BE PROCESSED IN EXEMPT NICKEL-CHROMIUM RECOVERY FURNACES

A. Exempt Nickel or Chromium-Bearing Materials when Generated by Manufacturers or Users of Nickel, Chromium, or Iron.

Baghouse bags
Raney nickel catalyst
Floor sweepings
Air filters
Electroplating bath filters
Wastewater filter media
Wood pallets
Disposable clothing (coveralls, aprons, hats, and gloves)
Laboratory samples and spent chemicals
Shipping containers and plastic liners from containers or vehicles used to transport nickel or chromium-containing wastes
Respirator cartridge filters
Paper hand towels

B. Exempt Nickel or Chromium-Bearing Materials when Generated by Any Industry

Electroplating wastewater treatment sludges (F006)
Nickel and/or chromium-containing solutions
Nickel, chromium, and iron catalysts
Nickel-cadmium and nickel-iron batteries
Filter cake from wet scrubber system water treatment plants in the specialty steel industry[15]
Filter cake from nickel-chromium alloy pickling operations[1]

APPENDIX XIII
MERCURY BEARING WASTES THAT MAY BE PROCESSED IN EXEMPT MERCURY RECOVERY UNITS

These are exempt mercury-bearing materials with less than 500 ppm of ch. NR 661, Appendix VIII organic constituents when generated by manufacturers or users of mercury or mercury products.

1. Activated carbon
2. Decomposer graphite
3. Wood
4. Paper
5. Protective clothing
6. Sweepings
7. Respiratory cartridge filters
8. Cleanup articles
9. Plastic bags and other contaminated containers
10. Laboratory and process control samples
11. K106 and other wastewater treatment plant sludge and filter cake
12. Mercury cell sump and tank sludge
13. Mercury cell process solids

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[15] If a hazardous waste under an authorized state program.

14. Recoverable levels or mercury contained in soil

Subchapter M —Military Munitions

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.200 Applicability. (1)** This subchapter identifies when military munitions become a solid waste, and, if these wastes are also hazardous under this subchapter or ch. NR 661, the management standards that apply to these wastes.

(2) Unless otherwise specified in this subchapter, all applicable requirements in chs. NR 660 to 670 apply to waste military munitions.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1 **NR 666.201 Definitions.** The following definitions apply to this subchapter:

(1) "Active range" means a military range that is currently in service and is being regularly used for range activities.

(2) "Chemical agent and munition" means an agent or munition that, through its chemical properties, produces lethal or other damaging effects on human beings, except that the term does not include riot control agents, chemical herbicides, smoke and other obscuration materials.

(3) "DDESB" means the United States department of defense explosives safety board.

(4) "Inactive range" means a military range that is not currently being used, but that is still under military control and considered by the military to be a potential range area, and that has not been put to a new use that is incompatible with range activities.

(5) "Military" means the U.S. department of defense (DOD), U.S. armed services, U.S. coast guard, national guard, U.S. department of energy (DOE), or other parties under contract or acting as an agent for any of them, who handle military munitions.

(6) "Military range" means designated land and water areas set aside, managed and used to conduct research on, develop, test and evaluate military munitions and explosives, other ordnance or weapon systems, or to train military personnel in their use and handling. Ranges include firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas and buffer zones with restricted access and exclusionary areas.

(7) "Unexploded ordnance" or "UXO" means military munitions that have been primed, fused, armed or otherwise prepared for action, and have been fired, dropped, launched, projected or placed in such a manner as to constitute a hazard to operations, installation, personnel or material and remain unexploded either by malfunction, design or any other cause.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.202 Definition of solid waste. (1)** A military munition is not a solid waste when either of the following occurs:

(a) It is used for its intended purpose, including any of the following:

1. Use in training military personnel or explosives and munitions emergency response specialists (including training in proper destruction of unused propellant or other munitions).

2. Use in research, development, testing and evaluation of military munitions, weapons or weapon systems.

3. Recovery, collection and on-range destruction of unexploded ordnance and munitions fragments during range clearance activities at active or inactive ranges. However, "use for intended purpose" does not include the on-range disposal or burial of unexploded ordnance and contaminants when the burial is not a result of product use.

(b) It is an unused munition, or component thereof, which is being repaired, reused, recycled, reclaimed, disassembled, reconfigured or otherwise subjected to materials recovery activities, unless the activities involve use constituting disposal as defined in s. NR 661.02(3)(a), or burning for energy recovery as defined in s. NR 661.02(3)(b).

(2) An unused military munition is a solid waste when any of the following occurs:

(a) The munition is abandoned by being disposed of, burned, detonated (except during intended use as specified in sub. (1)), incinerated or treated prior to disposal.

(b) The munition is removed from storage in a military magazine or other storage area for the purpose of being disposed of, burned, incinerated or treated prior to disposal.

(c) The munition is deteriorated or damaged (e.g., the integrity of the munition is compromised by cracks, leaks or other damage) to the point that it cannot be put into serviceable condition, and cannot reasonably be recycled or used for other purposes.

(d) The munition has been declared a solid waste by an authorized military official.

(3) A used or fired military munition is a solid waste when either of the following occurs:

(a) When it is transported off range or from the site of use, where the site of use is not a range, for the purposes of storage, reclamation, treatment, disposal or treatment prior to disposal.

(b) If it is recovered, collected and then disposed of by burial, or landfilling either on or off a range.

(4) For purposes of s. 289.01(33), Stats., a used or fired military munition is a solid waste, and, therefore, is potentially subject to corrective action authorities under ss. 291.37, 291.95 and 291.97, Stats., and subch. S of ch. NR 664, or imminent danger authorities under s. 291.85, Stats., if the munition lands off-range and is not promptly rendered safe or retrieved. Any imminent danger threats associated with any remaining material shall be addressed. If remedial action is infeasible, the operator of the range shall maintain a record of the event for as long as any threat remains. The record shall include the type of munition and its location (to the extent the location is known).

NR 666.203 Standards applicable to the transportation of solid waste military munitions. (1) CRITERIA FOR HAZARDOUS WASTE REGULATION OF WASTE NON-CHEMICAL MILITARY MUNITIONS IN TRANSPORTATION. (a) Waste military munitions that are being transported and that exhibit a hazardous waste characteristic or are listed as hazardous waste under ch. NR 661, are subject to chs. NR 660 to 670, unless all the following conditions are met:

1. The waste military munitions are not chemical agents or chemical munitions.

2. The waste military munitions are transported in accordance with the U.S. department of defense shipping controls applicable to the transport of military munitions.

3. The waste military munitions are transported from a military owned or operated installation to a military owned or operated treatment, storage or disposal facility.

4. The transporter of the waste provides oral notice to the department within 24 hours from the time the transporter becomes aware of any loss or theft of the waste military munitions, or any failure to meet a condition of this paragraph that may endanger health or the environment. In addition, a written submission describing the circumstances shall be provided within 5 days from the time the transporter becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of this paragraph.

(b) If any waste military munitions shipped under par. (a) are not received by the receiving facility within 45 days of the day the waste was shipped, the owner or operator of the receiving facility shall report this non-receipt to the department within 5 days.

(c) The exemption in par. (a) from regulation as hazardous waste shall apply only to the transportation of non-chemical waste military munitions. It does not affect the regulatory status of waste military munitions as hazardous wastes with regard to storage, treatment or disposal.

(d) The conditional exemption in par. (a) applies only so long as all of the conditions in par. (a) are met.

(2) REINSTATEMENT OF EXEMPTION. If any waste military munition loses its exemption under sub. (1)(a), an application may be filed with the department for reinstatement of the exemption from hazardous waste transportation regulation with respect to the munition as soon as the munition is returned to compliance with the conditions of sub. (1)(a). If the department finds that reinstatement of the exemption is appropriate based on factors such as the transporter's provision of a satisfactory explanation of the circumstances of the violation, or a demonstration that the violations are not likely to recur, the department may reinstate the exemption under sub. (1)(a). If the department does not take action on the reinstatement application within 60 days after receipt of the application, then reinstatement shall be deemed granted, retroactive to the date of the application. However, the department may terminate a conditional exemption reinstated by default in the preceding sentence if the department finds that reinstatement is inappropriate based on factors such as the transporter's failure to provide a satisfactory explanation of the circumstances of the violation, or failure to demonstrate that the violations are not likely to recur. In reinstating the exemption under sub. (1)(a), the department may specify additional conditions as are necessary to ensure and document proper transportation to protect human health and the environment.

(3) AMENDMENTS TO DOD SHIPPING CONTROLS. The U.S. department of defense shipping controls applicable to the transport of military munitions referenced in sub. (1)(a)2. are U.S. government bill of lading (GBL) (U.S. government services administration (GSA) standard form 1103), DOD single line item requisition system document (manual) (DD form 1348), the signature and tally record (DD form 1907), dangerous goods shipping paper/declaration and emergency response information for hazardous materials transported by government vehicles/containers or vessel (DD form 836), and the motor vehicle inspection (transporting hazardous materials) (DD form 626) in effect on November 8, 1995, except as provided in the following sentence. Any amendments to the U.S. department of defense shipping controls shall become effective for purposes of sub. (1)(a) on the date the U.S. department of defense publishes notice in the federal register that the shipping controls referenced in sub. (1)(a)2. have been amended.

Note: GSA standard form 1103 may be obtained by calling federal supply customer assistance at (817) 978-2051. DD forms 626, 836, 1348 and 1907 may be obtained at: http://**NR 666.204 Standards applicable to emergency responses.** Explosives and munitions emergencies involving military munitions or explosives are subject to ss. NR 662.010(9), 663.10(5), 664.0001(7)(h), 665.0001(3)(k) and 670.001(3)(c), or alternatively to s. NR 670.061. www.dtic.mil/whs/directives/infomgt/forms/formsprogram.htm.

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http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.205 Standards applicable to the storage of solid waste military munitions. (1)** CRITERIA FOR HAZARDOUS WASTE REGULATION OF WASTE NON-CHEMICAL MILITARY MUNITIONS IN STORAGE. (a) Waste military munitions in storage that exhibit a hazardous waste characteristic or are listed as hazardous waste under ch. NR 661, are subject to chs. NR 660 to 679, unless all the following conditions are met:

1. The waste military munitions are not chemical agents or chemical munitions.
2. The waste military munitions are subject to the jurisdiction of the DDESB.
3. The waste military munitions are stored in accordance with the DDESB storage standards applicable to waste military munitions.

4. Within 90 days of the effective date of this section . . . . [revisor inserts date] or within 90 days of when a storage unit is first used to store waste military munitions, whichever is later, the owner or operator notifies the department of the location of any waste storage unit used to store waste military munitions for which the conditional exemption in this paragraph is claimed.

5. The owner or operator provides oral notice to the department within 24 hours from the time the owner or operator becomes aware of any loss or theft of the waste military munitions, or any failure to meet a condition of this paragraph that may endanger health or the environment. In addition, a written submission describing the circumstances shall be provided within 5 days from the time the owner or operator becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of this paragraph.

6. The owner or operator inventories the waste military munitions at least annually, inspects the waste military munitions at least quarterly for compliance with the conditions of this paragraph and maintains records of the findings of these inventories and inspections for at least 3 years.

7. Access to the stored waste military munitions is limited to appropriately trained and authorized personnel.

(b) The conditional exemption in par. (a) from regulation as hazardous waste shall apply only to the storage of non-chemical waste military munitions. It does not affect the regulatory status of waste military munitions as hazardous wastes with regard to transportation, treatment or disposal.

(c) The conditional exemption in par. (a) applies only so long as all of the conditions in par. (a) are met.

(2) NOTICE OF TERMINATION OF WASTE STORAGE. The owner or operator shall notify the department when a storage unit identified in sub. (1)(a)4. will no longer be used to store waste military munitions.

(3) REINSTATEMENT OF CONDITIONAL EXEMPTION. If any waste military munition loses its conditional exemption under sub. (1)(a), an application may be filed with the department for reinstatement of the conditional exemption from hazardous waste storage regulation with respect to the munition as soon as the munition is returned to compliance with the conditions of sub. (1)(a). If the department finds that reinstatement of the conditional exemption is appropriate based on factors such as the owner's or operator's provision of a satisfactory explanation of the circumstances of the violation, or a demonstration that the violations are not likely to recur, the department may reinstate the conditional exemption under sub. (1)(a). If the department does not take action on the reinstatement application within 60 days after receipt of the application, then reinstatement shall be deemed granted, retroactive to the date of the application. However, the department may terminate a conditional exemption reinstated by default in the preceding sentence if it finds that reinstatement is inappropriate based on factors such as the owner's or operator's failure to provide a satisfactory explanation of the circumstances of the violation, or failure to demonstrate that the violations are not likely to recur. In reinstating the conditional exemption under sub. (1)(a), the department may specify additional conditions as are necessary to ensure and document proper storage to protect human health and the environment.

(4) WASTE CHEMICAL MUNITIONS. (a) Waste military munitions that are chemical agents or chemical munitions and that exhibit a hazardous waste characteristic or are listed as hazardous waste under ch. NR 661, are subject to chs. NR 660 to 670.

(b) Waste military munitions that are chemical agents or chemical munitions and that exhibit a hazardous waste characteristic or are listed as hazardous waste under ch. NR 661, are not subject to the storage prohibition in s. NR 668.50.

(5) AMENDMENTS TO DDESB STORAGE STANDARDS. The DDESB storage standards applicable to waste military munitions, referenced in sub. (1)(a)3., are DOD 6055.9-STD ("DOD Ammunition and Explosives Safety Standards"), incorporated by reference in s. NR 660.11, except as provided in the following sentence. Any amendments to the DDESB storage standards

shall become effective for purposes of sub. (1)(a) on the date the U.S. department of defense publishes notice in the federal register that the DDESB standards referenced in sub. (1)(a) have been amended.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.206 Standards applicable to the treatment and disposal of waste military munitions.** The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural and technical standards in chs. NR 660 to 670.

Subchapter N —Conditional Exemption for Low-Level Mixed Waste Storage, Treatment, Transportation and Disposal

TERMS

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.210 What definitions apply to this subchapter?** In this subchapter:

(1) "Agreement state" means a state that has entered into an agreement with the NRC under 42 USC 2021(b), to assume responsibility for regulating within its borders byproduct, source or special nuclear material in quantities not sufficient to form a critical mass.

(2) "Certified delivery" means certified mail with return receipt requested, or equivalent courier service, or other means, which provides the sender with a receipt confirming delivery.

(3) "Eligible naturally occurring or accelerator-produced radioactive material" or "eligible NARM" is NARM that is eligible for the transportation and disposal conditional exemption. It is a NARM waste that contains hazardous waste, meets the waste acceptance criteria of, and is allowed by state NARM rules to be disposed of at a low-level radioactive waste disposal facility licensed according to 10 CFR part 61 or NRC agreement state equivalent rules.

(4) "Exempted waste" means a waste that meets the eligibility criteria in s. NR 666.225 and meets all of the conditions in s. NR 666.230, or meets the eligibility criteria in s. NR 666.310 and complies with all of the conditions in s. NR 666.315. That waste is conditionally exempted from the regulatory definition of hazardous waste described in s. NR 661.03.

(5) "Hazardous waste" means any material which is defined to be hazardous waste in accordance with s. NR 661.03.

(6) "Land disposal restriction treatment standards" or "LDR treatment standards" means treatment standards under ch. NR 668, which a hazardous waste must meet before it can be disposed of in a hazardous waste land disposal unit.

(7) "License" means a license issued by the nuclear regulatory commission, or NRC agreement state, to users that manage radionuclides regulated by NRC, or NRC agreement states, under authority of 42 USC 2011 to 2297.

(8) "Low-level mixed waste" or "LLMW" is a waste that contains both low-level radioactive waste and hazardous waste.

(9) "Low-level radioactive waste" or "LLRW" is a radioactive waste which contains source, special nuclear or byproduct material, and which is not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel or byproduct material as defined in 42 USC 2014(e)(2). (See also NRC definition of "waste" at 10 CFR 61.2)

(10) "Mixed waste" means a waste that contains both hazardous waste and source, special nuclear or byproduct material subject to 42 USC 2011 to 2297.

(11) "Naturally occurring or accelerator-produced radioactive material" or "NARM" means radioactive materials that are either of the following:

(a) Naturally occurring and not source, special nuclear or byproduct materials (as defined by 42 USC 2011 to 2297).

(b) Produced by an accelerator. NARM is regulated by the states under state law, or by the U.S. department of energy (DOE) (as authorized by 42 USC 2011 to 2297) under DOE orders.

(12) "NRC" means the U.S. nuclear regulatory commission.

(13) "We or us" within this subchapter, means the department as defined in s. NR 660.10.

(14) "You" means a generator, treater or other handler of low-level mixed waste or eligible NARM.

Note: The U.S. code (USC) cite is also known as the Atomic Energy Act of 1954, as amended.

STORAGE AND TREATMENT CONDITIONAL EXEMPTION AND ELIGIBILITY

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.220 What does a storage and treatment conditional exemption do?** The storage and treatment conditional exemption exempts your low-level mixed waste from the regulatory definition of hazardous waste in s. NR 661.03 if your waste meets the eligibility criteria in s. NR 666.225 and you meet the conditions in s. NR 666.230.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.225 What wastes are eligible for the storage and treatment conditional exemption?** Low-level mixed waste (LLMW), defined in s. NR 666.210, is eligible for this conditional exemption if it is generated and managed by you under a single NRC or NRC agreement state license. (Mixed waste generated at a facility with a different license number and shipped to your facility for storage or treatment requires a hazardous waste operating license and is ineligible for this exemption. In addition, NARM waste is ineligible for this exemption.)
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NR 666.230 What conditions must you meet for your LLMW to qualify for and maintain a storage and treatment exemption? (1) For your LLMW to qualify for the exemption you shall notify us in writing by certified delivery that you are claiming a conditional exemption for the LLMW stored on your facility. The dated notification shall include your name, address, EPA hazardous waste identification number, NRC or NRC agreement state license number, the hazardous waste codes and storage units for which you are seeking an exemption and a statement that you meet the conditions of this subchapter. Your notification shall be signed by your authorized representative who certifies that the information in the notification is true, accurate and complete. You shall notify us of your claim either within 90 days of the effective date of this rule . . . . [revisor inserts date], or within 90 days of when a storage unit is first used to store conditionally exempt LLMW.

(2) To qualify for and maintain an exemption for your LLMW you shall do all of the following:

(a) Store your LLMW waste in tanks or containers in compliance with the requirements of your NRC or NRC agreement state license that apply to the proper storage of low-level radioactive waste (not including those license requirements that relate solely to recordkeeping).

(b) Store your LLMW in tanks or containers in compliance with chemical compatibility requirements of a tank or container in s. NR 664.0177 or 664.0199, or s. NR 665.0177 or 665.0199.

(c) Certify that facility personnel who manage stored conditionally exempt LLMW are trained in a manner that ensures that the conditionally exempt waste is safely managed and includes training in chemical waste management and hazardous materials incidents response that meets the personnel training standards found in s. NR 665.0016(1)(c).

(d) Conduct an inventory of your stored conditionally exempt LLMW at least annually and inspect it at least quarterly for compliance with this subchapter.

(e) Maintain an accurate emergency plan and provide it to all local authorities who may have to respond to a fire, explosion or release of hazardous waste or hazardous constituents. Your plan shall describe emergency response arrangements with local authorities; describe evacuation plans; list the names, addresses and telephone numbers of all facility personnel qualified to work with local authorities as emergency coordinators and list emergency equipment.

TREATMENT

NR 666.235 What waste treatment does the storage and treatment conditional exemption allow? You may treat your low-level mixed waste at your facility within a tank or container in accordance with the terms of your NRC or NRC agreement state license. Treatment that cannot be done in a tank or container without a hazardous waste operating license (such as incineration) is not allowed under this exemption.

LOSS OF CONDITIONAL EXEMPTION

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.240 How could you lose the conditional exemption for your LLMW and what action must you take? (1)** Your LLMW will automatically lose the storage and treatment conditional exemption if you fail to meet any of the conditions specified in s. NR 666.230. When your LLMW loses the exemption, you shall immediately manage that waste which failed the condition as hazardous waste under chs. 660 to 670, and the storage unit storing the LLMW immediately becomes subject to hazardous waste container or tank storage requirements under ch. NR 664 subch.s. I or J.

(a) If you fail to meet any of the conditions specified in s. NR 666.230 you shall report to us and the NRC, or the oversight agency in the NRC agreement state, in writing by certified delivery within 30 days of learning of the failure. Your report shall be signed by your authorized representative certifying that the information provided is true, accurate and complete. This report shall include all of the following:

1. The specific conditions you failed to meet.

2. A description of the LLMW (including the waste name, hazardous waste codes and quantity) and storage location at the facility.

3. The dates on which you failed to meet the condition.

(b) If the failure to meet any of the conditions may endanger human health or the environment, you shall also immediately notify us orally within 24 hours and follow up with a written notification within 5 days. Failures that may endanger human health or the environment include, but are not limited to, discharge of a CERCLA reportable quantity or other leaking or exploding tanks or containers, or detection of radionuclides above background or hazardous constituents in the leachate collection system of a storage area. If the failure may endanger human health or the environment, you shall follow the provisions of your emergency plan.

(2) We may terminate your conditional exemption for your LLMW, or require you to meet additional conditions to claim a conditional exemption, for serious or repeated noncompliance with any requirements of this subchapter.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.245 If you lose the storage and treatment conditional exemption for your LLMW, can the exemption be reclaimed? (1)** You may reclaim the storage and treatment exemption for your LLMW if you do all of the following:

(a) Again meet the conditions specified in s. NR 666.230.

(b) Send us a notice by certified delivery that you are reclaiming the exemption for your LLMW. Your notice shall be signed by your authorized representative certifying that the information contained in your notice is true, complete and accurate. In your notice you shall do all of the following:

1. Explain the circumstances of each failure.

2. Certify that you have corrected each failure that caused you to lose the exemption for your LLMW and that you again meet all the conditions as of the date you specify.

3. Describe plans that you have implemented, listing specific steps you have taken, to ensure the conditions will be met in the future.

4. Include any other information you want us to consider when we review your notice reclaiming the exemption.

(2) We may terminate a reclaimed conditional exemption if we find that your claim is inappropriate based on factors including, but not limited to, your failure to correct the problem, to provide a satisfactory explanation of the circumstances of the failure or to implement a plan with steps to prevent another failure to meet the conditions of s. NR 666.230. In reviewing a reclaimed conditional exemption under this section, we may add conditions to the exemption to ensure that waste management during storage and treatment of the LLMW will protect human health and the environment.

STORAGE AND TREATMENT RECORDKEEPING

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.250 What storage and treatment records must you keep at your facility and for how long? (1)** In addition to those records required by your NRC or NRC agreement state license, you shall keep all of the following records:

(a) Your initial notification records, return receipts, reports to us of failures to meet the exemption conditions and all records supporting any reclaim of an exemption.

(b) Records of your LLMW annual inventories, and quarterly inspections.

(c) Your certification that facility personnel who manage stored mixed waste are trained in safe management of LLMW including training in chemical waste management and hazardous materials incidents response.

(d) Your emergency plan as specified in s. NR 666.230(2).

(2) You shall maintain records concerning notification, personnel trained and your emergency plan for as long as you claim this exemption and for 3 years thereafter, or according to NRC regulations under 10 CFR part 20 (or equivalent NRC agreement state rules), whichever is longer. You shall maintain records concerning your annual inventory and quarterly inspections

for 3 years after the waste is sent for disposal, or according to NRC regulations under 10 CFR part 20 (or equivalent NRC agreement state rules), whichever is longer.

REENTRY INTO HAZARDOUS WASTE REGULATION

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.255 When is your LLMW no longer eligible for the storage and treatment conditional exemption? (1)** When your LLMW has met the requirements of your NRC or NRC agreement state license for decay-in-storage and can be disposed of as non-radioactive waste, then the conditional exemption for storage no longer applies. On that date your waste is subject to hazardous waste regulation under the relevant sections of chs. NR 660 to 670, and the time period for accumulation of a hazardous waste as specified in s. NR 662.034 begins.

(2) When your conditionally exempt LLMW, which has been generated and stored under a single NRC or NRC agreement state license number, is removed from storage, it is no longer eligible for the storage and treatment exemption. However, your waste may be eligible for the transportation and disposal conditional exemption at s. NR 666.305.

STORAGE UNIT CLOSURE

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.260 Do closure requirements apply to units that stored LLMW prior to the effective date of this subchapter?** Interim licensed and operating licensed hazardous waste storage units that have been used to store only LLMW prior to the effective date of this subchapter . . . . [revisor inserts date] and, after that date, store only LLMW which becomes exempt under this subchapter, are not subject to the closure requirements of chs. NR 664 and 665. Storage units (or portions of units) that have been used to store both LLMW and non-mixed hazardous waste prior to the effective date of this subchapter . . . . [revisor inserts date] or are used to store both after that date remain subject to closure requirements with respect to the non-mixed hazardous waste.

TRANSPORTATION AND DISPOSAL CONDITIONAL EXEMPTION

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.305 What does the transportation and disposal conditional exemption do?** This conditional exemption exempts your waste from the regulatory definition of hazardous waste in s. NR 661.03 if your waste meets the eligibility criteria under s. NR 666.310, and you meet the conditions in s. NR 666.315.

ELIGIBILITY

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.310 What wastes are eligible for the transportation and disposal conditional exemption?** Eligible waste shall be either of the following:

(1) A low-level mixed waste (LLMW), as defined in s. NR 666.210, that meets the waste acceptance criteria of a LLRW disposal facility.

(2) An eligible NARM waste, defined in s. NR 666.210.

CONDITIONS

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.315 What are the conditions you must meet for your waste to qualify for and maintain the transportation and disposal conditional exemption?** You shall meet all of the following conditions for your eligible waste to qualify for and maintain the exemption:

(1) The eligible waste shall meet or be treated to meet LDR treatment standards as described in s. NR 666.320.

(2) If you are not already subject to NRC, or NRC agreement state equivalent manifest and transportation rules for the shipment of your waste, you shall manifest and transport your waste according to NRC regulations as described in s. NR 666.325.

(3) The exempted waste shall be in containers when it is disposed of in the LLRW disposal facility as described in s. NR 666.340.

(4) The exempted waste shall be disposed of at a designated LLRW disposal facility as described in s. NR 666.335.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.320 What treatment standards must your eligible waste meet?** Your LLMW or eligible NARM waste shall meet the land disposal restriction (LDR) treatment standards specified in subch. D of ch. NR 668.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.325 Are you subject to the manifest and transportation condition in s. NR 666.315(2)?** If you are not already subject to NRC, or NRC agreement state equivalent manifest and transportation rules for the shipment of your waste, you shall meet the manifest requirements under 10 CFR 20.2006 (or NRC agreement state equivalent rules), and the transportation requirements under 10 CFR 1.5 (or NRC agreement state equivalent rules) to ship the exempted waste.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.330 When does the transportation and disposal exemption take effect?** The exemption becomes effective once all the following have occurred:

(1) Your eligible waste meets the applicable LDR treatment standards.

(2) You have received return receipts that you have notified us and the LLRW disposal facility as described in s. NR 666.345.

(3) You have completed the packaging and preparation for shipment requirements for your waste according to NRC packaging and transportation regulations found under 10 CFR part 71 (or NRC agreement state equivalent rules); and you have prepared a manifest for your waste according to NRC manifest regulations found under 10 CFR part 20 (or NRC agreement state equivalent rules).

(4) You have placed your waste on a transportation vehicle destined for a LLRW disposal facility licensed by NRC or an NRC agreement state.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.335 Where must your exempted waste be disposed of?** Your exempted waste shall be disposed of in a LLRW disposal facility that is regulated and licensed by NRC under 10 CFR part 61 or by an NRC agreement state under equivalent state rules, including state NARM licensing rules for eligible NARM.

NR 666.340 What type of container must be used for disposal of exempted waste? Your exempted waste shall be placed in containers before it is disposed. The container shall be any of the following:

(1) A carbon steel drum.

(2) An alternative container with equivalent containment performance in the disposal environment as a carbon steel drum.

(3) A high integrity container as defined by NRC.

NOTIFICATION

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.345 Whom must you notify?** **(1)** You shall provide a one-time notice to us stating that you are claiming the transportation and disposal conditional exemption prior to the initial shipment of an exempted waste from your facility to a LLRW disposal facility. Your dated written notice shall include your facility name, address, phone number and EPA ID number, and be sent by certified delivery.

(2) You shall notify the LLRW disposal facility receiving your exempted waste by certified delivery before shipment of each exempted waste. You may only ship the exempted waste after you have received the return receipt of your notice to the LLRW disposal facility. This notification shall include all of the following:

(a) A statement that you have claimed the exemption for the waste.

(b) A statement that the eligible waste meets applicable LDR treatment standards.

(c) Your facility's name, address and EPA hazardous waste ID number.

(d) The hazardous waste codes prior to the exemption of the waste streams.

(e) A statement that the exempted waste shall be placed in a container according to s. NR 666.340 prior to disposal in order for the waste to remain exempt under the transportation and disposal conditional exemption of this subchapter.

(f) The manifest number of the shipment that will contain the exempted waste.

(g) A certification that all the information provided is true, complete and accurate. Your authorized representative shall sign the statement.

GENERAL, TRANSPORTATION AND DISPOSAL RECORDKEEPING

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.350 What general, transportation and disposal records must you keep at your facility and for how long?** In addition to those records required by your NRC or NRC agreement state license, you shall keep records according to all of the following:

(1) You shall follow the applicable existing recordkeeping requirements under ss. NR 664.0073, 665.0073 and 668.07 to demonstrate that your waste has met LDR treatment standards prior to your claiming the exemption.

(2) You shall keep a copy of all notifications and return receipts required under ss. NR 666.355 and 666.360 for 3 years after the exempted waste is sent for disposal.

(3) You shall keep a copy of all notifications and return receipts required under s. NR 666.345(1) for 3 years after the last exempted waste is sent for disposal.

(4) You shall keep a copy of the notification and return receipt required under s. NR 666.345(2) for 3 years after the exempted waste is sent for disposal.

(5) If you are not already subject to NRC, or NRC agreement state equivalent manifest and transportation rules for the shipment of your waste, you shall also keep all other documents related to tracking the exempted waste as required under 10 CFR 20.2006 or NRC agreement state equivalent rules, including applicable NARM requirements, in addition to the records specified in subs. (1) to (4).

LOSS OF TRANSPORTATION AND DISPOSAL CONDITIONAL EXEMPTION

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.355 How could you lose the transportation and disposal conditional exemption for your waste and what actions must you take? (1)** Any waste will automatically lose the transportation and disposal exemption if you fail to manage it in accordance with all of the conditions specified in s. NR 666.315.

(a) When you fail to meet any of the conditions specified in s. NR 666.315 for any of your wastes, you shall report to us, in writing by certified delivery, within 30 days of learning of the failure. Your report shall be signed by your authorized representative certifying that the information provided is true, accurate and complete. This report shall include all of the following:

1. The specific conditions that you failed to meet for the waste.

2. A description of the waste (including the waste name, hazardous waste codes and quantity) that lost the exemption.

3. The dates on which you failed to meet the conditions for the waste.

(b) If the failure to meet any of the conditions may endanger human health or the environment, you shall also immediately notify us orally within 24 hours and follow up with a written notification within 5 days.

(2) We may terminate your ability to claim a conditional exemption for your waste, or require you to meet additional conditions to claim a conditional exemption, for serious or repeated noncompliance with any requirements of this subchapter.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000266&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 666.360 If you lose the transportation and disposal conditional exemption for a waste, can the exemption be reclaimed? (1)** You may reclaim the transportation and disposal exemption for a waste after you have received a return receipt confirming that we have received your notification of the loss of the exemption specified in s. NR 666.355(1) if both of the following apply:

(a) You again meet the conditions specified in s. NR 666.315 for the waste.

(b) You send a notice, by certified delivery, to us that you are reclaiming the exemption for the waste. Your notice shall be signed by your authorized representative certifying that the information provided is true, accurate and complete. The notice shall do all of the following:

1. Explain the circumstances of each failure.

2. Certify that each failure that caused you to lose the exemption for the waste has been corrected and that you again meet all conditions for the waste as of the date you specify.

3. Describe plans you have implemented, listing the specific steps that you have taken, to ensure that conditions will be met in the future.

4. Include any other information you want us to consider when we review your notice reclaiming the exemption.

(2) We may terminate a reclaimed conditional exemption if we find that your claim is inappropriate based on factors including, but not limited to, your failure to correct the problem, to provide a satisfactory explanation of the circumstances of the failure or to implement a plan with steps to prevent another failure to meet the conditions of s. NR 666.315. In reviewing a reclaimed conditional exemption under this section, we may add conditions to the exemption to ensure that transportation and disposal activities will protect human health and the environment.

Subchapter HH —Household and Very Small Quantity Generator Hazardous Waste Collection Facilities

NR 666.900 Applicability. This subchapter establishes minimum design and operating standards for owners or operators of collection facilities that collect or store household hazardous waste or very small quantity generator waste, or both. The owner or operator of a collection facility is exempt from the hazardous waste storage facility standards and licensing requirements in chs. NR 664, 665 and 670 if the owner or operator complies with all applicable requirements of this subchapter.

NR 666.901 Definitions. The following definitions apply to this subchapter:

(1) "Affected municipality" means a town, city, village or county in which a collection facility is located, or is proposed to be located.

(2) "Collection facility" means a facility established to collect or store household hazardous waste or very small quantity generator waste, or both.

(3) "Elementary neutralization unit" means a container or tank used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in s. NR 661.22, or they are listed in subch. D of ch. NR 661 only for corrosivity.

(4) "Household hazardous waste" means a household waste that exhibits a characteristic of hazardous waste or is listed in ch. NR 661.

(5) "Permanent collection facility" means a collection facility where household hazardous waste or very small quantity generator waste, or both, is collected or stored for more than 5 consecutive days.

(6) "Temporary collection facility" means a collection facility where household hazardous waste or very small quantity generator waste, or both, is collected or stored for no more than 5 consecutive days.

NR 666.902 Standards for design of permanent collection facilities. The owner or operator of a permanent collection facility shall construct and maintain the facility according to all of the following minimum design criteria:

(1) A collection facility may not be located in any of the following:

(a) A flood plain.

(b) A wetland.

(c) A habitat determined by the department to be critical to the continued existence of any threatened or endangered species listed in ch. NR 27.

(2) The maximum amount of hazardous waste stored may not exceed 240,000 pounds (109,091 kg).

(3) All hazardous waste shall be stored in containers in a building completely enclosed with a floor, walls and roof to prevent exposure to the elements.

(4) The floor underlying the containers shall be free of cracks and gaps and sufficiently impervious to contain leaks and spills until the released material is detected and removed.

(5) The floor shall be sloped or a containment system shall be designed and operated to drain and remove liquids resulting from leaks or spills, unless the containers are elevated or are otherwise prevented from contact with accumulated liquids.

(6) The containment system shall have sufficient capacity to contain the volume of the largest container, or 10% of the volume of all containers, whichever is greater. Containers that do not contain free liquids need not be considered in this determination.

(7) Spilled or leaked waste shall be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system, or within 24 hours, whichever is less.

NR 666.903 Standards for operation of permanent collection facilities. An owner or operator of a permanent collection facility shall comply with all of the following:

(1) NOTIFICATION. At least 30 days prior to first accepting hazardous waste from off-site, submit the "Notification of Activity for Household and Very Small Quantity Generator Hazardous Waste Collection Facility" form 4430-020 to the department and to the clerk of the affected municipalities.

Note: This is a one-time notification. Permanent facilities that close for the season are not required to re-submit the form unless there is a change in ownership or facility operations.

Note: Form 4430-020 may be obtained from the department by phone (608)266-2111, Fax (608) 267-2768 or E-mail: waste.management@dnr.state.wi.us

(3) STORAGE TIME LIMIT. Store hazardous waste for no longer than one year from the date the waste is received.

(4) CONTAINER MANAGEMENT**.** Manage containers of hazardous waste according to all of the following:

(a) Label each container with either the words "hazardous waste" or other words that identify the contents of the container.

(b) Clearly mark the accumulation start date on each container.

(c) Store waste in containers that are in good condition and compatible with the waste being stored.

(d) Store containers closed except when adding or removing waste.

(e) Open, handle and store containers to prevent ruptures and leaks.

(f) Inspect containers and the areas where they are stored at least weekly for leaks and deterioration caused by corrosion or other factors. Take immediate action to correct problems found during inspections.

(g) Maintain adequate aisle space in the container storage areas to allow for unobstructed movement of personnel, fire protection and spill control equipment in an emergency.

(5) IGNITABLE, REACTIVE OR INCOMPATIBLE WASTE**.** Manage ignitable, reactive or incompatible wastes according to all of the following:

(a) Store incompatible wastes in separate containers.

(b) Separate containers of incompatible wastes by means of a dike, berm, wall or other device.

(c) Store and protect ignitable or reactive wastes from sources of ignition or reaction.

(d) Post "No Smoking" signs in ignitable and reactive waste storage areas.

(6) SECURITY. Control entry of unauthorized persons to the container storage area at all times.

(7) PREPAREDNESS AND PREVENTION. Operate the facility to prevent fires or explosions or releases of hazardous waste which could threaten human health or the environment.

(8) EMERGENCY EQUIPMENT**.** Equip the facility with all of the following:

(a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.

(b) A telephone (immediately available at the scene of operations) or a hand-held 2-way radio, capable of summoning emergency assistance from local police departments, fire departments or state or local emergency response teams.

(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas or dry chemicals) and spill control equipment.

(9) TESTING AND MAINTENANCE OF EMERGENCY EQUIPMENT**.** Test and maintain all facility communications or alarm systems, fire protection equipment and spill control equipment, where required, as necessary to assure its proper operation in time of emergency.

(10) CONTINGENCY PLAN**.** Prepare a contingency plan which describes the actions of facility personnel in response to fires, explosions or any releases of hazardous waste or materials. A spill prevention, control and countermeasures (SPCC) plan or some other emergency or contingency plan may be amended to incorporate the requirements of this subsection. Keep a copy of the contingency plan and all revisions at the facility and submit a copy to all local police departments, fire departments, hospitals and state and local emergency response teams that may be called upon to provide emergency services. Review and immediately amend the plan if the plan fails in an emergency or if changes are made to the design or operation that increase the potential for fires, explosions or releases of hazardous waste or changes the response necessary in an emergency. The plan shall shall be implemented immediately whenever there is a fire, explosion or release of hazardous waste that could threaten human health or the environment. The plan shall include all of the following:

(a) A description of the arrangements agreed to by local police departments, fire departments, hospitals, contractors and state and local emergency response teams to coordinate emergency services.

(b) An up to date list of names, addresses and phone numbers (office and home) of all persons qualified to act as emergency coordinator. Where more than one person is listed, one shall be named as primary emergency coordinator and others shall be listed in the order in which they will assume responsibility as alternates. The primary and alternate emergency coordinators shall:

1. Either be on the facility premises or available to respond to an emergency by reaching the facility within a short period of time.

2. Be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility and the facility layout.

3. Have the authority to commit the resources needed to carry out the contingency plan.

(c) An up to date list of all emergency equipment at the facility, such as fire extinguishing systems, spill control equipment, communications and alarm systems. In addition, the plan shall include the location and a physical description of each item on the list and a brief outline of its capabilities.

(d) A plan to evacuate facility personnel where an evacuation may be necessary. Include the signals to be used to begin evacuation, evacuation routes and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

(11) EMERGENCY COORDINATOR. Assign at least one employee as emergency coordinator. The emergency coordinator shall be responsible for all of the following:

(a) Whenever there is an imminent or actual emergency situation, immediately:

1. Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel.

2. Notify appropriate state or local agencies with designated response roles if their help is needed.

(b) In the event of a fire, explosion or other release:

1. Immediately notify the national response center using their 24-hour toll free number (800) 424-8802 if there is a threat to human health or if a spill has reached surface water. Notification shall include the name and address of the facility owner, date, time and type of incident, quantity and type of hazardous waste involved in the incident, extent of injuries, if any, and estimated quantity and disposition of recovered materials, if any.

2. Notify the division of emergency management at (800) 943-0003, and comply with the remedial action requirements of s. 292.11, Stats. and ch. NR 706.

3. Identify the character, exact source, amount and areal extent of any released materials.

4. Assess possible hazards to human health or the environment that may result from the release, fire or explosion. This assessment shall consider both direct and indirect effects of the release, fire or explosion.

(c) Take all reasonable measures necessary to ensure that fires, explosions and releases do not occur, recur or spread to other hazardous waste at the facility.

(d) Immediately after an emergency, provide for treating, storing or disposing of recovered waste, contaminated soil or surface water or any other material that results from a release, fire or explosion at the facility.

Note: Unless the owner or operator can demonstrate, according to s. NR 661.03(3) or (4), that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it according to all applicable requirements of chs. NR 662, 663 and this subchapter.

(12) PERSONNEL TRAINING**.** Train all facility personnel, either by classroom instruction or on the job training, related to job duties to ensure they are able to respond effectively to emergencies. Employees shall not work in unsupervised positions until the training is completed. The training shall:

(a) Familiarize staff with emergency equipment and procedures.

(b) Be completed within six months of employment.

(c) Be reviewed annually for all staff.

(13) ANNUAL REPORT**.** If any hazardous waste is shipped off-site to a licensed or permitted hazardous waste treatment, storage or disposal facility or recycling facility, other than a permanent collection facility, prepare and submit a single copy of an annual report to the department by March 1 of each year. The annual report shall be submitted on department forms and cover generator activities during the previous year.

Note: The annual report forms may be obtained from: http://dnr.wi.gov/org/aw/air/emission/crs/index.htm , or from the department by telephone at (608)266-2111, fax (608) 267-2768 or E-mail: waste.management@dnr.state.wi.us

(14) RECORDKEEPING. Retain copies of annual reports and results of any certified laboratory hazardous waste analyses for a minimum of three years.

(15) BULKING**.** If hazardous waste is bulked, prevent the mixing of incompatible wastes by testing or applying knowledge of the waste.

(16) TREATMENT. If hazardous waste is treated, it shall only be done by being neutralized in an elementary neutralization unit, or by the addition of absorbent materials to wastes.

(17) VERY SMALL QUANTITY GENERATOR WASTE**.** If hazardous waste is accepted from very small quantity generators, provide a shipment receipt to the very small quantity generator. The shipment receipt shall include the information specified in pars. (a) to (c), and copies of the receipts shall be retained according to par. (d).

(a) The generator's company name and location, including street address, city and state.

(b) The quantity and type of waste.

(c) The date the waste was accepted by the collection facility.

(d) Retain a copy of the shipment receipt for a minimum of 3 years from the date the shipment was received.

NR 666.904 Standards for operation of temporary collection facilities. An owner or operator of a temporary collection facility shall comply with all of the following:

(1) NOTIFICATION. At least 30 days prior to first accepting hazardous waste from off-site, submit the "Notification of Activity for Household and Very Small Quantity Generator Hazardous Waste Collection Facility" form 4430-020 to the department.

Note: Form 4430-020 may be obtained from the department by telephone at (608)266-2111, fax (608) 267-2768 or E-mail: waste.management@dnr.state.wi.us

(2). CONTAINER MANAGEMENT**.** Manage containers of hazardous waste according to all of the following:

(a) Label each container with either the words "hazardous waste" or other words that identify the contents of the container.

(b) Clearly mark the accumulation starting date on each container.

(c) Open, handle and store waste in containers that are in good condition and compatible with the waste being stored.

(d) Store containers closed except when adding or removing waste.

(e) Manage containers to prevent ruptures and leaks.

(3) IGNITABLE, REACTIVE OR INCOMPATIBLE WASTE**.** Manage ignitable, reactive or incompatible wastes according to all of the following:

(a) Store incompatible wastes in separate containers.

(b) Separate containers of incompatible wastes.

(c) Store and protect ignitable or reactive wastes from sources of ignition or reaction.

(4) PREPAREDNESS AND PREVENTION**.** Operate the facility to prevent fires or explosions or releases of hazardous waste which could threaten human health or the environment.

(5) EMERGENCY PROCEDURES. At all times, ensure that at least one person on the premises is responsible for coordinating all of the following emergency response measures:

(a) In the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher.

(b) In the event of a spill, contain the flow of hazardous waste to the extent possible, and as soon as is practicable, clean up the hazardous waste and any contaminated materials or soil.

(c) In the event of a fire, explosion or other release which could threaten human health or if a spill has reached surface water, immediately notify the national response center, using their 24-hour toll free number (800)424-8802. The notification shall include all of the following information: The name and address of the facility owner, date, time and type of incident, quantity and type of hazardous waste involved in the incident, extent of injuries, if any and estimated quantity and disposition of recovered materials, if any.

(d) In the event of a release or discharge, notify the division of emergency management at (800) 943-0003 and comply with the requirements of s. 292.11, Stats. and ch. NR 706.

(6) PERSONNEL TRAINING. Ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities.

(7) BULKING**.** If hazardous waste is bulked, prevent the mixing of incompatible wastes by testing or applying knowledge of the waste.

(8) TREATMENT. If hazardous waste is treated, it shall only be done by being neutralized in an elementary neutralization unit, or by the addition of absorbent materials to wastes.

(9) VERY SMALL QUANTITY GENERATOR WASTE. If hazardous waste is accepted from very small quantity generators, provide a shipment receipt to the very small quantity generator. The shipment receipt shall include the information specified in pars. (a) to (c), and copies of the receipts shall be retained by the owner according to par. (d).

(a) The generator's company name and location, including street address, city and state.

(b) The quantity and type of waste.

(c) The date the waste was accepted by the collection facility.

(d) Retain a copy of shipment receipts for a minimum of 3 years from the date the shipment was received.

NR 666.905 Transportation requirements. (1) An owner or operator of a collection facility who offers hazardous waste for transportation off-site to a licensed or permitted hazardous waste treatment, storage or disposal facility, or recycling facility, shall comply with all of the following:

(a) Obtain an EPA ID number, using EPA Form 8700-12**.**

NOTE: The EPA notification form 8700-12 is available from: WWW.EPA.GOV/EPAOSWER/HAZWASTE/DATA/FORM8700/FORMMANAGEMENT ,or from the department by telephone (608)266-2111, fax (608) 267-2768 or E-mail: waste.mailto:waste.management@dnr.state.wi.us@dnr.state.wi.us

(b) Package the waste in accordance with the applicable U.S. department of transportation regulations on packaging under 49 CFR parts 173, 178 and 179.

(c) Label each package in accordance with the applicable U.S. department of transportation regulations on hazardous materials under 49 CFR part 172.

(d) Mark each package of hazardous waste in accordance with the applicable U.S. department of transportation regulations on hazardous materials under 49 CFR part 172, and mark each container of 110 gallons or less used in the transportation with the following words and information displayed in accordance with the requirements of 49 CFR 172.304:
"HAZARDOUS WASTE—State and Federal Law Prohibit Improper Disposal. If found, contact the nearest police or public safety authority, state emergency management, state department of natural resources or the U.S. Environmental Protection Agency.
Generator's Name and Address_____.
Manifest Document Number_____."

(e) Ensure the initial transporter has the appropriate placards according to U.S. DOT regulations for hazardous materials under 49 CFR part 172, subpart F.

(f) The manifest consists of at least the number of copies which will provide the collection facility owner or operator, each transporter, the owner or operator of the designated facility, and the department with one copy each for their records and another final, signed copy to be returned to the collection facility owner or operator. Prepare and use a manifest according to the following:

1. If the state to which the waste is shipped is Wisconsin or a state that does not supply a manifest, use the Wisconsin manifest form 4400-66P according to the instructions on the back of the form.

2. If the EPA manifest continuation form 8700-22A is used, complete the form according to the instructions in the appendix to 40 CFR part 262, and include the state manifest document number and the hazardous waste number corresponding to the name of the waste being shipped.

3. If the state to which the waste is shipped is other than Wisconsin and that state supplies the manifest, use the other state's manifest forms according to that state's manifest instructions and include the additional information required in par. 2. **Note:** The Wisconsin manifest form 4400-66P may be obtained from the department by telephone at (608)266-2111, fax (608) 267-2768 or E-mail: waste.managementhttp://www.access.gpo.gov/ecfr@dnr.state.wi.us
Title 40 CFR part 262 may be obtained from:

4. Designate on the manifest one facility which is licensed or permitted to handle the waste described on the manifest. One alternate facility may be designated on the manifest which is licensed or permitted to handle the generator's waste in the event an emergency prevents delivery of the waste to the primary designated facility.

5. If the transporter is unable to deliver the hazardous waste to the designated facility or the alternate facility, designate another facility or instruct the transporter to return the waste.

6. Sign the manifest certification by hand, and obtain the handwritten signature of the initial transporter and date of acceptance on the manifest.

7. Retain one signed copy, and give the transporter the remaining copies of the manifest.

8. For shipments of hazardous waste outside of Wisconsin, submit a copy of each manifest to the department within 30 days of receiving the signed copy from the designated facility.

9. Keep a copy of each manifest signed by the collection facility owner or operator and the initial transporter for 3 years or until facility owner or operator receives a signed copy from the designated hazardous waste facility that received the waste. Retain the final, signed copy of the manifest as a record for at least 3 years from the date the waste was accepted by the initial transporter.

(g) Meet applicable land disposal restrictions standards in s. NR 668.07(1).

(2) An owner or operator of a collection facility who self-transports hazardous waste off-site to a licensed or permitted hazardous waste treatment, storage or disposal facility, or a recycling facility shall comply with sub. (1) and ch. NR 663, hazardous waste transportation requirements.

(3) An owner or operator of a collection facility may transport hazardous waste, or offer hazardous waste for transport, to a permanent collection facility without using a hazardous waste manifest or obtaining a transportation license for the purpose of bulking or consolidating waste, if the collection facility owner or operator complies with all of the following requirements prior to transporting the hazardous waste:

(a) Package the waste in accordance with the applicable U.S. department of transportation regulations on packaging under 49 CFR parts 173, 178 and 179.

(b) Label each package in accordance with the applicable U.S. department of transportation regulations on hazardous materials under 49 CFR part 172.

(c) Mark each package of hazardous waste in accordance with the applicable U.S. department of transportation regulations on hazardous materials under 49 CFR part 172, and mark each container of 110 gallons or less used in the transportation with the following words and information displayed in accordance with the requirements of 49 CFR 172.304:
"HAZARDOUS WASTE—State and Federal Law Prohibit Improper Disposal. If found, contact the nearest police or public safety authority, state emergency management, state department of natural resources or the U.S. Environmental Protection Agency.
Generator's Name and Address_____.
Manifest Document Number_____."

(d) Use placards if required by U.S. DOT regulations for hazardous materials under 49 CFR part 172, subpart F.

(e) Provide written notification of the waste properties and applicable land disposal restrictions standards to the receiving collection facility.

NR 666.909 Closure requirements. **(1)** Within 5 days of initially accepting hazardous waste, an owner or operator of a temporary collection facility shall close the facility according to all of the following:

(a) Ensure delivery of all hazardous waste to an off-site licensed or permitted hazardous waste treatment, storage or disposal facility, recycling facility, or to a permanent collection facility.

(b) Close the collection facility in a manner that meets all of the following:

1. Minimizes the need for further maintenance.

2. Controls, minimizes or eliminates the escape of hazardous waste, hazardous constituents or contaminated run-off to the ground, surface waters or the atmosphere.

(2) An owner or operator of a permanent collection facility that closes for the season shall close the facility according to all of the following:

(a) Ensure delivery of all hazardous waste to an off-site licensed or permitted hazardous waste treatment, storage or disposal facility, recycling facility, or another permanent collection facility, within 90 days of the last day of accepting waste.

(b) Close the collection facility in a manner that meets all of the following:

1. Minimizes the need for further maintenance.

2. Controls, minimizes or eliminates the escape of hazardous waste, hazardous constituents or contaminated run-off to the ground, surface waters or the atmosphere.

(3) An owner or operator of a permanent collection facility that closes permanently shall close the facility according to all of the following:

(a) The standards in sub.(2)(a) and (b).

(b) All contaminated equipment, structures and soil shall be properly disposed of or decontaminated. By removing all hazardous wastes or hazardous constituents, the owner or operator may become a generator of hazardous waste and shall handle that hazardous waste in accordance with all applicable requirements of ch. NR 662.

(c) Within 60 days of completion of closure, submit a report to the department summarizing the activities performed to meet the requirements in pars. (a) and (b).

NR 666.910 Financial responsibility requirements for permanent collection facilities that store more than 80,000 pounds (36,364 kg.) of hazardous waste. (1) The owner or operator shall meet all of the following closure cost estimate requirements prior to storing more than 80,000 pounds of hazardous waste at any time:

(a) Obtain a detailed written estimate, in current dollars, of the cost of final closure of the collection facility as required in s. NR 666.909(2)(a) and (b).

(b) Calculate the closure cost estimate using the cost of hiring a third party to remove and properly manage the estimated maximum inventory of waste. The quantity of hazardous waste stored at the collection facility shall not exceed the maximum inventory of waste used to calculate the closure cost estimate.

(c) Submit the detailed closure cost estimate to the department with the notification form required under s. NR 666.903(1).

(d) Adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s), as required in s. NR 665.0143, or if any changes are made to the amount of hazardous waste stored. The adjustment may be made by recalculating the closure cost estimate in current dollars, or by using an inflation factor derived from the most recent implicit price deflator for gross domestic product published by the U.S. department of commerce in its *Survey of Current Business,* as specified in pars. (a) and (b). The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

1. The first adjustment shall be made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

2. Subsequent adjustments shall be made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(2) The owner or operator shall meet all of the following financial assurance requirements prior to storing more than 80,000 pounds of hazardous waste:

(a) Establish financial assurance for closure of the collection facility, as required in s. NR 665.0143.

(b) Submit proof of financial assurance to the department with the notification form required under s. NR 666.903(1).

(3) Within 60 days of receipt of the closure summary report required by s. NR 666.909(3)(c), the department shall notify the owner or operator of one of the following:

(a) Closure is complete and the owner or operator may apply to the department for a release of the proof of financial responsibility.

(b) Additional closure activities are necessary to comply with s. NR 666.909(3), and proof of financial responsibility shall be maintained.

CHAPTER NR 668
HAZARDOUS WASTE LAND DISPOSAL RESTRICTIONS

Subchapter A—General

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Note: This chapter is similar to federal regulations contained in 40 CFR part 268, revised as of July 1, 2003.

Subchapter A —General

NR 668.01 Purpose, scope and applicability. (1) This chapter identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be land disposed.

(2) Except as specifically provided otherwise in this chapter or ch. NR 661, the requirements of this chapter apply to persons who generate or transport hazardous waste and owners and operators of hazardous waste treatment, storage and disposal facilities.

(3) Restricted wastes may continue to be land disposed if any of the following conditions are met:

(a)The EPA administrator has granted an extension to the effective date of a prohibition under 40 CFR 268.5 with respect to those wastes covered by the extension.

(b) The EPA administrator has granted an exemption from a prohibition pursuant to a petition under 40 CFR 268.6, with respect to those wastes and units covered by the petition. .

(d) The wastes are hazardous only because they exhibit a hazardous characteristic, unless the wastes are subject to a specified method of treatment other than DEACT in s. NR 668.40, or are D003 reactive cyanide and the wastes meet subds 1or 2 or 3 and subd 4.

1. The wastes are managed in a treatment system which subsequently discharges to waters of the state pursuant to a permit issued under ch. 283, Stats.

2. The wastes are treated for purposes of the pretreatment requirements of ch. 283, Stats.

3. The wastes are managed in a zero discharge system engaged in CWA-equivalent treatment as defined in s. NR 668.37(1).

4. The wastes no longer exhibit a prohibited characteristic at the point of land disposal (i.e., placement in a surface impoundment).

(4) The requirements of this chapter may not affect the availability of a waiver under 42 USC 9621(d)(4).

(5) All of the following hazardous wastes are not subject to this chapter:

(a) Waste generated by very small quantity generators of less than 100 kilograms (220 pounds) of non-acute hazardous waste or less than one kilogram (2.2 pounds) of acute hazardous waste per month, as defined in s. NR 662.220.

(b) Waste pesticides that a farmer disposes of pursuant to s. NR 662.070.

(c) Wastes identified or listed as hazardous after November 8, 1984 for which EPA has not promulgated land disposal prohibitions or treatment standards.

(d) De minimis losses of characteristic wastes to wastewaters are not considered to be prohibited wastes and are defined as losses from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials). The following are also considered to be de minimus losses: minor leaks of process equipment, storage tanks or containers; leaks from well-maintained pump packings and seals; sample purgings; and relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; rinsate from empty containers or from containers that are rendered empty by that rinsing; and laboratory wastes not exceeding one % of the total flow of wastewater into the facility's headworks on an annual basis, or with a combined annualized average concentration not exceeding one part per million in the headworks of the facility's wastewater treatment or pretreatment facility.

(6) Universal waste handlers and universal waste transporters, as defined in s. NR 660.10, are exempt from ss. NR 668.07 and 668.50 for all of the following hazardous wastes.

(a) Batteries as described in s. NR 673.02.

(b) Pesticides as described in s. NR 673.03.

(c) Thermostats as described in s. NR 673.04.

(d) Lamps as described in s. NR 673.05.

NR 668.02 Definitions applicable in this chapter. When used in this chapter the following terms have the meanings given below:

(1) "Halogenated organic compounds" or "HOCs" means those compounds having a carbon-halogen bond which are listed under ch. NR 668, Appendix III

(2) "Hazardous constituent" or "hazardous constituents" means those constituents listed in ch. NR 661, Appendix VIII

(3) "Land disposal" means placement in or on the land, except in a corrective action management unit or staging pile, and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, salt dome formation, salt bed formation, underground mine or cave, or placement in a concrete vault, or bunker intended for disposal purposes.

(4) "Nonwastewaters" means wastes that do not meet the criteria for wastewaters in s. NR 668.02(6).

(5) "Polychlorinated biphenyls" or "PCBs" means halogenated organic compounds defined in accordance with 40 CFR 761.3.

(6) "Wastewaters" means wastes that contain less than one % by weight total organic carbon (TOC) and less than one% by weight total suspended solids (TSS).

(7)"Debris" means solid material exceeding a 60 mm particle size that is intended for disposal and that is a manufactured object; or plant or animal matter; or natural geologic material. However, the following materials are not debris: any material for which a specific treatment standard is provided in subch. D, namely lead acid batteries, cadmium batteries, and radioactive lead solids; process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by s. NR 668.45 and other material is regulated as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection.

(8) "Hazardous debris" means debris that contains a hazardous waste listed in subch. D of ch. NR 661, or that exhibits a characteristic of hazardous waste identified in subch. C of ch. NR 661. Any deliberate mixing of prohibited hazardous waste with debris that changes its treatment classification, for example, from waste to hazardous debris, is not allowed under the dilution prohibition in s. NR 668.03.

(9) "Underlying hazardous constituent" means any constituent listed in s. NR 668.48, Table UTS—Universal Treatment Standards, except fluoride, selenium, sulfides, vanadium, and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste at a concentration above the constituent-specific UTS treatment standards.

(10) "Inorganic metal-bearing waste" means waste for which EPA has established treatment standards for metal hazardous constituents, and which does not otherwise contain significant organic or cyanide content as described in s. NR 668.03(3)(a), and is specifically listed in ch. NR 668, Appendix XI.

(11) "Soil" means unconsolidated earth material composing the superficial geologic strata (material overlying bedrock), consisting of clay, silt, sand, or gravel size particles as classified by the U.S. natural resources conservation service, or a mixture of such materials with liquids, sludges or solids which is inseparable by simple mechanical removal processes and is made up primarily of soil by volume based on visual inspection. Any deliberate mixing of prohibited hazardous waste with soil that changes its treatment classification, for example, from waste to contaminated soil, is not allowed under the dilution prohibition in s. NR 668.03.

NR 668.03 Dilution prohibited as a substitute for treatment. (1) Except as provided in sub. (2), no generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility may in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with subch. D, to circumvent the effective date of a prohibition in subch. C, to otherwise avoid a prohibition in subch. C, or to circumvent a land disposal prohibition imposed by 42 USC 6924.

(2) Dilution of wastes that are hazardous only because they exhibit a characteristic in treatment systems which include land-based units which treat wastes subsequently discharged to a water of the State pursuant to a permit issued under section s. 283.31, Stats., or which treat wastes in a CWA-equivalent treatment system, or which treat wastes for the purposes of pretreatment requirements under ss. 283.11 and 283.21, Stats., is not impermissible dilution for purposes of this section unless a method other than DEACT has been specified in s. NR 668.40 as the treatment standard, or unless the waste is a D003 reactive cyanide wastewater or nonwastewater.

(3) Combustion of the hazardous waste codes listed in ch. NR 668, Appendix XI is prohibited, unless the waste, at the point of generation, or after any bona fide treatment such as cyanide destruction prior to combustion, complies with one or more of the criteria in pars. (a) to (f), and is not otherwise specifically prohibited from combustion:

(a) The waste contains hazardous organic constituents or cyanide at levels exceeding the constituent-specific treatment standard found in s. NR 668.48.

(b) The waste consists of organic, debris-like materials, for example, wood, paper, plastic, or cloth, contaminated with an inorganic metal-bearing hazardous waste.

(c) The waste, at point of generation, has reasonable heating value, for example, greater than or equal to 5000 BTU per pound.

(d) The waste is co-generated with wastes for which combustion is a required method of treatment.

(e) The waste is subject to federal or Wisconsin requirements necessitating reduction of organics, including biological agents.

(f) The waste contains greater than one% total organic carbon (TOC).

(4) Persons may not add iron filings or other metallic forms of iron to lead-containing hazardous wastes in order to achieve any land disposal restriction treatment standard for lead. Lead-containing wastes include all of the following:

D008 wastes which exhibit a characteristic due to the presence of lead.

All characteristic wastes containing lead as an underlying hazardous constituent.

Listed wastes containing lead as a regulated constituent.

Hazardous media containing any of the lead-containing wastes in this subsection.

NR 668.04 Treatment surface impoundment exemption. (1) Wastes which are otherwise prohibited from land disposal under this chapter, may be treated in a surface impoundment or series of impoundments if all of the following conditions are met:

(a) Treatment of the wastes occurs in the impoundments.

(b) All of the following conditions are met:

1. Sampling and testing. For wastes with treatment standards in subch. D of ch. NR 668 or prohibition levels in subch. C, or both, or treatment standards in 42 USC 6924(d), the residues from treatment are analyzed, as specified in s. NR 668.07 or 668.32, to determine if they meet the applicable treatment standards or where no treatment standards have been established for the waste, the applicable prohibition levels. The sampling method, specified in the waste analysis plan under s. NR 664.0013 or 665.0013, shall be designed such that representative samples of the sludge and the supernatant are tested separately rather than mixed to form homogeneous samples.

2. Removal. All of the following treatment residues, including any liquid waste, shall be removed at least annually: residues which do not meet the treatment standards promulgated under subch. D; residues which do not meet the prohibition levels established under subch. C or imposed by statute, where no treatment standards have been established; residues from the treatment of wastes prohibited from land disposal under subch. C, where no treatment standards have been established and no prohibition levels apply; or residues from managing listed wastes which are not delisted under 40 CFR 260.22. If the volume of liquid flowing through the impoundment or series of impoundments annually is greater than the volume of the impoundment or impoundments, this flow-through constitutes removal of the supernatant for the purpose of this requirement.

3. Subsequent management. Treatment residues may not be placed in any other surface impoundment for subsequent management.

4. Recordkeeping. Sampling and testing and recordkeeping provisions of ss. NR 664.0013 and 665.0013 apply.

(c) The impoundment meets the design requirements of s. NR 664.0221(3) or NR665.0221(1), regardless that the unit may not be new, expanded, or a replacement, and the impoundment is in compliance with applicable groundwater monitoring requirements of ch. NR 664 unless one of the following conditions are met:

1. The surface impoundment is exempted pursuant to s. NR 664.0221(4) or (5), or pursuant to s. NR 665.0221(3) or (4).

2. Upon application by the owner or operator, the department, after notice and an opportunity to comment, grants a waiver of the design requirements on the basis that the surface impoundment meets all of the following conditions:

a. The surface impoundment has at least one liner, and there is no evidence that the liner is leaking.

b. The surface impoundment is located more than one-quarter mile from an underground source of drinking water.

c. The surface impoundment is in compliance with generally applicable groundwater monitoring requirements for facilities with licenses.

3. Upon application by the owner or operator, the department, after notice and an opportunity to comment, grants a modification to the design requirements on the basis of a demonstration that

the surface impoundment is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(d) The owner or operator submits to the department a written certification that the requirements of par. (c) have been met. The following certification is required:

I certify under penalty of law that the requirements of s. NR 668.04(1)(c) have been met for all surface impoundments being used to treat restricted wastes. I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(2) Evaporation of hazardous constituents as the principal means of treatment is not treatment for purposes of an exemption under this section.

NR 668.05 Procedures for case-by-case extensions to an effective date. (1) Any person who generates, treats, stores, or disposes of a hazardous waste may submit an application under 40 CFR 268.5, to the EPA administrator for an extension to the effective date of any applicable restriction established under subch. C of ch. NR 668. The EPA administrator retains the authority to implement all requirements of 40 CFR 268.5.

(2) An extension granted by the EPA administrator will apply only to the waste generated at the individual facility covered by the application and will not apply to restricted waste from any other facility.

(3) Whenever the EPA administrator establishes an extension to an effective date under 40 CFR 268.5, during the period for which the extension is in effect all of the following conditions apply:

(a) The hazardous waste covered by the extension is exempt from storage restrictions under s. NR 668.50(1).

(b) The hazardous waste covered by the extension may be disposed in a landfill or surface impoundment, regardless of whether the unit is existing, new, or a replacement or lateral expansion, if the unit complies with all of the following technical requirements:

1. The landfill, if under an interim license, complies with the requirements of subch. F of ch. NR 665 and s. NR 665.0301(1), (3), and (4).

2. The landfill, if licensed, complies with the requirements of subch. F of ch. 664 and s. NR 664.0301(3), (4) and (5).

3. The surface impoundment, if under an interim license, complies with the requirements of subch. F of ch. NR 665 and s. NR 665.0221(1), (3), and (4), and 42 USC 6925(j)(1).

4. The surface impoundment, if licensed, complies with the requirements of subch. F of ch. NR 664 and s. NR 664.0221(3), (4), and (5).

5. The surface impoundment, if newly subject to 42 USC 6925(j)(1) due to the promulgation of additional listings or characteristics for the identification of hazardous waste, complies with the requirements of subch. F of ch. NR 665 within 12 months after the promulgation of additional listings or characteristics of hazardous waste, and complies with the requirements of s. NR 665.0221(1), (3), and (4) within 48 months after the promulgation of additional listings or characteristics of hazardous waste. If a national capacity variance is granted, during the period the variance is in effect, the surface impoundment, if newly subject to 42 USC 6925(j)(1) due to the promulgation of additional listings or characteristics of hazardous waste, complies with the requirements of subch. F of ch. NR 665 within 12 months after the promulgation of additional listings or characteristics of hazardous waste, and with the requirements of s. NR 665.0221(1), (3) and (4) within 48 months after the promulgation of additional listings or characteristics of hazardous waste.

6. The landfill, if disposing of containerized liquid hazardous wastes containing PCBs at concentrations greater than or equal to 50 ppm but less than 500 ppm, also complies with 40 CFR 761.75.

(4) Pending a decision by the EPA administrator on the application, the applicant is required to comply with all restrictions on land disposal under this chapter once the effective date for the waste has been reached.

NR 668.06 Petitions to allow land disposal of a waste prohibited under subch. C. (1) Any person seeking an exemption from a prohibition under subch. C of ch. NR 668 for the disposal of a restricted hazardous waste in a particular unit or units shall submit a petition under 40 CFR 268.6 to the EPA administrator demonstrating, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous. The EPA administrator retains the authority to implement all requirements of 40 CFR 268.6.

(2) Prior to the EPA administrator's decision, the applicant shall comply with all restrictions on land disposal under this chapter once the effective date for the waste has been reached.

(3) The petition granted by the EPA administrator does not relieve the petitioner of the petitioner's responsibilities in the management of hazardous waste under chs. NR 660 to 671.

NR 668.07 Testing, tracking and recordkeeping requirements for generators, treaters and disposal facilities. (1) Generators shall comply with all of the following requirements:

(a) A generator of hazardous waste shall determine if the hazardous waste meets the treatment standards in s. NR 668.40, 668.45, or 668.49, or if the hazardous waste shall be treated before land disposal. This determination shall be made by testing the waste or using knowledge of the waste. If the generator tests the waste, testing should determine the total concentration of hazardous constituents, or the concentration of hazardous constituents in an extract of the waste obtained using test method 1311 in "Test Methods of Evaluating Solid Waste, Physical/Chemical Methods", EPA SW-846, incorporated by reference in s. NR 660.11, depending on whether the treatment standard for the waste is expressed as a total concentration or a concentration of hazardous constituent in the waste's extract. It is not necessary to test hazardous waste, or soil contaminated by hazardous waste, which is treated under s. NR 668.40 and s. NR 668.42, Table 1, unless the waste or soil is in a waste mixture, in which case the other wastes in the mixture with concentration level treatment standards shall be tested. If a generator is managing a waste or soil contaminated with a waste, that displays a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity, the generator shall comply with the special requirements of s. NR 668.09 in addition to any applicable requirements in this section.

(b) If the waste or contaminated soil does not meet the applicable treatment standard, then, the generator shall send a one-time written notice to each treatment or storage facility receiving the waste with the initial waste shipment, and shall place a copy in the generator's file. The notice shall include the information in column "668.07(1)(b)" of the Generator Paperwork Requirements Table in par. (d). No further notification is necessary until the waste or facility change, in which case a new notification shall be sent and a copy placed in the generator's file. If the contaminated soil does not meet the applicable treatment standards, then the notification shall include the following certification, signed by an authorized representative:

I certify under penalty of law that I personally have examined this contaminated soil and it [does/does not] contain listed hazardous waste and [does/does not] exhibit a characteristic of hazardous waste and requires treatment to meet the soil treatment standards as provided by s. NR 668.49(3) [or 40 CFR 268.49(c)].

(c) If the waste or contaminated soil meets the treatment standard at the original point of generation:, then generators shall meet all of the following conditions:

1. The generator shall send a one-time written notice to each treatment, storage, or disposal facility receiving the waste with the initial waste shipment, and place a copy in the generator's file. The notice shall include the information in column "668.07(1)(c)" of the Generator Paperwork Requirements Table in s. NR 668.07(1)(d) and the following certification statement, signed by an authorized representative:

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in subch. D of ch. NR 668 [or 40 CFR 268]. I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

2. If the generator ships contaminated soil, then with the initial waste shipment, the generator shall send a one-time written notice to each treatment, storage or disposal facility receiving the contaminated soil and place a copy in the generator's file. The notice shall include the information in column "668.07(1)(c)" of the Generator Paperwork Requirements Table in par. (d).

3. If the waste changes, the generator shall send a new notice and certification to the receiving facility, and place a copy in the generator's file. Generators of hazardous debris excluded from the definition of hazardous waste under s. NR 661.03(6) are not subject to these requirements.

(d) If the generator's waste or contaminated soil is not required to meet treatment standards before it is land disposed because the waste or soil qualifies for an exemption, including but not limited to case-by-case extensions under 40 CFR 268.5, disposal in a no-migration unit under 40 CFR 268.6, or a national capacity variance or case-by-case capacity variance under subch. C , then with the initial shipment of waste, the generator shall send a one-time written notice to each land disposal facility receiving the waste. The notice shall include the information indicated in column "s. NR 668.07(1)(d)" of the Generator Paperwork Requirements Table in par. (d). If the waste changes, the generator shall send a new notice to the receiving facility, and place a copy in the generator's file.

Generator Paperwork Requirements Table

Required information	s. NR 668.07(1)(b)	s. NR 668.07(1)(c)	s. NR 668.07(1)(d)	s. NR 668.07(1)(i)

5001

1. EPA hazardous waste numbers and manifest number of first shipment.....	3	3	3	3

5002

2. Statement: this waste is not prohibited from land disposal.....			3
5003			

3. The waste is subject to the LDRs. The constituents of concern for F001-F005, and F039, and underlying hazardous constituents in characteristic wastes, unless the waste will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice	3	3	

5004

4. The notice must include the applicable wastewater/ nonwastewater category (see ss. NR 668.02(4) and (6)) and subdivisions made within a waste code based on waste-specific criteria (such as D003 reactive cyanide)	3	3	

5005

5. Waste analysis data (when available)	3	3	3

5006

6. Date the waste is subject to the prohibition			3

5007

7. For hazardous debris, when treating with the alternative treatment technologies provided by s. NR 668.45: the contaminants subject to treatment, as described in s. NR 668.45(2); and an indication that these contaminants are being treated to comply with s. NR 668.45.....	3		3

8. For contaminated soil subject to LDRs as provided in s. NR 668.49(1), the constituents subject to treatment as described in s. NR 668.49(4), and the following statement: This contaminated soil [does/does not] contain listed hazardous waste and [does/does not] exhibit a characteristic of hazardous waste and [is subject to/complies with the soil treatment standards as provided by s. NR 668.49(3) or the universal treatment standards	3	3	

5009

9. A certification is needed (see applicable section for exact wording)		3		3

5010

(e) If a generator is managing and treating prohibited waste or contaminated soil in tanks, containers or containment buildings regulated under s. NR 662.034 to meet applicable LDR treatment standards found at s. NR 668.40, the generator shall develop and follow a written waste analysis plan which describes the procedures they will carry out to comply with the treatment standards. Generators treating hazardous debris under the alternative treatment standards of s. NR 668.45, Table 1, however, are not subject to the waste analysis requirements in this section. The plan shall be kept on site in the generator's records, and all of the following requirements shall be met:

1. The waste analysis plan shall be based on a detailed chemical and physical analysis of a representative sample of the prohibited waste being treated, and contain all information necessary to treat the waste in accordance with the requirements of this chapter, including the selected testing frequency.

2. The plan shall be kept in the facility's on-site files and made available to inspectors.

3. Wastes shipped off-site pursuant to this subsection shall comply with the notification requirements of par. (c).

(f) If a generator determines that the waste or contaminated soil is restricted based solely on the generator's knowledge of the waste, all supporting data used to make this determination shall be retained on-site in the generator's files. If a generator determines that the waste is restricted based on testing this waste or an extract developed using the test method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA SW-846, incorporated by reference in s. NR 660.11, then all waste analysis data shall be retained on-site in the generator's files.

(g) If a generator determines that the generator is managing a prohibited waste that is excluded from the definition of hazardous or solid waste or is not regulated under ch. 291, Stats., and chs. NR 660 to 673 pursuant to ss. NR 661.02 to 661.06 subsequent to the point of generation, including deactivated characteristic hazardous wastes managed in wastewater treatment systems subject to 33 USC 1342 as specified at s. NR 661.04(1)(b) or that are CWA-equivalent, the generator shall place a one-time notice describing the generation, subsequent exclusion from the definition of hazardous or solid waste or exemption from ch. 291, Stats., and chs. NR 660 to 673 regulation, and the disposition of the waste, in the facility's on-site files.

(h) Generators shall retain on-site a copy of all notices, certifications, waste analysis data and other documentation produced pursuant to this section for at least 3 years from the date that the waste that is the subject of the documentation was last sent to on-site or off-site treatment, storage or disposal. The 3 year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the department. The requirements of this subsection apply to solid wastes even when the hazardous characteristic is removed prior to disposal, or when the waste is excluded from the definition of hazardous or solid waste under ss. NR 661.02 to 661.06, or exempted from ch 291, Stats., and chs. NR 660 to 673, subsequent to the point of generation.

(i) If a generator is managing a lab pack containing hazardous wastes and wishes to use the alternative treatment standard for lab packs found at s. NR 668.42(3), then the generator shall comply with all of the following:

1. With the initial shipment of waste to a treatment facility, the generator shall submit a notice and place a copy in the generator's file. The notice shall provide the information in column "668.07(1)(i)" in the Generator Paperwork Requirements Table of par. (d), and shall include the following certification statement signed by an authorized representative:

I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack contains only wastes that have not been excluded under ch NR 668, Appendix IV and that this lab pack will be sent to a combustion facility in compliance with the

alternative treatment standards for lab packs at s. NR 668.42(3) [or 40 CFR 268.42(c)]. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment.

2. No further notification is necessary until the time that the wastes in the lab pack change, or the receiving facility changes, in which case a new notice and certification shall be sent and a copy placed in the generator's file.

3. If the lab pack contains characteristic hazardous wastes (D001 to D008, and D010 to D043), the generator does not need to determine the underlying hazardous constituents, as defined in s. NR 668.02(9).

4. The generator shall also comply with the requirements in pars. (f) and (g).

(j) Small quantity generators with tolling agreements pursuant to s. NR 662.191(1) shall comply with the applicable notification and certification requirements of this subsection for the initial shipment of the waste subject to the agreement. Generators shall retain on-site a copy of the notification and certification, together with the tolling agreement, for at least 3 years after termination or expiration of the agreement. The three-year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the department.

(2) Treatment facilities shall test their wastes according to the frequency specified in their waste analysis plans as required by s. NR 664.0013 (for licensed TSDs) or s. NR 665.0013 (for interim license facilities). Testing shall be performed as provided in pars. (a) to (c).

(a) For wastes or contaminated soil with treatment standards expressed in the waste extract (TCLP), the owner or operator of the treatment facility shall test an extract of the treatment residues, using test method 1311 (the Toxicity Characteristic Leaching Procedure, described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA SW-846, incorporated by reference in s. NR 660.11) to assure that the treatment residues extract meet the applicable treatment standards.

(b) For wastes or contaminated soil with treatment standards expressed as concentrations in the waste, the owner or operator of the treatment facility shall test the treatment residues, not an extract of the residues, to assure that they meet the applicable treatment standards.

(c) A one-time notice shall be sent with the initial shipment of waste or contaminated soil to the land disposal facility. A copy of the notice shall be placed in the treatment facility's file.

1. No further notification is necessary until the waste or receiving facility change, in which case a new notice shall be sent and a copy placed in the treatment facility's file.

2. The one-time notice shall include all of the following requirements:

Treatment Facility Paperwork Requirements Table

Required information	s. NR 668.07(2)

5013

1. EPA hazardous waste numbers and manifest number of first shipment 3

2. The waste is subject to the LDRs. The constituents of concern for F001-F005, and F039, and underlying hazardous constituents in characteristic wastes, unless the waste will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice 3

5015

3. The notice must include the applicable wastewater/ nonwastewater category (see ss. NR 668.02(4) and (6)) and subdivisions made within a waste code based on waste-specific criteria (such as D003 reactive cyanide) 3

4. Waste analysis data (when available) 3

5017

5. For contaminated soil subject to LDRs as provided in s. NR 668.49(1), the constituents subject to treatment as described in s. NR 668.49(4) and the following statement: ‘‘This contaminated soil [does/does not] exhibit a characteristic of hazardous waste and [is subject to/complies with] the soil treatment standards as provided by s. NR 668.49(3).”.....

6. A certification is needed (see applicable section for exact wording)..... 3

5019

(d) The treatment facility shall submit a one-time certification signed by an authorized representative with the initial shipment of waste or treatment residue of a restricted waste to the land disposal facility. The certification shall state:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in s. NR 668.40 [or 40 CFR 268.40] without impermissible dilution of the prohibited waste. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

A certification is also necessary for contaminated soil and it shall state the following:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in s. NR 668.49 [or 40 CFR 268.49] without impermissible dilution of the prohibited wastes. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

1. A copy of the certification shall be placed in the treatment facility's on-site files. If the waste or treatment residue changes, or the receiving facility changes, a new certification shall be sent to the receiving facility, and a copy placed in the treatment facility's on-site file.

2. Debris excluded from the definition of hazardous waste under s. NR 661.03(5) (i.e., debris treated by an extraction or destruction technology provided by s. NR 668.45, Table 1, and debris that the department has determined does not contain hazardous waste), is subject to the notification and certification requirements of sub. (4) rather than the certification requirements of this subsection.

3. For wastes with organic constituents having treatment standards expressed as concentration levels, if compliance with the treatment standards is based in whole or in part on the analytical detection limit alternative specified in s. NR 668.40(4), then the certification, signed by an authorized representative, shall state the following:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in s. NR 668.42 [or 40 CFR 268.42], Table 1. I have been unable to detect the nonwastewater organic constituents, despite having used best good-faith efforts to analyze for these constituents. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

4. For characteristic wastes that are subject to the treatment standards in s. NR 668.40, other than those expressed as a method of treatment, or s. NR 668.49, and that contain underlying hazardous constituents as defined in s. NR 668.02(9); if these wastes are treated on-site to remove the hazardous characteristic; and are then sent off-site for treatment of underlying hazardous constituents, the certification shall state the following:

I certify under penalty of law that the waste has been treated in accordance with the requirements of s. NR 668.40 or 668.49 [or 40 CFR 268.40 or 268.49] to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require

further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

5. For characteristic wastes that contain underlying hazardous constituents as defined in s. NR 668.02(9) that are treated on-site to remove the hazardous characteristic, and to treat underlying hazardous constituents to meet the universal treatment standards in s. NR 668.48, the certification shall state the following:

I certify under penalty of law that the waste has been treated in accordance with the requirements of s. NR 668.40 [40 CFR 268.40] to remove the hazardous characteristic and that underlying hazardous constituents, as defined in s. NR 668.02(9) have been treated on-site to meet the universal treatment standards under s. NR 668.48 [or 40 CFR 268.48]. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(e) If the waste or treatment residue will be further managed at a different treatment, storage or disposal facility, the treatment, storage or disposal facility sending the waste or treatment residue off-site shall comply with the notice and certification requirements applicable to generators under this section.

(f) Where the wastes are recyclable materials used in a manner constituting disposal subject to s. NR 666.20(2) regarding treatment standards and prohibition levels, the owner or operator of a treatment facility (i.e., the recycler) is not required to notify the receiving facility, pursuant to par. (c). With each shipment of wastes the owner or operator of the recycling facility shall submit the certification in par. (d), and a notice which includes the information in par. (c), except the manifest number, to the department. The recycling facility shall also keep records of the name and location of each entity receiving the hazardous waste-derived product.

(3) Except where the owner or operator is disposing of any waste that is a recyclable material used in a manner constituting disposal pursuant to s. NR 666.020(2), the owner or operator of any land disposal facility disposing any waste subject to restrictions under this chapter shall comply with all of the following:

(a) Have copies of the notice and certifications specified in subs. (1) and (2).

(b) Test the waste, or an extract of the waste or treatment residue developed using test method 1311 (the Toxicity Characteristic Leaching Procedure), described in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11), to assure that the wastes or treatment residues are in compliance with the applicable treatment standards set forth in subch. D. This testing shall be performed according to the frequency specified in the facility’s waste analysis plan as required by s. NR 664.0013 or 665.0013.

(4) Generators or treaters who claim that hazardous debris is excluded from the definition of hazardous waste under s. NR 661.03(5) (i.e., debris treated by an extraction or destruction technology provided by s. NR 668.45, Table 1, and debris that the department has determined does not contain hazardous waste) are subject to all of the following notification and certification requirements:

(a) A one-time notification, including the following information, shall be submitted to the department:

The name and address of the approved facility for solid waste disposal which is receiving the treated debris.

A description of the hazardous debris as initially generated, including the applicable EPA hazardous waste number or numbers.

For debris excluded under s. NR 661.03(5)(a), the technology from s. NR 668.45, Table 1, used to treat the debris.

(b) The notification shall be updated if the debris is shipped to a different facility, and, for debris excluded under s. NR 661.02(5)(a), if a different type of debris is treated or if a different technology is used to treat the debris.

(c) For debris excluded under s. NR 661.03 (5)(a), the owner or operator of the treatment facility shall document and certify compliance with the treatment standards of s. NR 668.45, Table 1, by meeting all of the following criteria:

1. The owner or operator of the treatment facility shall keep records of all inspections, evaluations and analyses of treated debris that are made to determine compliance with the treatment standards.

2.The owner or operator of the treatment facility shall keep records of any data or information the treatment facility obtains during treatment of the debris that identifies key operating parameters of the treatment unit.

3. For each shipment of treated debris, a certification of compliance with the treatment standards shall be signed by an authorized representative and placed in the facility's files. The certification shall state the following: "I certify under penalty of law that the debris has been treated in accordance with the requirements of s. NR 668.45. I am aware that there are significant penalties for making a false certification, including the possibility of fine and imprisonment."

(5) If the department determines that a contaminated soil subject to LDRs as provided in s. NR 668.49(1) no longer contains a listed hazardous waste, or if a generator or treater determines that a contaminated soil subject to LDRs as provided in s. NR 668.49(1) no longer exhibits a characteristic of hazardous waste, then the generator or treater shall meet all of the following conditions:

(a) Prepare a one-time only documentation of these determinations including all supporting information.

(b) Maintain that information in the facility files and other records for a minimum of 3 years.

(2) Where a prohibited waste is both listed under subch. D of ch. NR 661 and exhibits a characteristic under subch. C of ch. NR 661, the treatment standard for the waste code listed in subch. D of ch. NR 661 will operate in lieu of the standard for the waste code under subch. C of ch. NR 661, if the treatment standard for the listed waste includes a treatment standard for the constituent that causes the waste to exhibit the characteristic. Otherwise, the waste shall meet the treatment standards for all applicable listed and characteristic waste codes.

(3) In addition to any applicable standards determined from the initial point of generation, no prohibited waste that exhibits a characteristic under subch. C of ch. NR 661 may be land disposed unless the waste complies with the treatment standards under subch. D.

(4) Wastes that exhibit a characteristic are also subject to s. NR 668.07, except that once the waste is no longer hazardous, a one-time notification and certification shall be placed in the generator's or treater's files and sent to the department. The notification and certification that is placed in the generator's or treater's files shall be updated if the process or operation generating the waste changes or if the approved facility for solid waste disposal receiving the waste changes. However, the generator or treater need only notify the department on an annual basis if such changes occur. The notification and certification shall be sent to the department annually and shall be received by the department no later that December 31.

(a) The notification shall include all of the following information:

1. Name and address of the approved facility for solid waste disposal which is receiving the waste shipment.

2. A description of the waste as initially generated, including the applicable EPA hazardous waste code or codes, treatability group or groups, and underlying hazardous constituents, as defined in s. NR 668.02(9), unless the waste will be treated and monitored for all underlying

hazardous constituents. If all underlying hazardous constituents will be treated and monitored, there is no requirement to list any of the underlying hazardous constituents on the notice.

(b) The certification shall be signed by an authorized representative and shall include the language in s. NR 668.07(2)(d). If treatment removes the characteristic but does not meet standards applicable to underlying hazardous constituents, then the certification in s. NR 668.07(2)(d)4. applies.

Subchapter B —Schedule for Land Disposal Prohibition and Establishment of Treatment Standards

NR 668.14 Surface impoundment exemptions. (1) This section defines additional circumstances under which an otherwise prohibited waste may continue to be placed in a surface impoundment.

(2) Wastes which are newly identified or listed under 42 USC 6921 after November 8, 1984, and stored in a surface impoundment that is newly subject to ch. 291, Stats. and chs. NR 660 to 673 as a result of the additional identification or listing, may continue to be stored in the surface impoundment for 48 months after the promulgation of the additional listing or characteristic, not withstanding that the waste is otherwise prohibited from land disposal, if the surface impoundment is in compliance with the requirements of subch. F of ch. NR 665 within 12 months after promulgation of the new listing or characteristic.

(3) Wastes which are newly identified or listed under 42 USC 6921 after November 8, 1984, and treated in a surface impoundment that is newly subject to ch. 291, Stats. and chs. NR 660 to 673 as a result of the additional identification or listing, may continue to be treated in that surface impoundment, not withstanding that the waste is otherwise prohibited from land disposal, if the surface impoundment is in compliance with subch. F of ch. NR 665 within 12 months after the promulgation of the new listing or characteristic. In addition, if the surface impoundment continues to treat hazardous waste after 48 months from promulgation of the additional listing or characteristic, it must then be in compliance with s. NR 668.04.

Subchapter C —Prohibitions on Land Disposal

NR 668.30 Waste specific prohibitions —wood preserving wastes. (1) Effective August 11, 1997, the wastes specified in ch. NR 661 as EPA Hazardous Waste numbers F032, F034, and F035 are prohibited from land disposal.

(2) Effective May 12, 1999, soil and debris contaminated with F032, F034, F035; and radioactive wastes mixed with EPA Hazardous waste numbers F032, F034, and F035 are prohibited from land disposal.

(3) Between May 12, 1997 and May 12, 1999, soil and debris contaminated with F032, F034, F035; and radioactive waste mixed with F032, F034, and F035 may be disposed in a landfill or surface impoundment only if the unit is in compliance with the requirements specified in 40 CFR 268.5(h)(2).

(4) The requirements of sub. (1) and (2) do not apply if any of the following conditions are met:

(a) The wastes meet the applicable treatment standards specified in subch. D.

(b) Persons have been granted an exemption from a prohibition pursuant to a petition under 40 CFR 268.6, with respect to those wastes and units covered by the petition.

(c) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under s. NR 668.44.

(d) Persons have been granted an extension to the effective date of a prohibition pursuant to 40 CFR 268.5, with respect to those wastes covered by the extension.

(5) To determine whether a hazardous waste identified in this chapter exceeds the applicable treatment standards specified in s. NR 668.40, the initial generator shall test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable universal treatment standard levels of s. NR 668.48, the waste is prohibited from land disposal, and all requirements of ch. NR 668 are applicable, except as otherwise specified.

NR 668.31 Waste specific prohibitions —dioxin-containing wastes. (1) Effective November 8, 1988, the dioxin-containing wastes specified in s. NR 661.31 as EPA hazardous waste numbers F020, F02l, F022, F023, F026, F027, and F028, are prohibited from land disposal, unless the F020 to F023 and F026 to F028 dioxin-containing waste is contaminated soil and debris resulting from a response action taken under 42 USC 9604 or 9606 or a corrective action taken under ch. 292, Stats.

(2) Effective November 8, 1990, the F020-F023 and F026-F028 dioxin-containing wastes listed in sub. (1) are prohibited from land disposal.

(3) Between November 8, 1988, and November 8, 1990, wastes included in sub. (1) may be disposed in a landfill or surface impoundment only if the unit complies with 40 CFR 268.5(h)(2) and all other applicable requirements of chs. NR 664 and 665.

(4) The requirements of subs. (1) and (2) do not apply if any of the following conditions are met:

(a) The wastes meet the standards of subch. D.

(b) Persons have been granted an exemption from a prohibition pursuant to a petition under 40 CFR 268.6, with respect to those wastes and units covered by the petition.

(c) Persons have been granted an extension to the effective date of a prohibition pursuant to 40 CFR 268.5, with respect to those wastes covered by the extension.

NR 668.32 Waste specific prohibitions —soils exhibiting the toxicity characteristic for metals and containing PCBs. (1) Effective December 26, 2000, any volumes of soil exhibiting the toxicity characteristic solely because of the presence of metals (D004 to D011) and containing PCBs, are prohibited from land disposal.

(2) The requirements of sub. (1) do not apply if any of the following conditions are met:

(a) The wastes contain halogenated organic compounds in total concentration less than 1,000 mg/kg and meet the treatment standards specified in subch. D for EPA hazardous waste numbers D004 to D011, as applicable.

(b) The wastes contain halogenated organic compounds in total concentration less than 1,000 mg/kg and meet the alternative treatment standards specified in s. NR 668.49 for contaminated soil.

(c) Persons have been granted an exemption from a prohibition pursuant to a petition under 40 CFR 268.6, with respect to those wastes and units covered by the petition.

(d) The wastes meet applicable alternative treatment standards established pursuant to a petition granted under s. NR 668.44

NR 668.33 Waste specific prohibitions —chlorinated aliphatic wastes. (1) Effective May 8, 2001, the wastes specified in ch. NR 661 as EPA hazardous wastes numbers K174 and K175, soil and debris contaminated with these wastes, radioactive wastes mixed with these wastes, and soil and debris contaminated with radioactive wastes mixed with these wastes are prohibited from land disposal.

(2) The requirements of sub. (1) do not apply if any of the following conditions are met:

(a) The wastes meet the applicable treatment standards specified in subch. D.

(b) Persons have been granted an exemption from a prohibition pursuant to a petition under 40 CFR 268.6, with respect to those wastes and units covered by the petition.

(c) The wastes meet the applicable treatment standards established pursuant to a petition granted under s. NR 668.44.

(d) Hazardous debris has met the treatment standards in s. NR 668.40 or the alternative treatment standards in s. NR 668.45.

(e) Persons have been granted an extension to the effective date of a prohibition pursuant to 40 CFR 268.5, with respect to these wastes covered by the extension.

(3) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in s. NR 668.40, the initial generator shall test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains regulated constituents in excess of the applicable levels of subch. D, the waste is prohibited from land disposal, and all requirements of ch. NR 668 are applicable, except as otherwise specified.

(4) Disposal of K175 wastes which comply with all applicable s. NR 668.40 treatment standards shall also be macroencapsulated in accordance with s. NR 668.45, Table 1 unless one of the following conditions is met:

(a) The waste is placed in a hazardous waste monofill which meets the requirments of ch. 291, Stats. and chs. NR 660 to 673. The monofill shall contain only K175 wastes that meet all applicable s. NR 668.40 treatment standards.

(b) The waste is placed in a dedicated hazardous waste landfill cell which meets the requirements of ch. 291, Stats. and chs. NR 660 to 673 and in which all other wastes being co-disposed are at pH=6.0.

NR 668.34 Waste specific prohibitions —toxicity characteristic metal wastes. (1) Effective August 24, 1998, the newly identified wastes specified in ch. NR 661 as EPA hazardous waste numbers D004 to D011 (i.e. wastes, soil, or debris identified as hazardous by the toxic characteristic leaching procedure but not the extraction procedure), and waste, soil, or debris from mineral processing operations that is identified as hazardous by the specifications at ch. NR 661are prohibited from land disposal.

(2) Effective November 26, 1998, slag from secondary lead smelting which exhibits the toxicity characteristic due to the presence of one or more metals is prohibited from land disposal.

(3) Effective May 26, 2000, newly identified characteristic wastes from elemental phosphorus processing; radioactive wastes mixed with newly identified wastes specified in EPA hazardous waste numbers D004 to D011 (i.e., wastes, soil, or debris identified as hazardous by the toxic characteristic leaching procedure but not the extraction procedure); or mixed with newly identified characteristic mineral processing wastes, soil, or debris are prohibited from land disposal.

(4) Between May 26, 1998 and May 26, 2000, newly identified characteristic wastes from elemental phosphorus processing, radioactive waste mixed with D004 to D011 wastes that are newly identified (i.e., wastes, soil, or debris identified as hazardous by the toxic characteristic leaching procedure but not the extraction procedure), or mixed with newly identified characteristic mineral processing wastes, soil, or debris may be disposed in a landfill or surface impoundment only if the unit is in compliance with 40 CFR 268.5(h).

(5) The requirements of subs. (1) and (2) do not apply if:

(a) The wastes meet the applicable treatment standards specified in subch. D.

(b) EPA has granted an exemption from a prohibition pursuant to a petition under 40 CFR 268.6, with respect to those wastes and units covered by the petition.

(c) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under 40 CFR 268.44.

(d) EPA has granted an extension to the effective date of a prohibition pursuant to 40 CFR 268.5, with respect to these wastes covered by the extension.

(6) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in s. NR 668.40, the initial generator shall test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentration in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents (including underlying hazardous constituents in characteristic wastes) in excess of the applicable universal treatment standard levels of s. NR 668.48, then the waste is prohibited from land disposal, and all requirements of this chapter are applicable, except as otherwise specified.

NR 668.35 Waste specific prohibitions —petroleum refining wastes. (1) Effective February 8, 1999, wastes specified in ch. NR 661 as EPA hazardous waste numbers K169, K170, K171, and K172, soils and debris contaminated with these wastes, radioactive wastes mixed with these wastes, and soils and debris contaminated with these radioactive mixed wastes are prohibited from land disposal.

(2) The requirements of sub. (1) do not apply if any of the following conditions are met:

(a) The wastes meet the applicable treatment standards specified in subch. D.

(b) EPA has granted an exemption from a prohibition pursuant to a petition under 40 CFR 268.6, with respect to those wastes and units covered by the petition.

(c) The wastes meet the applicable treatment standards established pursuant to a petition granted under s. NR 668.44.

(d) Hazardous debris have met treatment standards in s. NR 668.40 or the alternative treatment standards in s. NR 668.45.

(e) EPA has granted an extension to the effective date of a prohibition pursuant to 40 CFR 268.5, with respect to these wastes covered by the extension.

(3) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in s. NR 668.40, the initial generator shall test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable universal treatment standard levels of s. NR 668.48, then the waste is prohibited from land disposal, and all requirements of this chapter are applicable, except as otherwise specified.

NR 668.36 Waste specific prohibitions —inorganic chemical wastes (1) Effective May 20, 2002, the wastes specified in ch. NR 661 as EPA hazardous waste numbers K176, K177, and K178, and soil and debris contaminated with these wastes, radioactive wastes mixed with these wastes, and soil and debris contaminated with radioactive wastes mixed with these wastes are prohibited from land disposal.

(2) The requirements of sub. (1) do not apply if any of the following conditions are met:

(a) The wastes meet the applicable treatment standards specified in subch. D.

(b) EPA has granted an exemption from a prohibition pursuant to a petition under 40 CFR 268.6, with respect to those wastes and units covered by the petition.

(c) The wastes meet the applicable treatment standards established pursuant to a petition granted under s. NR 668.44.

(d) Hazardous debris has met the treatment standards in s. NR 668.40 or the alternative treatment standards in s. NR 668.45.

(e) EPA has granted an extension to the effective date of a prohibition pursuant to 40 CFR 268.5, with respect to these wastes covered by the extension.

(3) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in s. NR 668.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains regulated constituents in excess of the applicable subch. D levels, the waste is prohibited from land disposal, and all requirements of this chapter are applicable, except as otherwise specified.

NR 668.37 Waste specific prohibitions —ignitable and corrosive characteristic wastes whose treatment standards were vacated. Effective August 9, 1993, wastes specified in s. NR 661.21 as D001, which are not in the high TOC ignitable liquids subcategory, and specified in s. NR 661.22 as D002, which are managed in systems other than those whose discharge is regulated under ch. 283, Stats., or in systems that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal, are prohibited from land disposal. CWA-equivalent treatment means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitition for cyanide, precipitation/sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies.

NR 668.38 Waste specific prohibitions —newly identified organic toxicity characteristic wastes and newly listed coke by-product and chlorotoluene production wastes. (1) Effective December 19, 1994, the wastes specified in s. NR 661.32 as EPA hazardous waste numbers K141, K142, K143, K144, K145, K147, K148, K149, K150, and K151 are prohibited from land disposal. In addition, debris contaminated with EPA hazardous waste numbers F037, F038, K107 to K112, K117, K118, K123 to K126, K131, K132, K136, U328, U353, U359, and soil and debris contaminated with D012 to D043, K141 to K145, and K147 to K151 are prohibited from land disposal. Wastes that are specified in s. NR 661.24, Table 1 as EPA hazardous waste numbers: D012, D013, D014, D015, D016, D017, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D031, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043 that are not radioactive, or that are managed in systems other than those whose discharge is regulated under ch. 283, Stats., or that are zero dischargers that do not engage in CWA-equivalent treatment before ultimate land disposal are prohibited from land disposal.

(2) On September 19, 1996, radioactive wastes that are mixed with D018 to D043 that are managed in systems other than those whose discharge is regulated under ch. 283 Stats., or that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal, are prohibited from land disposal. CWA-equivalent treatment means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitation for cyanide, precipitation/sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies. Radioactive wastes mixed with K141 to K145, and K147 to K151 are also prohibited from land disposal. In addition, soil and debris contaminated with these radioactive mixed wastes are prohibited from land disposal.

(3) Between December 19, 1994 and September 19, 1996, the wastes included in sub. (2) may be disposed in a landfill or surface impoundment, only if the unit is in compliance with 40 CFR 268.5(h)(2).

(4) The requirements of subs. (1) to (3) do not apply if any of the following conditions are met:

(a) The wastes meet the applicable treatment standards specified in subch. D.

(b) EPA has granted an exemption from a prohibition pursuant to a petition under 40 CFR 268.6, with respect to those wastes and units covered by the petition.

(c) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under s. NR 668.44.

(d) EPA has granted an extension to the effective date of a prohibition pursuant to 40 CFR 268.5, with respect to these wastes covered by the extension.

(5) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in s. NR 668.40, the initial generator shall test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable subch. D levels, the waste is prohibited from land disposal, and all requirements of this chapter are applicable, except as otherwise specified.

NR 668.39 Waste specific prohibitions —spent aluminum potliners, reactive and carbamate wastes. (1) On July 8, 1996, the wastes specified in s. NR 661.32 as EPA Hazardous waste numbers K156 to K159, and K161; and in s. NR 661.33 as EPA hazardous waste numbers P127, P128, P185, P188 to P192, P194, P196 to P199, P201 to P205, U271, U278 to U280, U364, U367, U372, U373, U387, U389, U394, U395, U404, and U409 to U411 are prohibited from land disposal. In addition, soil and debris contaminated with these wastes are prohibited from land disposal.

(2) On July 8, 1996, the wastes identified in s. NR 661.23 as D003 that are managed in systems other than those whose discharge is regulated under ch. 283 Stats., or that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal, are prohibited from land disposal. This prohibition does not apply to unexploded ordnance and other explosive devices which have been the subject of an emergency response. (D003 wastes are prohibited unless they meet the treatment standard of DEACT before land disposal as described in s. NR 668.40).

(3) On September 21, 1998, the wastes specified in s. NR 661.32 as EPA hazardous waste number K088 are prohibited from land disposal. In addition, soil and debris contaminated with these wastes are prohibited from land disposal.

(4) On April 8, 1998, radioactive wastes mixed with K088, K156 to K159, K161, P127, P128, P185, P188 to P192, P194, P196 to P199, P201 to P205, U271, U278 to U280, U364, U367, U372, U373, U387, U389, U394, U395, U404, and U409 to U411 are prohibited from land disposal. In addition, soil and debris contaminated with these radioactive mixed wastes are prohibited from land disposal.

(5) Between July 8, 1996, and April 8, 1998, the wastes included in subs. (1), (3) and (4) may be disposed in a landfill or surface impoundment, only if the unit is in compliance with 40 CFR 268.5(h)(2).

(6) The requirements of subs. (1) to (4) do not apply if any of the following conditions are met:

(a) The wastes meet the applicable treatment standards specified in subch. D.

(b) EPA has granted an exemption from a prohibition pursuant to a petition under 40 CFR 268.6, with respect to those wastes and units covered by the petition.

(c) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under s. NR 668.44.

(d) EPA has granted an extension to the effective date of a prohibition pursuant to 40 CFR 268.5, with respect to these wastes covered by the extension.

(7) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in s. NR 668.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable subch. D levels, the waste is

prohibited from land disposal, and all requirements of this chapter are applicable, except as otherwise specified.

Subchapter D —Treatment Standards

NR 668.40 Applicability of treatment standards. (1) A prohibited waste identified in the table ”Treatment Standards for Hazardous Wastes” in this section may be land disposed only if it meets the requirements found in the table. For each waste, the table identifies one of the following three types of treatment standard requirements:

(a) All hazardous constituents in the waste or in the treatment residue shall be at or below the values found for that waste in the table under the heading “total waste standards”.

(b) The hazardous constituents in the extract of the waste or in the extract of the treatment residue shall be at or below the values found in the table under the heading, ”waste extract standards”.

(c) The waste shall be treated using the technology specified in the table under the heading ”technology standard”, and described in detail in s. NR 668.42, Table 1—Technology Codes and Description of Technology-Based Standards.

(2) For wastewaters, compliance with concentration level standards is based on maximums for any one day, except for D004 through D011 wastes for which the previously promulgated treatment standards based on grab samples remain in effect. For all nonwastewaters, compliance with concentration level standards is based on grab sampling. For wastes covered by the waste extract standards, the test method 1311, the toxicity characteristic leaching procedure found in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11 shall be used to measure compliance. An exception is made for D004 and D008, for which either of two test methods may be used: Method 1311 or Method 1310, the extraction procedure toxicity test. For wastes covered by a technology standard, the wastes may be land disposed after being treated using that specified technology or an equivalent treatment technology approved by the EPA Administrator under the procedures set forth in 40 CFR 268.42(b).

(3) When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue shall meet the lowest treatment standard for the constituent of concern.

(4) Notwithstanding the prohibitions specified in sub. (1), treatment and disposal facilities may demonstrate and certify pursuant to s. NR 668.07(2)(e) compliance with the treatment standards for organic constituents specified by a footnote in the table ”Treatment Standards for Hazardous Wastes” in this section, provided all of the following conditions are satisfied:

(a) The treatment standards for the organic constituents were established based on incineration in units operated in accordance with the technical requirements of subch. O of ch. NR 664, or based on combustion in fuel substitution units operating in accordance with applicable technical requirements.

(b) The treatment or disposal facility has used the methods referenced in par. (a) to treat the organic constituents.

(c) The treatment or disposal facility may demonstrate compliance with organic constituents if good-faith analytical efforts achieve detection limits for the regulated organic constituents that do not exceed the treatment standards specified in this section by an order of magnitude.

(5) For characteristic wastes (D001 to D043) that are subject to treatment standards in the table ”Treatment Standards for Hazardous Wastes,” and are not managed in a wastewater treatment system that is regulated under ch. 283, Stats., or that is CWA-equivalent, all underlying hazardous constituents as defined in s. NR 668.02(9) must meet universal treatment standards, found in s. NR 668.48, Table Universal Treatment Standards, prior to land disposal as defined in s. NR 668.02(3).

(6) The treatment standards for F001 to F005 nonwastewater constituents carbon disulfide, cyclohexanone, and methanol apply to wastes which contain only one, 2, or 3 of these constituents. Compliance is measured for these constituents in the waste extract from test Method 1311, the Toxicity Characteristic Leaching Procedure found in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11. If the waste contains any of these three constituents along with any of the other 25 constituents found in F001 to F005, then compliance with treatment standards for carbon disulfide, cyclohexanone, and methanol are not required.

(7) Between August 26, 1996 and March 4, 1999 the treatment standards for the wastes specified in s. NR 661.32 as EPA hazardous waste numbers K156 to K161 and in s. NR 661.33 as EPA hazardous waste numbers P127, P128, P185, P188 to P192, P194, P196 to P199, P201 to P205, U271, U277 to U280, U364 to U367, U372, U373, U375 to U379, U381 to U387, U389 to U396, U400 to U404, U407, and U409 to U411; and soil contaminated with these wastes; shall be satisfied by either meeting the constituent concentrations presented in the table ”Treatment Standards for Hazardous Wastes” in this section, or by treating the waste by the following technologies: combustion, as defined by the technology code CMBST at s. NR 668.42, Table 1, for nonwastewaters; and, biodegradation as defined by the technology code BIODG, carbon adsorption as defined by the technology code CARBN; chemical oxidation as defined by the technology code CHOXD; or combustion as defined as technology code CMBST at s. NR 668.42, Table 1, for wastewaters.

(8) If prohibited D004 to D011 mixed radioactive wastes and mixed radioactive listed wastes containing metal constituents, have been previously treated by stabilization to the treatment standards in effect at that time and put into storage afterwards, then it is not necessary to re-treat the waste to meet treatment standards in this section prior to land disposal.

(10) Effective September 4, 1998, the treatment standards for the wastes specified in s. NR 661.33 as EPA hazardous waste numbers P185, P191, P192, P197, U364, U394, and U395 shall be satisfied by either meeting the constituent concentrations presented in the table ”Treatment Standards for Hazardous Wastes” in this section, or by treating the waste by the following technologies: combustion, as defined by the technology code CMBST at s. NR 668.42, Table 1, for nonwastewaters; biodegradation as defined by the technology code BIODG; carbon adsorption as defined by the technology code CARBN; chemical oxidation as defined by the technology code CHOXD; or combustion as defined as technology code CMBST at s. NR 668.42, Table 1, for wastewaters.

Section NR 668.40 – Treatment Standards for Hazardous Wastes

NA means not applicable.

Waste code	Waste description and treatment/Regulatory subcategory[1]	Regulated hazardous constituent	Wastewaters

		Common name	CAS[2] number	Concentration in mg/l[3]; or Technology Code[4]

3

D001 [9]	Ignitable Characteristic Wastes, except for the s. NR 661.21(1)(a) High TOC Subcategory.	NA	NA	DEACT and meet s. NR 668.48 standards[8]; or RORGS; or CMBST

High TOC Ignitable Characteristic Liquids Subcategory based on s. NR 661.21(1)(a) - Greater than or equal to 10% total organic carbon. (Note: This subcategory consists of nonwastewaters only.)	NA	NA	NA	I

D002 [9]	Corrosive Characteristic Wastes.	NA	NA	DEACT and meet s. NR 668.48 standards[8]	N

D002, D004, D005, D006, D007, D008, D009, D010, D011	Radioactive high level wastes generated during the reprocessing of fuel rods. (Note: This subcategory consists of nonwastewaters only.)	Corrosivity (pH)	NA	NA

		Arsenic	7440-38-2	NA	

		Barium	7440-39-3	NA	

		Cadmium	7440-43-9	NA	

0

		Chromium (Total)	7440-47-3	NA	

		Lead	7439-92-1	NA	

		Mercury	7439-97-6	NA	
3					

		Selenium	7782-49-2	NA	

		Silver	7440-22-4	NA	

D003 [9]	Reactive Sulfides Subcategory based on s. NR 661.23(1)(e).	NA	NA	DEACT	

Explosives Subcategory based on s. NR 661.23(1)(f), (g) and (h).	NA	NA	DEACT and meet s. NR 668.48 standards[8]	N

Unexploded ordnance and other explosive devices which have been the subject of an emergency response.	NA	NA	DEACT

Other Reactives Subcategory based on s. NR 661.23(1)(a).	NA	NA	DEACT and meet s. NR 668.48 standards[8]	N

Water Reactive Subcategory based on s. NR 661.23(1)(b), (c) and (d). (Note: This subcategory consists of nonwastewaters only.)	NA	NA	NA	N

0

Reactive Cyanides Subcategory based on s. NR 661.23(1)(e).	Cyanides (Total)[7]	57-12-5	Reserved

		Cyanides (Amenable)[7]	57-12-5	0.86	

2

D004 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for arsenic based on the toxicity characteristic leaching procedure (TCLP) in SW846[13].	Arsenic	7440-38-2	1.4 and meet s. NR 668.48 standards[8]

D005 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for barium based on the toxicity characteristic leaching procedure (TCLP) in SW846[13].	Barium	7440-39-3	1.2 and meet s. NR 668.48 standards[8]

D006 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for cadmium based on the toxicity characteristic leaching procedure (TCLP) in SW846[13].	Cadmium	7440-43-9	0.69 and meet s. NR 668.48 standards[8]

	Cadmium Containing Batteries Subcategory. (Note: This subcategory consists of nonwastewaters only.)	Cadmium	7440-43-9	NA

	Radioactively contaminated cadmium containing batteries. (Note: This subcategory consists of nonwastewaters only)	Cadmium	7440-43-9	NA	i

D007 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for chromium based on the toxicity characteristic leaching procedure (TCLP) in SW846[13].	Chromium (Total)	7440-47-3	2.77 and meet s. NR 668.48 standards[8]	

D008 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for lead based on the toxicity characteristic leaching procedure (TCLP) in SW846[13].	Lead	7439-92-1	0.69 and meet s. NR 668.48 standards[8]

Lead Acid Batteries Subcategory (Note: This standard only applies to lead acid batteries that are identified as hazardous wastes and that are not excluded elsewhere from regulation under the land disposal restrictions of this chapter or exempted under other department regulations (see s. NR 666.80). This subcategory consists of nonwastewaters only.)	Lead	7439-92-1	NA

0

	Radioactive Lead Solids Subcategory (Note: these lead solids include, but are not limited to, all forms of lead shielding and other elemental forms of lead. These lead solids do not include treatment residuals such as hydroxide sludges, other wastewater treatment residuals, or incinerator ashes that can undergo conventional pozzolanic stabilization, nor do they include organo-lead materials that can be incinerated and stabilized as ash. This subcategory consists of nonwastewaters only.)	Lead	7439-92-1	NA

1

D009 [9]	Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846[13]; and contain greater than or equal to 260 mg/kg total mercury that also contain organics and are not incinerator residues. (High Mercury-Organic Subcategory)	Mercury	7439-97-6	NA	I

	Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846[13]; and contain greater than or equal to 260 mg/kg total mercury that are inorganic, including incinerator residues and residues from RMERC. (High Mercury-Inorganic Subcategory)	Mercury	7439-97-6	NA

Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846[13]; and contain less than 260 mg/kg total mercury and that are residues from RMERC only. (Low Mercury Subcategory)	Mercury	7439-97-6	NA	

All other nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846[13]; and contain less than 260 mg/kg total mercury and that are not residues from RMERC. (Low Mercury Subcategory)	Mercury	7439-97-6	NA	0

	All D009 wastewaters.	Mercury	7439-97-6	0.15 and meet s. NR 668.48 standards[8]

Elemental mercury contaminated with radioactive materials. (Note: This subcategory consists of nonwastewaters only.)	Mercury	7439-97-6	NA

	Hydraulic oil contaminated with Mercury Radioactive Materials Subcategory. (Note: This subcategory consists of nonwastewaters only.)	Mercury	7439-97-6	NA

	Radioactively contaminated mercury containing batteries. (Note: This subcategory consists of nonwastewaters only)	Mercury	7439-97-6	NA	i

D010 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for selenium based on the toxicity characteristic leaching procedure (TCLP) in SW846[13].	Selenium	7782-49-2	0.82 and meet s. NR 668.48 standards[8]

0

D011 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for silver based on the toxicity characteristic leaching procedure (TCLP) in SW846[13].	Silver	7440-22-4	0.43 and meet s. NR 668.48 standards[8]	

Radioactively contaminated silver containing batteries. (Note: This subcategory consists of nonwastewaters only)	Silver	7440-22-4	NA	i

2

D012 [9]	Wastes that are TC for Endrin based on the TCLP in SW846 Method 1311[13].	Endrin	72-20-8	BIODG; or CMBST

		Endrin aldehyde	7421-93-4	BIODG; or CMBST	

D013 [9]	Wastes that are TC for Lindane based on the TCLP in SW846 Method 1311[13].	alpha-BHC	319-84-6	CARBN; or CMBST	0

		beta-BHC	319-85-7	CARBN; or CMBST	0
6					

		delta-BHC	319-86-8	CARBN; or CMBST	0

7

		gamma-BHC (Lindane)	58-89-9	CARBN; or CMBST	0

D014 [9]	Wastes that are TC for Methoxychlor based on the TCLP in SW846 Method 1311[13].	Methoxychlor	72-43-5	WETOX or CMBST

D015 [9]	Wastes that are TC for Toxaphene based on the TCLP in SW846 Method 1311[13].	Toxaphene	8001-35-2	BIODG or CMBST	

0

D016 [9]	Wastes that are TC for 2,4-D (2,4-Dichlorophenoxyacetic acid) based on the TCLP in SW846[13] Method 1311.	2,4-D (2,4-Dichlorophenoxyacetic acid)	94-75-7	CHOXD, BIODG, or CMBST

D017 [9]	Wastes that are TC for 2,4,5-TP (Silvex) based on the TCLP in SW846 Method 1311[13].	2,4,5-TP (Silvex)	93-72-1	CHOXD or CMBST

D018 [9]	Wastes that are TC for Benzene based on the TCLP in SW846 Method 1311[13].	Benzene	71-43-2	0.14 and meet s. NR 668.48 standards[8]

D019 [9]	Wastes that are TC for Carbon tetrachloride based on the TCLP in SW846 Method 1311[13].	Carbon tetrachloride	56-23-5	0.057 and meet s. NR 668.48 standards[8]

D020 [9]	Wastes that are TC for Chlordane based on the TCLP in SW846 Method 1311[13].	Chlordane (alpha and gamma isomers)	57-74-9	0.0033 and meet s. NR 668.48 standards[8]

D021 [9]	Wastes that are TC for Chlorobenzene based on the TCLP in SW846 Method 1311[13].	Chlorobenzene	108-90-7	0.057 and meet s. NR 668.48 standards[8]

D022 [9]	Wastes that are TC for Chloroform based on the TCLP in SW846 Method 1311[13].	Chloroform	67-66-3	0.046 and meet s. NR 668.48 standards[8]

D023 [9]	Wastes that are TC for o-Cresol based on the TCLP in SW846 Method 1311[13].	o-Cresol	95-48-7	0.11 and meet s. NR 668.48 standards[8]

D024 [9]	Wastes that are TC for m-Cresol based on the TCLP in SW846 Method 1311[13].	m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77 and meet s. NR 668.48 standards[8]

D025 [9]	Wastes that are TC for p-Cresol based on the TCLP in SW846 Method 1311[13].	p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77 and meets. NR 668.48 standards[8]

0

D026 [9]	Wastes that are TC for Cresols (Total) based on the TCLP in SW846 Method 1311[13].	Cresol-mixed isomers (Cresylic acid) (sum of o-, m-, and p-cresol concentrations)	1319-77-3	0.88 and meet s. NR 668.48 standards[8]

D027 [9]	Wastes that are TC for p-Dichlorobenzene based on the TCLP in SW846 Method 1311[13].	p-Dichlorobenzene (1,4-Dichlorobenzene)	106-46-7	0.090 and meet s. NR 668.48 standards[8]

D028 [9]	Wastes that are TC for 1,2-Dichloroethane based on the TCLP in SW846 Method 1311[13].	1,2-Dichloroethane	107-06-2	0.21 and meet s. NR 668.48 standards[8]

D029 [9]	Wastes that are TC for 1,1-Dichloroethylene based on the TCLP in SW846 Method 1311[13].	1,1-Dichloroethylene	75-35-4	0.025 and meet s. NR 668.48 standards[8]

D030 [9]	Wastes that are TC for 2,4-Dinitrotoluene based on the TCLP in SW846 Method 1311[13].	2,4-Dinitrotoluene	121-14-2	0.32 and meet s. NR 668.48 standards[8]

D031 [9]	Wastes that are TC for Heptachlor based on the TCLP in SW846 Method 1311[13].	Heptachlor	76-44-8	0.0012 and meet s. NR 668.48 standards[8]	0

		Heptachlor epoxide	1024-57-3	0.016 and meet s. NR 668.48 standards[8]	0

7

D032 [9]	Wastes that are TC for Hexachlorobenzene based on the TCLP in SW846 Method 1311[13].	Hexachlorobenzene	118-74-1	0.055 and meet s. NR 668.48 standards[8]

D033 [9]	Wastes that are TC for Hexachlorobutadiene based on the TCLP in SW846 Method 1311[13].	Hexachlorobutadiene	87-68-3	0.055 and meet s. NR 668.48 standards[8]

D034 [9]	Wastes that are TC for Hexachloroethane based on the TCLP in SW846 Method 1311[13].	Hexachloroethane	67-72-1	0.055 and meet s. NR 668.48 standards[8]

0

D035 [9]	Wastes that are TC for Methyl ethyl ketone based on the TCLP in SW846 Method 1311[13].	Methyl ethyl ketone	78-93-3	0.28 and meet s. NR 668.48 standards[8]

D036 [9]	Wastes that are TC for Nitrobenzene based on the TCLP in SW846 Method 1311[13].	Nitrobenzene	98-95-3	0.068 and meet s. NR 668.48 standards[8]

D037 [9]	Wastes that are TC for Pentachlorophenol based on the TCLP in SW846 Method 1311[13].	Pentachlorophenol	87-86-5	0.089 and meet s. NR 668.48 standards[8]

D038 [9]	Wastes that are TC for Pyridine based on the TCLP in SW846 Method 1311[13].	Pyridine	110-86-1	0.014 and meet s. NR 668.48 standards[8]

D039 [9]	Wastes that are TC for Tetrachloroethylene based on the TCLP in SW846 Method 1311[13].	Tetrachloroethylene	127-18-4	0.056 and meet s. NR 668.48 standards[8]

D040 [9]	Wastes that are TC for Trichloroethylene based on the TCLP in SW846 Method 1311[13].	Trichloroethylene	79-01-6	0.054 and meet s. NR 668.48 standards[8]

D041 [9]	Wastes that are TC for 2,4,5-Trichlorophenol based on the TCLP in SW846 Method 1311[13].	2,4,5-Trichlorophenol	95-95-4	0.18 and meet s. NR 668.48 standards[8]

D042 [9]	Wastes that are TC for 2,4,6-Trichlorophenol based on the TCLP in SW846 Method 1311[13].	2,4,6-Trichlorophenol	88-06-2	0.035 and meet s. NR 668.48 standards[8]

D043 [9]	Wastes that are TC for Vinyl chloride based on the TCLP in SW846 Method 1311[13].	Vinyl chloride	75-01-4	0.27 and meet s. NR 668.48 standards[8]

F001, F002, F003, F004,& F005	F001, F002, F003, F004 and/or F005 solvent wastes that contain any combination of one or more of the following spent solvents: acetone, benzene, n-butyl alcohol, carbon disulfide, carbon tetrachloride, chlorinated fluorocarbons, chlorobenzene, o-cresol, m-cresol, p-cresol, cyclohexanone, o-dichlorobenzene, 2-ethoxyethanol, ethyl acetate, ethyl benzene, ethyl ether, isobutyl alcohol, methanol, methylene chloride, methyl ethyl ketone, methyl isobutyl ketone, nitrobenzene, 2-nitropropane, pyridine, tetrachloroethylene, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethylene, trichloromonofluoromethane, and/or xylenes [except as specifically noted in other subcategories]. See further details of these listings in s. NR 661.31.	Acetone	67-64-1	0.28

0

		Benzene	71-43-2	0.14	

		n-Butyl alcohol	71-36-3	5.6	

		Carbon disulfide	75-15-0	3.8	
3					

		Carbon tetrachloride	56-23-5	0.057	

		Chlorobenzene	108-90-7	0.057	

		o-Cresol	95-48-7	0.11	

		m-Cresol(difficult to distinguish from p-cresol)	108-39-4	0.77	

		p-Cresol(difficult to distinguish from m-cresol)	106-44-5	0.77	

		Cresol-mixed isomers (Cresylic acid)(sum of o-, m-, and p-cresol concentrations)	1319-77-3	0.88	

		Cyclohexanone	108-94-1	0.36	

0

		o-Dichlorobenzene	95-50-1	0.088	

		Ethyl acetate	141-78-6	0.34	

		Ethyl benzene	100-41-4	0.057	
3					

Ethyl ether	60-29-7	0.12	

		Isobutyl alcohol	78-83-1	5.6	

		Methanol	67-56-1	5.6	

		Methylene chloride	75-9-2	0.089	

		Methyl ethyl ketone	78-93-3	0.28	

		Methyl isobutyl ketone	108-10-1	0.14	

		Nitrobenzene	98-95-3	0.068	

0

		Pyridine	110-86-1	0.014	

		Tetrachloroethylene	127-18-4	0.056	

		Toluene	108-88-3	0.080	
3					

		1,1,1-Trichloroethane	71-55-6	0.054	

		1,1,2-Trichloroethane	79-00-5	0.054	

		1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.057	

		Trichloroethylene	79-01-6	0.054	

7

		Trichloromonofluoromethane	75-69-4	0.020	

		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	

F003 and/or F005 solvent wastes that contain any combination of one or more of the following 3 solvents as the only listed F001-5 solvents: carbon disulfide, cyclohexanone and/or methanol. (formerly s. NR 675.21(3).	Carbon disulfide	75-15-0	3.8	

0

		Cyclohexanone	108-94-1	0.36	

		Methanol	67-56-1	5.6	

	F005 solvent waste containing 2-Nitropropane as the only listed F001-5 solvent.	2-Nitropropane	79-46-9	(WETOX or CHOXD) fb CARBN; or CMBST

	F005 solvent waste containing 2-Ethoxyethanol as the only listed F001-5 solvent.	2-Ethoxyethanol	110-80-5	BIODG: or CMBST

F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	Cadmium	7440-43-9	0.69

			Chromium (Total)	7440-47-3	2.77
6					

		Cyanides (Total)[7]	57-12-5	1.2

7

		Cyanides (Amenable)[7]	57-12-5	0.86

		Lead	7439-92-1	0.69	

		Nickel	7440-02-0	3.98	

0

		Silver	7440-22-4	NA	

F007	Spent cyanide plating bath solutions from electroplating operations.	Cadmium	7440-43-9	NA	

3			Chromium (Total)	7440-47-3	2.77

		Cyanides (Total)[7]	57-12-5	1.2	

		Cyanides (Amenable)[7]	57-12-5	0.86	

		Lead	7439-92-1	0.69	

		Nickel	7440-02-0	3.98	

7

		Silver	7440-22-4	NA	

F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	Cadmium	7440-43-9	NA

		Chromium (Total)	7440-47-3	2.77	

0

		Cyanides (Total)[7]	57-12-5	1.2	

		Cyanides (Amenable)[7]	57-12-5	0.86	

2

		Lead	7439-92-1	0.69	
3					

		Nickel	7440-02-0	3.98	

		Silver	7440-22-4	NA	

F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	Cadmium	7440-43-9	NA	

		Chromium (Total)	7440-47-3	2.77	

7

		Cyanides (Total)[7]	57-12-5	1.2	

		Cyanides (Amenable)[7]	57-12-5	0.86	

		Lead	7439-92-1	0.69	

0

		Nickel	7440-02-0	3.98	

		Silver	7440-22-4	NA	

F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	Cyanides (Total)[7]	57-12-5	1.2

		Cyanides (Amenable)[7]	57-12-5	0.86	

F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	Cadmium	7440-43-9	NA

		Chromium (Total)	7440-47-3	2.77	

		Cyanides (Total)[7]	57-12-5	1.2	

7

		Cyanides (Amenable)[7]	57-12-5	0.86	

		Lead	7439-92-1	0.69	

		Nickel	7440-02-0	3.98	

0

		Silver	7440-22-4	NA	

F012	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process.	Cadmium	7440-43-9	NA	

3			Chromium (Total)	7440-47-3	2.77

		Cyanides (Total)[7]	57-12-5	1.2	

		Cyanides (Amenable)[7]	57-12-5	0.86	

		Lead	7439-92-1	0.69	

		Nickel	7440-02-0	3.98	

7

		Silver	7440-22-4	NA	

F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process.	Chromium (Total)	7440-47-3	2.77	

		Cyanides (Total)[7]	57-12-5	1.2	

0

		Cyanides (Amenable)[7]	57-12-5	0.86	

F020, F021, F022, F023, F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of: (1) tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives, excluding wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol (F020); (2) pentachlorophenol, or of intermediates used to produce its derivatives (i.e., F021); (3) tetra-, penta-, or hexachlorobenzenes under alkaline conditions (i.e., F022); and from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of: (1) tri- or tetrachlorophenols, excluding wastes from equipment used only for the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol (F023); (2) tetra-, penta-, or hexachlorobenzenes under alkaline conditions (i.e., F026).	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063

		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	

		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	

		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	

		Pentachlorophenol	87-86-5	0.089	

		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	

		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	

		2,4,5-Trichlorophenol	95-95-4	0.18	

		2,4,6-Trichlorophenol	88-06-2	0.035	

0

		2,3,4,6-Tetrachlorophenol	58-90-2	0.030	

F024	Process wastes, including but not limited to, distillation residues, heavy ends, tars and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including 5, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts and wastes listed in s. NR 661.31 ors. NR 661.32).	All F024 wastes	NA	CMBST[11]

2

			2-Chloro-1,3-butadiene	126-99-8	0.057

3

			3-Chloropropylene	107-05-1	0.036

		1,1-Dichloroethane	75-34-3	0.059

			1,2-Dichloroethane	107-06-2	0.21

		1,2-Dichloropropane	78-87-5	0.85

		cis-1,3-Dichloropropylene	10061-01-5	0.036

		trans-1,3-Dichloropropylene	10061-02-6	0.036

		bis(2-Ethylhexyl) phthalate	117-81-7	0.28

0

		Hexachloroethane	67-72-1	0.055

			Chromium (Total)	7440-47-3	2.77

2

			Nickel	7440-02-0	3.98
3					

F025	Condensed light ends from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including 5, with varying amounts and positions of chlorine substitution.F025 - Light Ends Subcategory	Carbon tetrachloride	56-23-5	0.057

		Chloroform	67-66-3	0.046	

		1,2-Dichloroethane	107-06-2	0.21	

		1,1-Dichloroethylene	75-35-4	0.025	
7					

		Methylene chloride	75-9-2	0.089	

		1,1,2-Trichloroethane	79-00-5	0.054	

		Trichloroethylene	79-01-6	0.054	

0

		Vinyl chloride	75-01-4	0.27	

Spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including 5, with varying amounts and positions of chlorine substitution.F025 - Spent Filters/Aids and Desiccants Subcategory	Carbon tetrachloride	56-23-5	0.057

		Chloroform	67-66-3	0.046	

		Hexachlorobenzene	118-74-1	0.055	

		Hexachlorobutadiene	87-68-3	0.055	

		Hexachloroethane	67-72-1	0.055	

		Methylene chloride	75-9-2	0.089	

		1,1,2-Trichloroethane	79-00-5	0.054	

		Trichloroethylene	79-01-6	0.054	

		Vinyl chloride	75-01-4	0.27	

0

F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.).	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063

		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063

			PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063

		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035

		Pentachlorophenol	87-86-5	0.089

		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063

		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063

			2,4,5-Trichlorophenol	95-95-4	0.18

		2,4,6-Trichlorophenol	88-06-2	0.035	

		2,3,4,6-Tetrachlorophenol	58-90-2	0.030

0

F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA hazardous waste numbers F020, F021, F023, F026 and F027.	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063

1

		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	

		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	

3

		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	

		Pentachlorophenol	87-86-5	0.089	

		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	

		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	

		2,4,5-Trichlorophenol	95-95-4	0.18	

		2,4,6-Trichlorophenol	88-06-2	0.035	

		2,3,4,6-Tetrachlorophenol	58-90-2	0.030	

0

F032	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with s. NR 661.35 or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or penta-chlorophenol.	Acenaphthene	83-32-9	0.059

		Anthracene	120-12-7	0.059	

		Benz(a)anthracene	56-55-3	0.059	
3					

		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	

		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	

		Benzo(a)pyrene	50-32-8	0.061	

		Chrysene	218-01-9	0.059	

		Dibenz(a,h)anthracene	53-70-3	0.055	

2-4-Dimethyl phenol	105-67-9	0.036	
Fluorene	86-73-7	0.059	

		Hexachlorodibenzo-p-dioxins	NA	0.000063, or CMBST[11]

0

		Hexachlorodibenzofurans	NA	0.000063, orCMBST[11]	

		Indeno (1,2,3-c,d) pyrene	193-39-5	0.0055	

		Naphthalene	91-20-3	0.059	
3					

		Pentachlorodibenzo-p-dioxins	NA	0.000063, orCMBST[11]	

		Pentachlorodibenzofurans	NA	0.000035, orCMBST[11]

		Pentachlorophenol	87-86-5	0.089	

		Phenanthrene	85-01-8	0.059	

		Phenol	108-95-2	0.039	

		Pyrene	129-00-0	0.067	

		Tetrachlorodibenzo-p-dioxins	NA	0.000063, orCMBST[11]	

0

		Tetrachlorodibenzofurans	NA	0.000063, orCMBST[11]

		2,3,4,6-Tetrachlorophenol	58-90-2	0.030	

		2,4,6-Trichlorophenol	88-06-2	0.035	

3

		Arsenic	7440-38-2	1.4	

		Chromium (Total)	7440-47-3	2.77	

F034	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.	Acenaphthene	83-32-9	0.059

		Anthracene	120-12-7	0.059

8			Benz(a)anthracene	56-55-3	0.059

		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	

		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11

0

		Benzo(a)pyrene	50-32-8	0.061

			Chrysene	218-01-9	0.059

2

			Dibenz(a,h)anthracene	53-70-3	0.055
3					

		Fluorene	86-73-7	0.059	

		Indeno (1,2,3-c,d) pyrene	193-39-5	0.0055

			Naphthalene	91-20-3	0.059

		Phenanthrene	85-01-8	0.059	

			Pyrene	129-00-0	0.067

		Arsenic	7440-38-2	1.4

			Chromium (Total)	7440-47-3	2.77

0

F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage and spent formulations from wood preserving processes processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.	Arsenic	7440-38-2	1.4

		Chromium (Total)	7440-47-3	2.77	

2

F037	Petroleum refinery primary oil/water/solids separation sludge-Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in: oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in s. NR 661.31(2)(b) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing.	Acenaphthene	83-32-9	0.059

		Anthracene	120-12-7	0.059	

		Benzene	71-43-2	0.14	

		Benz(a)anthracene	56-55-3	0.059	

		Benzo(a)pyrene	50-32-8	0.061	

		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	

		Chrysene	218-01-9	0.059	

		Di-n-butyl phthalate	84-74-2	0.057	

0

		Ethylbenzene	100-41-4	0.057	

		Fluorene	86-73-7	0.059

		Naphthalene	91-20-3	0.059	
3					

		Phenanthrene	85-01-8	0.059	

		Phenol	108-95-2	0.039	

		Pyrene	129-00-0	0.067	

		Toluene	108-88-3	0.080	

		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	

		Chromium (Total)	7440-47-3	2.77	

		Cyanides (Total)[7]	57-12-5	1.2	

0

		Lead	7439-92-1	0.69	

		Nickel	7440-02-0	NA	

F038	Petroleum refinery secondary (emulsified) oil/water/solids separation sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air floatation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in s. NR 661.31(2)(b) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological units) and F037, K048 and K051 are not included in this listing.	Benzene	71-43-2	0.14

		Benzo(a)pyrene	50-32-8	0.061	

		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	

		Chrysene	218-01-9	0.059	

		Di-n-butyl phthalate	84-74-2	0.057	

		Ethylbenzene	100-41-4	0.057	

		Fluorene	86-73-7	0.059	

		Naphthalene	91-20-3	0.059	

0

		Phenanthrene	85-01-8	0.059	

		Phenol	108-95-2	0.039	

2

		Pyrene	129-00-0	0.067	
3					

		Toluene	108-88-3	0.080	

		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	

		Chromium (Total)	7440-47-3	2.77	

		Cyanides (Total)[7]	57-12-5	1.2	

7

		Lead	7439-92-1	0.69	

		Nickel	7440-02-0	NA	

F039	Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subch. D. [Leachate resulting from the disposal of one or more of the following EPA hazardous wastes and no other hazardous wastes retains its EPA hazardous waste numbers: F020, F021, F022, F026, F027 and/or F028].	Acenaphthylene	208-96-8	0.059

0

		Acenaphthene	83-32-9	0.059	

		Acetone	67-64-1	0.28	

		Acetonitrile	75-05-8	5.6	

3

		Acetophenone	96-86-2	0.010	

		2-Acetylaminofluorene	53-96-3	0.059	

		Acrolein	107-02-8	0.29	

		Acrylonitrile	107-13-1	0.24	

		Aldrin	309-00-2	0.021	

		4-Aminobiphenyl	92-67-1	0.13	

		Aniline	62-53-3	0.81	

0

		Anthracene	120-12-7	0.059	

		Aramite	140-57-8	0.36	

2

		alpha-BHC	319-84-6	0.00014	
3					

		beta-BHC	319-85-7	0.00014	

		delta-BHC	319-86-8	0.023	
5					

		gamma-BHC	58-89-9	0.0017	

		Benzene	71-43-2	0.14	

7

		Benz(a)anthracene	56-55-3	0.059	

		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	

		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	

0

		Benzo(g,h,i)perylene	191-24-2	0.0055	

		Benzo(a)pyrene	50-32-8	0.061	

2

		Bromodichloromethane	75-27-4	0.35	

		Methyl bromide (Bromomethane)	74-83-9	0.11	

		4-Bromophenyl phenyl ether	101-55-3	0.055	

		n-Butyl alcohol	71-36-3	5.6	

		Butyl benzyl phthalate	85-68-7	0.017	

		2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	0.066	

		Carbon disulfide	75-15-0	3.8	

		Carbon tetrachloride	56-23-5	0.057	

0

		Chlordane (alpha and gamma isomers)	57-74-9	0.0033	

		p-Chloroaniline	106-47-8	0.46	

		Chlorobenzene	108-90-7	0.057	

		Chlorobenzilate	510-15-6	0.10	

		2-Chloro-1,3-butadiene	126-99-8	0.057	

		Chlorodibromomethane	124-48-1	0.057	

		Chloroethane	75-00-3	0.27	

7

		bis(2-Chloroethoxy)methane	111-91-1	0.036	

		bis(2-Chloroethyl)ether	111-44-4	0.033	

		Chloroform	67-66-3	0.046	

0

		bis(2-Chloroisopropyl)ether	39638-32-9	0.055	

1

		p-Chloro-m-cresol	59-50-7	0.018	

		Chloromethane (Methyl chloride)	74-87-3	0.19	

		2-Chloronaphthalene	91-58-7	0.055	

		2-Chlorophenol	95-57-8	0.044	

		3-Chloropropylene	107-05-1	0.036	

		Chrysene	218-01-9	0.059	

		o-Cresol	95-48-7	0.11	

		m-Cresol(difficult to distinguish from p-cresol)	108-39-4	0.77	

		p-Cresol(difficult to distinguish from m-cresol)	106-44-5	0.77	

0

		Cyclohexanone	108-94-1	0.36	

		1,2-Dibromo-3-chloropropane	96-12-8	0.11	

		Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	

		Dibromomethane	74-95-3	0.11	

		2,4-D (2,4-Dichlorophenoxyacetic acid)	94-75-7	0.72	

		o,p’-DDD	53-19-0	0.023	

		p,p’-DDD	72-54-8	0.023	

		o,p’-DDE	3424-82-6	0.031	

		p,p’-DDE	72-55-9	0.031	

		o,p’-DDT	789-02-6	0.0039	

0

		p,p’-DDT	50-29-3	0.0039	

		Dibenz(a,h)anthracene	53-70-3	0.055	

2

		Dibenz(a,e)pyrene	192-65-4	0.061	

		m-Dichlorobenzene	541-73-1	0.036	

		o-Dichlorobenzene	95-50-1	0.088	

		p-Dichlorobenzene	106-46-7	0.090	

		Dichlorodifluoromethane	75-71-8	0.23	

		1,1-Dichloroethane	75-34-3	0.059	

		1,2-Dichloroethane	107-06-2	0.21	

		1,1-Dichloroethylene	75-35-4	0.025	

0

		trans-1,2-Dichloroethylene	156-60-5	0.054	

		2,4-Dichlorophenol	120-83-2	0.044	

		2,6-Dichlorophenol	87-65-0	0.044	

		1,2-Dichloropropane	78-87-5	0.85	

		cis-1,3-Dichloropropylene	10061-01-5	0.036	

		trans-1,3-Dichloropropylene	10061-02-6	0.036	

		Dieldrin	60-57-1	0.017	

7

		Diethyl phthalate	84-66-2	0.20	

		2-4-Dimethyl phenol	105-67-9	0.036	

		Dimethyl phthalate	131-11-3	0.047	

0

		Di-n-butyl phthalate	84-74-2	0.057

		1,4-Dinitrobenzene	100-25-4	0.32	

		4,6-Dinitro-o-cresol	534-52-1	0.28	

		2,4-Dinitrophenol	51-28-5	0.12

		2,4-Dinitrotoluene	121-14-2	0.32

		2,6-Dinitrotoluene	606-20-2	0.55

		Di-n-octyl phthalate	117-84-0	0.017	

		Di-n-propylnitrosamine	621-64-7	0.40	

		1,4-Dioxane	123-91-1	12.0

		Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	

0

		Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	

		1,2-Diphenylhydrazine	122-66-7	0.087	

		Disulfoton	298-04-4	0.017	

		Endosulfan I	939-98-8	0.023

		Endosulfan II	33213-6-5	0.029

		Endosulfan sulfate	1031-07-8	0.029	

		Endrin	72-20-8	0.0028

		Endrin aldehyde	7421-93-4	0.025	

		Ethyl acetate	141-78-6	0.34

		Ethyl cyanide (Propanenitrile)	107-12-0	0.24	

0

		Ethyl benzene	100-41-4	0.057	

		Ethyl ether	60-29-7	0.12

		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	

		Ethyl methacrylate	97-63-2	0.14	

		Ethylene oxide	75-21-8	0.12

		Famphur	52-85-7	0.017

		Fluoranthene	206-44-0	0.068	

		Fluorene	86-73-7	0.059

		Heptachlor	76-44-8	0.0012

		1, 2, 3, 4, 6, 7, 8-Heptachlorodibenzo-p-dioxin (1, 2, 3, 4, 6, 7, 8 HpCDD)	35822-46-9	0.000035	

0

		1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	67562-39-4	0.000035	

		1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	55673-89-7	0.000035	

		Heptachlor epoxide	1024-57-3	0.016	

3

		Hexachlorobenzene	118-74-1	0.055

		Hexachlorobutadiene	87-68-3	0.055

		Hexachlorocyclopentadiene	77-47-4	0.057	

		HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063

		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063

		Hexachloroethane	67-72-1	0.055	

		Hexachloropropylene	1888-71-7	0.035	

0

		Indeno (1,2,3-c,d) pyrene	193-39-5	0.0055	

		Iodomethane	74-88-4	0.19

		Isobutyl alcohol	78-83-1	5.6	

		Isodrin	465-73-6	0.021

		Isosafrole	120-58-1	0.081

		Kepone	143-50-8	0.0011	

		Methacrylonitrile	126-98-7	0.24	

		Methanol	67-56-1	5.6

		Methapyrilene	91-80-5	0.081

		Methoxychlor	72-43-5	0.25	

0

		3-Methylcholanthrene	56-49-5	0.0055

		4,4-Methylene bis(2-chloroaniline)	101-14-4	0.50

		Methylene chloride	75-09-2	0.089	
3					

		Methyl ethyl ketone	78-93-3	0.28	

		Methyl isobutyl ketone	108-10-1	0.14

		Methyl methacrylate	80-62-6	0.14	

		Methyl methansulfonate	66-27-3	0.018	

		Methyl parathion	298-00-0	0.014	

		Naphthalene	91-20-3	0.059

		2-Naphthylamine	91-59-8	0.52	

0

		p-Nitroaniline	100-01-6	0.028	

		Nitrobenzene	98-95-3	0.068	

		5-Nitro-o-toluidine	99-55-8	0.32	

		p-Nitrophenol	100-02-7	0.12	

		N-Nitrosodiethylamine	55-18-5	0.40

		N-Nitrosodimethylamine	62-75-9	0.40	

		N-Nitroso-di-n-butylamine	924-16-3	0.40	

		N-Nitrosomethylethylamine	10595-95-6	0.40	

		N-Nitrosomorpholine	59-89-2	0.40	

		N-Nitrosopiperidine	100-75-4	0.013	

0

		N-Nitrosopyrrolidine	930-55-2	0.013	

		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	3268-87-9	0.000063	

		1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	39001-02-0	0.000063	

3

		Parathion	56-38-2	0.014	

		Total PCBs(sum of all PCB isomers, or all Aroclors)	1336-36-3	0.10	

		Pentachlorobenzene	608-93-5	0.055	

		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	

7

		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	

		Pentachloronitrobenzene	82-68-8	0.055	

		Pentachlorophenol	87-86-5	0.089	

0

		Phenacetin	62-44-2	0.081

		Phenanthrene	85-01-8	0.059	

		Phenol	108-95-2	0.039	

		Phorate	298-02-2	0.021	

		Phthalic anhydride	85-44-9	0.055

		Pronamide	23950-58-5	0.093	

		Pyrene	129-00-0	0.067

		Pyridine	110-86-1	0.014

		Safrole	94-59-7	0.081

		Silvex (2,4,5-TP)	93-72-1	0.72	

		2,4,5-T	93-76-5	0.72

		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	

		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063

		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063

		1,1,1,2-Tetrachloroethane	630-20-6	0.057

		1,1,2,2-Tetrachloroethane	79-34-6	0.057	

		Tetrachloroethylene	127-18-4	0.056	

		2,3,4,6-Tetrachlorophenol	58-90-2	0.030	

		Toluene	108-88-3	0.080

		Toxaphene	8001-35-2	0.0095

0

		Bromoform (Tribromomethane)	75-25-2	0.63	

		1,2,4-Trichlorobenzene	120-82-1	0.055	

		1,1,1-Trichloroethane	71-55-6	0.054	

		1,1,2-Trichloroethane	79-00-5	0.054	

		Trichloroethylene	79-01-6	0.054

		Trichloromonofluoromethane	75-69-4	0.020	

		2,4,5-Trichlorophenol	95-95-4	0.18	

		2,4,6-Trichlorophenol	88-06-2	0.035	

		1,2,3-Trichloropropane	96-18-4	0.85	

		1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.057	

0

		tris(2,3-Dibromopropyl) phosphate	126-72-7	0.11	

		Vinyl chloride	75-01-4	0.27	

		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	

		Antimony	7440-36-0	1.9	

		Arsenic	7440-38-2	1.4

		Barium	7440-39-3	1.2	

		Beryllium	7440-41-7	0.82	

7

		Cadmium	7440-43-9	0.69	

		Chromium (Total)	7440-47-3	2.77	

		Cyanides (Total)[7]	57-12-5	1.2

0

		Cyanides (Amenable)[7]	57-12-5	0.86

		Fluoride	16964-48-8	35	

		Lead	7439-92-1	0.69	

3

		Mercury	7439-97-6	0.15

		Nickel	7440-02-0	3.98

		Selenium	7782-49-2	0.82	

		Silver	7440-22-4	0.43

		Sulfide	8496-25-8	14	

		Thallium	7440-28-0	1.4	

		Vanadium	7440-62-2	4.3	

0

K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	Naphthalene	91-20-3	0.059

1

		Pentachlorophenol	87-86-5	0.089	

		Phenanthrene	85-01-8	0.059	
3					

		Pyrene	129-00-0	0.067	

		Toluene	108-88-3	0.080	

		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	

		Lead	7439-92-1	0.69	

K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	Chromium (Total)	7440-47-3	2.77

		Lead	7439-92-1	0.69	

K003	Wastewater treatment sludge from the production of molybdate orange pigments.	Chromium (Total)	7440-47-3	2.77

0

		Lead	7439-92-1	0.69	

K004	Wastewater treatment sludge from the production of zinc yellow pigments.	Chromium (Total)	7440-47-3	2.77

		Lead	7439-92-1	0.69	
3					

K005	Wastewater treatment sludge from the production of chrome green pigments.	Chromium (Total)	7440-47-3	2.77

		Lead	7439-92-1	0.69	
5					

		Cyanides (Total)[7]	57-12-5	1.2	

K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous).	Chromium (Total)	7440-47-3	2.77	

		Lead	7439-92-1	0.69	

	Wastewater treatment sludge from the production of chrome oxide green pigments (hydrated).	Chromium (Total)	7440-47-3	2.77

		Lead	7439-92-1	0.69	

0

K007	Wastewater treatment sludge from the production of iron blue pigments.	Chromium (Total)	7440-47-3	2.77	

		Lead	7439-92-1	0.69	

		Cyanides (Total)[7]	57-12-5	1.2	

K008	Oven residue from the production of chrome oxide green pigments.	Chromium (Total)	7440-47-3	2.77

		Lead	7439-92-1	0.69	
5					

K009	Distillation bottoms from the production of acetaldehyde from ethylene.	Chloroform	67-66-3	0.046

K010	Distillation side cuts from the production of acetaldehyde from ethylene.	Chloroform	67-66-3	0.046

K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.	Acetonitrile	75-05-8	5.6

		Acrylonitrile	107-13-1	0.24	

		Acrylamide	79-06-1	19	

0

		Benzene	71-43-2	0.14	

		Cyanide (Total)	57-12-5	1.2	

2

K013	Bottom stream from the acetonitrile column in the production of acrylonitrile.	Acetonitrile	75-05-8	5.6

		Acrylonitrile	107-13-1	0.24	

		Acrylamide	79-06-1	19	

		Benzene	71-43-2	0.14	

		Cyanide (Total)	57-12-5	1.2	

7

K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile.	Acetonitrile	75-05-8	5.6

		Acrylonitrile	107-13-1	0.24	

		Acrylamide	79-06-1	19	

0

		Benzene	71-43-2	0.14	

		Cyanide (Total)	57-12-5	1.2	

2

K015	Still bottoms from the distillation of benzyl chloride.	Anthracene	120-12-7	0.059

		Benzal chloride	98-87-3	0.055	

		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	

		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	

		Phenanthrene	85-01-8	0.059	

		Toluene	108-88-3	0.080	

		Chromium (Total)	7440-47-3	2.77	

		Nickel	7440-02-0	3.98	

0

K016	Heavy ends or distillation residues from the production of carbon tetrachloride.	Hexachlorobenzene	118-74-1	0.055

		Hexachlorobutadiene	87-68-3	0.055	

		Hexachlorocyclopentadiene	77-47-4	0.057	

		Hexachloroethane	67-72-1	0.055	

		Tetrachloroethylene	127-18-4	0.056	

K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	bis(2-Chloroethyl)ether	111-44-4	0.033

		1,2-Dichloropropane	78-87-5	0.85	

		1,2,3-Trichloropropane	96-18-4	0.85	

K018	Heavy ends from the fractionation column in ethyl chloride production.	Chloroethane	75-00-3	0.27

		Chloromethane	74-87-3	0.19	

0

		1,1-Dichloroethane	75-34-3	0.059	

		1,2-Dichloroethane	107-06-2	0.21	

		Hexachlorobenzene	118-74-1	0.055	

		Hexachlorobutadiene	87-68-3	0.055	

		Hexachloroethane	67-72-1	0.055	

		Pentachloroethane	76-01-7	NA	

		1,1,1-Trichloroethane	71-55-6	0.054	

7

K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	bis(2-Chloroethyl)ether	111-44-4	0.033

		Chlorobenzene	108-90-7	0.057	

		Chloroform	67-66-3	0.046	

0

		p-Dichlorobenzene	106-46-7	0.090	

		1,2-Dichloroethane	107-06-2	0.21	

		Fluorene	86-73-7	0.059	
3					

		Hexachloroethane	67-72-1	0.055	

		Naphthalene	91-20-3	0.059	

		Phenanthrene	85-01-8	0.059	

		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	

		Tetrachloroethylene	127-18-4	0.056	

		1,2,4-Trichlorobenzene	120-82-1	0.055	

		1,1,1-Trichloroethane	71-55-6	0.054	

0

K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	1,2-Dichloroethane	107-06-2	0.21

		1,1,2,2-Tetrachloroethane	79-34-6	0.057	

		Tetrachloroethylene	127-18-4	0.056	
3					

K021	Aqueous spent antimony catalyst waste from fluoromethanes production.	Carbon tetrachloride	56-23-5	0.057

		Chloroform	67-66-3	0.046	

		Antimony	7440-36-0	1.9	

K022	Distillation bottom tars from the production of phenol/acetone from cumene.	Toluene	108-88-3	0.080

		Acetophenone	96-86-2	0.010	

		Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	

		Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	

0

		Phenol	108-95-2	0.039	

		Chromium (Total)	7440-47-3	2.77	

2

		Nickel	7440-02-0	3.98	
3					

K023	Distillation light ends from the production of phthalic anhydride from naphthalene.	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	0.055	

		Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	0.055	

K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	0.055

		Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	0.055	

K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	NA	NA	LLEXT fb SSTRP fb CARBN; or CMBST

K026	Stripping still tails from the production of methyl ethyl pyridines.	NA	NA	CMBST

K027	Centrifuge and distillation residues from toluene diisocyanate production.	NA	NA	CARBN; or CMBST

0

K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	1,1-Dichloroethane	75-34-3	0.059

		trans-1,2-Dichloroethylene	156-60-5	0.054	

		Hexachlorobutadiene	87-68-3	0.055	

		Hexachloroethane	67-72-1	0.055	

		Pentachloroethane	76-01-7	NA	

		1,1,1,2-Tetrachloroethane	630-20-6	0.057	

		1,1,2,2-Tetrachloroethane	79-34-6	0.057	

		Tetrachloroethylene	127-18-4	0.056	

		1,1,1-Trichloroethane	71-55-6	0.054	

		1,1,2-Trichloroethane	79-00-5	0.054	

0

		Cadmium	7440-43-9	0.69	

		Chromium (Total)	7440-47-3	2.77	

2

		Lead	7439-92-1	0.69	
3					

		Nickel	7440-02-0	3.98	

K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane.	Chloroform	67-66-3	0.046

		1,2-Dichloroethane	107-06-2	0.21	

		1,1-Dichloroethylene	75-35-4	0.025	
7					

		1,1,1-Trichloroethane	71-55-6	0.054	

		Vinyl chloride	75-01-4	0.27	

K030	Column bodies or heavy ends from the combined production of trichloroethylene and perchloroethylene.	o-Dichlorobenzene	95-50-1	0.088

0

		p-Dichlorobenzene	106-46-7	0.090	

		Hexachlorobutadiene	87-68-3	0.055	

		Hexachloroethane	67-72-1	0.055	

		Hexachloropropylene	1888-71-7	NA	

		Pentachlorobenzene	608-93-5	NA	

		Pentachloroethane	76-01-7	NA	

		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	

		Tetrachloroethylene	127-18-4	0.056	

		1,2,4-Trichlorobenzene	120-82-1	0.055	

K031	By-product salts generated in the production of MSMA and cacodylic acid.	Arsenic	7440-38-2	1.4

0

K032	Wastewater treatment sludge from the production of chlordane.	Hexachlorocyclopentadiene	77-47-4	0.057

		Chlordane (alpha and gamma isomers)	57-74-9	0.0033	

		Heptachlor	76-44-8	0.0012	
3					

		Heptachlor epoxide	1024-57-3	0.016	

K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	Hexachlorocyclopentadiene	77-47-4	0.057

K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	Hexachlorocyclopentadiene	77-47-4	0.057

K035	Wastewater treatment sludges generated in the production of creosote.	Acenaphthene	83-32-9	NA

		Anthracene	120-12-7	NA	

		Benz(a)anthracene	56-55-3	0.059	

		Benzo(a)pyrene	50-32-8	0.061	

0

		Chrysene	218-01-9	0.059	

		o-Cresol	95-48-7	0.11	

		m-Cresol(difficult to distinguish from p-cresol)	108-39-4	0.77	

		p-Cresol(difficult to distinguish from m-cresol)	106-44-5	0.77	

		Dibenz(a,h)anthracene	53-70-3	NA	

		Fluoranthene	206-44-0	0.068	

		Fluorene	86-73-7	NA	

		Indeno(1,2,3-cd)pyrene	193-39-5	NA	

		Naphthalene	91-20-3	0.059	

		Phenanthrene	85-01-8	0.059	

0

		Phenol	108-95-2	0.039	

		Pyrene	129-00-0	0.067	

K036	Still bottoms from toluene reclamation distillation in the production of disulfoton.	Disulfoton	298-04-4	0.017

K037	Wastewater treatment sludges from the production of disulfoton.	Disulfoton	298-04-4	0.017

		Toluene	108-88-3	0.080	

K038	Wastewater from the washing and stripping of phorate production.	Phorate	298-02-2	0.021

K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.	NA	NA	CARBN; or CMBST

K040	Wastewater treatment sludge from the production of phorate.	Phorate	298-02-2	0.021

K041	Wastewater treatment sludge from the production of toxaphene.	Toxaphene	8001-35-2	0.0095

K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	o-Dichlorobenzene	95-50-1	0.088

0

		p-Dichlorobenzene	106-46-7	0.090	

		Pentachlorobenzene	608-93-5	0.055	

		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	

		1,2,4-Trichlorobenzene	120-82-1	0.055	

K043	2,6-Dichlorophenol waste from the production of 2,4-D.	2,4-Dichlorophenol	120-83-2	0.044

		2,6-Dichlorophenol	187-65-0	0.044	

		2,4,5-Trichlorophenol	95-95-4	0.18	

		2,4,6-Trichlorophenol	88-06-2	0.035	

		2,3,4,6-Tetrachlorophenol	58-90-2	0.030	

		Pentachlorophenol	87-86-5	0.089	

0

		Tetrachloroethylene	127-18-4	0.056	

		HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	

		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	

		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	

		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	

		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	

		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	

K044	Wastewater treatment sludges from the manufacturing and processing of explosives.	NA	NA	DEACT

K045	Spent carbon from the treatment of wastewater containing explosives.	NA	NA	DEACT

K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.	Lead	7439-92-1	0.69

0

K047	Pink/red water from TNT operations	NA	NA	DEACT

K048	Dissolved air flotation (DAF) float from the petroleum refining industry.	Benzene	71-43-2	0.14

		Benzo(a)pyrene	50-32-8	0.061	
3					

		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	

		Chrysene	218-01-9	0.059	

		Di-n-butyl phthalate	84-74-2	0.057	

		Ethylbenzene	100-41-4	0.057	

7

		Fluorene	86-73-7	0.059	

		Naphthalene	91-20-3	0.059	

		Phenanthrene	85-01-8	0.059	

0

		Phenol	108-95-2	0.039	

		Pyrene	129-00-0	0.067	

3			Toluene	108-88-3 3	0.080

		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	

		Chromium (Total)	7440-47-3	2.77	

		Cyanides (Total)[7]	57-12-5	1.2	

		Lead	7439-92-1	0.69	

		Nickel	7440-02-0	NA	

K049	Slop oil emulsion solids from the petroleum refining industry.	Anthracene	120-12-7	0.059

		Benzene	71-43-2	0.14	

0

		Benzo(a)pyrene	50-32-8	0.061	

		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	

		Carbon disulfide	75-15-0	3.8	
3					

		Chrysene	2218-01-9	0.059	

		2,4-Dimethylphenol	105-67-9	0.036	

		Ethylbenzene	100-41-4	0.057	

		Naphthalene	91-20-3	0.059	

		Phenanthrene	85-01-8	0.059	

		Phenol	108-95-2	0.039	

		Pyrene	129-00-0	0.067	

0

		Toluene	108-88-3	0.080	
1					

		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	

		Cyanides (Total)[7]	57-12-5	1.2	

		Chromium (Total)	7440-47-3	2.77	

		Lead	7439-92-1	0.69	
5					

		Nickel	7440-02-0	NA	

K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.	Benzo(a)pyrene	50-32-8	0.061

		Phenol	108-95-2	0.039	

		Cyanides (Total)[7]	57-12-5	1.2	

		Chromium (Total)	7440-47-3	2.77	

0

		Lead	7439-92-1	0.69	

		Nickel	7440-02-0	NA	

K051	API separator sludge from the petroleum refining industry.	Acenaphthene	83-32-9	0.059

		Anthracene	120-12-7	0.059	

		Benz(a)anthracene	56-55-3	0.059	

		Benzene	71-43-2	0.14	

		Benzo(a)pyrene	50-32-8	0.061	

		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	

		Chrysene	2218-01-9	0.059	

		Di-n-butyl phthalate	105-67-9	0.057	

0

		Ethylbenzene	100-41-4	0.057	

		Fluorene	86-73-7	0.059	

2

		Naphthalene	91-20-3	0.059	
3					

		Phenanthrene	85-01-8	0.059	

		Phenol	108-95-2	0.039	

		Pyrene	129-00-0	0.067	

		Toluene	108-88-3	0.08	

		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	

		Cyanides (Total)[7]	57-12-5	1.2	

		Chromium (Total)	7440-47-3	2.77	

0

		Lead	7439-92-1	0.69	

		Nickel	7440-02-0	NA	

K052	Tank bottoms (leaded) from the petroleum refining industry.	Benzene	71-43-2	0.14

		Benzo(a)pyrene	50-32-8	0.061	

		o-Cresol	95-48-7	0.11	
5					

		m-Cresol(difficult to distinguish from p-cresol)	108-39-4	0.77	

		p-Cresol(difficult to distinguish from m-cresol)	106-44-5	0.77	

		2,4-Dimethylphenol	105-67-9	0.036	

		Ethylbenzene	100-41-4	0.057	

		Naphthalene	91-20-3	0.059	

0

		Phenanthrene	85-01-8	0.059	

		Phenol	108-95-2	0.039	

2

		Toluene	108-88-3	0.08	
3					

		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	

		Chromium (Total)	7440-47-3	2.77	

		Cyanides (Total)[7]	57-12-5	1.2	

		Lead	7439-92-1	0.69	

		Nickel	7440-02-0	NA	

K060	Ammonia still lime sludge from coking operations.	Benzene	71-43-2	0.14

		Benzo(a)pyrene	50-32-8	0.061	

0

		Naphthalene	91-20-3	0.059	

		Phenol	108-95-2	0.039	

2

		Cyanides (Total)[7]	57-12-5	1.2	

K061	Emission control dust/sludge from the primary production of steel in electric furnaces.	Antimony	7440-36-0	NA	

		Arsenic	7440-38-2	NA	

		Barium	7440-39-3	NA	

		Beryllium	7440-41-7	NA	

		Cadmium	7440-43-9	0.69	

		Chromium (Total)	7440-47-3	2.77	

		Lead	7439-92-1	0.69	

0

		Mercury	7439-97-6	NA	

		Nickel	7440-02-0	3.98	

2

		Selenium	7782-49-2	NA	

		Silver	7440-22-4	NA	

		Thallium	7440-28-0	NA	

		Zinc	7440-66-6	NA	

6

K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	Chromium (Total)	7440-47-3	2.77	

		Lead	7439-92-1	0.69	

		Nickel	7440-02-0	3.98	

K069	Emission control dust/sludge from secondary lead smelting. - Calcium Sulfate (Low Lead) Subcategory	Cadmium	7440-43-9	0.69

0

		Lead	7439-92-1	0.69	

	Emission control dust/sludge from secondary lead smelting. - Non-Calcium Sulfate (High Lead) Subcategory	NA	NA	NA

K071	K071 (Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used) nonwastewaters that are residues from RMERC.	Mercury	7439-97-6	NA	

K071 (Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.) nonwastewaters that are not residues from RMERC.	Mercury	7439-97-6	NA	

All K071 wastewaters.	Mercury	7439-97-6	0.15

K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	Carbon tetrachloride	56-23-5	0.057

		Chloroform	67-66-3	0.046	

		Hexachloroethane	67-72-1	0.055	

		Tetrachloroethylene	127-18-4	0.056	

		1,1,1-Trichloroethane	71-55-6	0.054	

0

K083	Distillation bottoms from aniline production.	Aniline	62-53-3	0.81

		Benzene	71-43-2	0.14	

2

		Cyclohexanone	108-94-1	0.36	

		Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	

		Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	

		Nitrobenzene	98-95-3	0.068	

		Phenol	108-95-2	0.039	

7

		Nickel	7440-02-0	3.98	

K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	Arsenic	7440-38-2	1.4

K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.	Benzene	71-43-2	0.14

		Chlorobenzene	108-90-7	0.057	

		m-Dichlorobenzene	541-73-1	0.036	

		o-Dichlorobenzene	95-50-1	0.088	

		p-Dichlorobenzene	106-46-7	0.090	

		Hexachlorobenzene	118-74-1	0.055	

		Total PCBs(sum of all PCB isomers, or all Aroclors)	1336-36-3	0.10	

		Pentachlorobenzene	608-93-5	0.055	

7

		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	

		1,2,4-Trichlorobenzene	120-82-1	0.055	

K086	Solvent wastes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps and stabilizers containing chromium and lead.	Acetone	67-64-1	0.28

		Acetophenone	96-86-2	0.010	

		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	

		n-Butyl alcohol	71-36-3	5.6	

		Butylbenzyl phthalate	85-68-7	0.017	

		Cyclohexanone	108-94-1	0.36	

		o-Dichlorobenzene	95-50-1	0.088	

		Diethyl phthalate	84-66-2	0.20	

		Dimethyl phthalate	131-11-3	0.047	

		Di-n-butyl phthalate	84-74-2	0.057	

		Di-n-octyl phthalate	117-84-0	0.017	

0

		Ethyl acetate	141-78-6	0.34	

		Ethylbenzene	100-41-4	0.057	

		Methanol	67-56-1	5.6	

		Methyl ethyl ketone	78-93-3	0.28	

		Methyl isobutyl ketone	108-10-1	0.14	

		Methylene chloride	75-09-2	0.089	

		Naphthalene	91-20-3	0.059	

		Nitrobenzene	98-95-3	0.068	

		Toluene	108-88-3	0.080	

		1,1,1-Trichloroethane	71-55-6	0.054	

0

		Trichloroethylene	79-01-6	0.054	

		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	

3			Chromium (Total)	7440-47-3	2.77

		Cyanides (Total)[7]	57-12-5	1.2	

		Lead	7439-92-1	0.69	
5					

K087	Decanter tank tar sludge from coking operations.	Acenaphthylene	208-96-8	0.059

		Benzene	71-43-2	0.14	

7

		Chrysene	218-01-9	0.059	

		Fluoranthene	206-44-0	0.068	

		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	

0

		Naphthalene	91-20-3	0.059	

		Phenanthrene	85-01-8	0.059	

		Toluene	108-88-3	0.080	
3					

		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	

		Lead	7439-92-1	0.69	
5					

K088	Spent potliners from primary aluminum reduction.	Acenaphthalene	83-32-9	0.059

		Anthracene	120-12-7	0.059	

7

		Benzo(a)anthracene	56-55-3	0.059	

		Benzo(a)pyrene	50-32-8	0.061	

		Benzo(b)fluoranthene	205-99-2	0.11	

0

		Benzo(k)fluoranthene	207-08-9	0.11	

		Benzo(g,h,i)perylene	191-24-2	0.0055	

		Chrysene	218-01-9	0.059	
3					

		Dibenz(a,h)anthracene	53-70-3	0.055	

		Fluoranthene	206-44-0	0.068	

		Indeno(1,2,3,-c,d)pyrene	193-39-5	0.0055	

		Phenanthrene	85-01-8	0.059	

		Pyrene	129-00-0	0.067	

		Antimony	7440-36-0	1.9	

		Arsenic	7440-38-2	1.4	

0

		Barium	7440-39-3	1.2	

		Beryllium	7440-41-7	0.82	

		Cadmium	7440-43-9	0.69	
3					

		Chromium (Total)	7440-47-3	2.77	

		Lead	7439-92-1	0.69	
5					

6			Mercury	7439-97-6	0.15

		Nickel	7440-02-0	3.98	

7

		Selenium	7782-49-2	0.82	

		Silver	7440-22-4	0.43	

		Cyanide (Total)[7]	57-12-5	1.2	

0

		Cyanide (Amenable)[7]	57-12-5	0.86	

		Fluoride	16984-48-8	35	

K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene.	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	0.055	

		Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	0.055	

K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene.	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	0.055

		Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	0.055	

K095	Distillation bottoms from the production of 1,1,1-trichloroethane.	Hexachloroethane	67-72-1	0.055

		Pentachloroethane	76-01-7	0.055	

		1,1,1,2-Tetrachloroethane	630-20-6	0.057	

		1,1,2,2-Tetrachloroethane	79-34-6	0.057	

0

		Tetrachloroethylene	127-18-4	0.056	

		1,1,2-Trichloroethane	79-00-5	0.054	

		Trichloroethylene	79-01-6	0.054	
3					

K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.	m-Dichlorobenzene	541-73-1	0.036

		Pentachloroethane	76-01-7	0.055	

		1,1,1,2-Tetrachloroethane	630-20-6	0.057	

		1,1,2,2-Tetrachloroethane	79-34-6	0.057	

		Tetrachloroethylene	127-18-4	0.056	

		1,2,4-Trichlorobenzene	120-82-1	0.055	

		1,1,2-Trichloroethane	79-00-5	0.054	

0

		Trichloroethylene	79-01-6	0.054	

K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	Chlordane (alpha and gamma isomers)	57-74-9	0.0033

		Heptachlor	76-44-8	0.0012	
3					

		Heptachlor epoxide	1024-57-3	0.016	

		Hexachlorocyclopentadiene	77-47-4	0.057	

K098	Untreated process wastewater from the production of toxaphene.	Toxaphene	8001-35-2	0.0095

K099	Untreated wastewater from the production of 2,4-D.	2,4-Dichlorophenoxyacetic acid	94-75-7	0.72

		HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	

		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	

		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	

0

		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	

1

		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	

		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	

3

K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	Cadmium	7440-43-9	0.69	

		Chromium (Total)	7440-47-3	2.77	

		Lead	7439-92-1	0.69	

K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	o-Nitroaniline	88-74-4	0.27	

		Arsenic	7440-38-2	1.4	

		Cadmium	7440-43-9	0.69	

		Lead	7439-92-1	0.69	

0

		Mercury	7439-97-6	0.15	

K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	o-Nitrophenol	88-75-5	0.028

		Arsenic	7440-38-2	1.4	
3					

		Cadmium	7440-43-9	0.69	

		Lead	7439-92-1	0.69	
5					

6			Mercury	7439-97-6	0.15

K103	Process residues from aniline extraction from the production of aniline.	Aniline	62-53-3	0.81

		Benzene	71-43-2	0.14	

		2,4-Dinitrophenol	51-28-5	0.12	

		Nitrobenzene	98-95-3	0.068	

0

		Phenol	108-95-2	0.039	

K104	Combined wastewater streams generated from nitrobenzene/ aniline production.	Aniline	62-53-3	0.81

		Benzene	71-43-2	0.14	
3					

		2,4-Dinitrophenol	51-28-5	0.12	

		Nitrobenzene	98-95-3	0.068	

		Phenol	108-95-2	0.039	

		Cyanides (Total)[7]	57-12-5	1.2	

7

K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	Benzene	71-43-2	0.14

		Chlorobenzene	108-90-7	0.057	

		2-Chlorophenol	95-57-8	0.044	

0

		o-Dichlorobenzene	95-50-1	0.088	

		p-Dichlorobenzene	106-46-7	0.090	

		Phenol	108-95-2	0.039	
3					

		2,4,5-Trichlorophenol	95-95-4	0.18	

		2,4,6-Trichlorophenol	88-06-2	0.035	

K106	K106 (wastewater treatment sludge from the mercury cell process in chlorine production) nonwastewaters that contain greater than or equal to 260 mg/kg total mercury.	Mercury	7439-97-6	NA	

K106 (wastewater treatment sludge from the mercury cell process in chlorine production) nonwastewaters that contain less than 260 mg/kg total mercury that are residues from RMERC.	Mercury	7439-97-6	NA	

Other K106 nonwastewaters that contain less than 260 mg/kg total mercury and are not residues from RMERC.	Mercury	7439-97-6	NA	

All K106 wastewaters.	Mercury	7439-97-6	0.15

K107	Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	NA	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN

K108	Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	NA	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN

K109	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	NA	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN

K110	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	NA	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN

K111	Product washwaters from the production of dinitrotoluene via nitration of toluene	2,4-Dinitrotoluene	121-1-2	0.32

		2,6-Dinitrotoluene	606-20-2	0.55	

K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN

K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	NA	CARBN; OR CMBST

K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotolune.	NA	NA	CARBN; or CMBST

K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	Nickel	7440-02-0	3.98	

		NA	NA	CARBN; or CMBST	

0

K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	NA	NA	CARBN; or CMBST

K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.	Methyl bromide (Bromomethane)	74-83-9	0.11

		Chloroform	67-66-3	0.046	

		Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	

K118	Spent absorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	Methyl bromide (Bromomethane)	74-83-9	0.11

		Chloroform	67-66-3	0.046	

		Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	

K123	Process wastewater (including supernates, filtrates and washwaters) from the production of ethylenebisdithiocarbamic acid and its salts.	NA	NA	CMBST; or CHOXD fb (BIODG or CARBN)

K124	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.	NA	NA	CMBST; or CHOXD fb (BIODG or CARBN)

K125	Filtration, evaporation and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.	NA	NA	CMBST; or CHOXD fb (BIODG or CARBN)

K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts.	NA	NA	CMBST; or CHOXD fb (BIODG or CARBN)

K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.	Methyl bromide (Bromomethane)	74-83-9	0.11

K132	Spent absorbent and wastewater separator solids from the production of methyl bromide.	Methyl bromide (Bromomethane)	74-83-9	0.11

K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	Methyl bromide (Bromomethane)	74-83-9	0.11

		Chloroform	67-66-3	0.046	

		Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	

K141	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludge from coking operations).	Benzene	71-43-2	0.14

		Benz(a)anthracene	56-55-3	0.059	

		Benzo(a)pyrene	50-2-8	0.061	

		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	

0

		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	

		Chrysene	218-01-9	0.059	

		Dibenz(a,h)anthracene	53-70-3	0.055	

3

		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	

K142	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.	Benzene	71-43-2	0.14

		Benz(a)anthracene	56-55-3	0.059	

		Benzo(a)pyrene	50-32-8	0.061	

		Benzo(b)fluoranthene (difficult to distinguish from benzo(k))	205-99-2	0.11	

		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	

		Chrysene	218-01-9	0.059	

0

		Dibenz(a,h)anthracene	53-70-3	0.055	

		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	

K143	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters and wash oil recovery units from the recovery of coke by-products produced from coal.	Benzene	71-43-2	0.14

		Benz(a)anthracene	56-55-3	0.059	

		Benzo(a)pyrene	50-32-8	0.061	

		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	

		Benzo(k)flouranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	

		Chrysene	218-01-9	0.059	

K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.	Benzene	71-43-2	0.14

		Benz(a)anthracene	56-55-3	0.059	

0

		Benzo(a)pyrene	50-32-8	0.061	

		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	

		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	

		Chrysene	218-01-9	0.059	

		Dibenz(a,h)anthracene	53-70-3	0.055	

K145	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.	Benzene	71-43-2	0.14

		Benz(a)anthracene	56-55-3	0.059	

		Benzo(a)pyrene	50-32-8	0.061	

		Chrysene	218-01-9	0.059	

		Dibenz(a,h)anthracene	53-70-3	0.055	

0

		Naphthalene	91-20-3	0.059	

K147	Tar storage tank residues from coal tar refining.	Benzene	71-43-2	0.14

		Benz(a)anthracene	56-55-3	0.059	
3					

		Benzo(a)pyrene	50-32-8	0.061	

		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	

		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	

		Chrysene	218-01-9	0.059	

		Dibenz(a,h)anthracene	53-70-3	0.055	

		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	

K148	Residues from coal tar distillation, including, but not limited to, still bottoms.	Benz(a)anthracene	56-55-3	0.059

0

		Benzo(a)pyrene	50-32-8	0.061	

		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	

		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	

		Chrysene	218-01-9	0.059	

		Dibenz(a,h)anthracene	53-70-3	0.055	

		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	

K149	Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides and compounds with mixtures of these functional groups. (This waste does not include still bottoms from the distillations of benzyl chloride.)	Chlorobenzene	108-90-7	0.057

		Chloroform	67-66-3	0.046	

		Chloromethane	74-87-3	0.19	

		p-Dichlorobenzene	106-46-7	0.090	

0

		Hexachlorobenzene	118-74-1	0.055	

		Pentachlorobenzene	608-93-5	0.055	

		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	

		Toluene	108-88-3	0.080	

K150	Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides and compounds with mixtures of these functional groups.	Carbon tetrachloride	56-23-5	0.057

		Chloroform	67-66-3	0.046	

		Chloromethane	74-87-3	0.19	

		p-Dichlorobenzene	106-46-7	0.090	

		Hexachlorobenzene	118-74-1	0.055	

		Pentachlorobenzene	608-93-5	0.055	

0

		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	

		1,1,2,2-Tetrachloroethane	79-34-5	0.057	

		Tetrachloroethylene	127-18-4	0.056	
3					

		1,2,4-Trichlorobenzene	120-82-1	0.055	

K151	Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides and compounds with mixtures of these functional groups.	Benzene	71-43-2	0.14

		Carbon tetrachloride	56-23-5	0.057	

		Chloroform	67-66-3	0.046	

		Hexachlorobenzene	118-74-1	0.055	

		Pentachlorobenzene	608-93-5	0.055	

		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	

0

		Tetrachloroethylene	127-18-4	0.056	

		Toluene	108-88-3	0.080	

2

K156	Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates and decantates) from the production of carbamates and carbamoyl oximes. [10]	Acetonitrile	75-05-8	5.6

		Acetophenone	96-86-2	0.010	

		Aniline	62-53-3	0.81	
5					

		Benomyl	17804-35-2	0.056	

		Benzene	71-43-2	0.14	

7

		Carbaryl	63-25-2	0.006	

		Carbenzadim	10605-21-7	0.056	

		Carbofuran	1563-66-2	0.006	

0

		Carbosulfan	55285-14-8	0.028	

		Chlorobenzene	108-90-7	0.057	

		Chloroform	67-66-3	0.046	

		o-Dichlorobenzene	95-50-1	0.088	

		Methomyl	16752-77-5	0.028	

		Methylene chloride	75-09-2	0.089	

		Methyl ethyl ketone	78-93-3	0.28	

		Naphthalene	91-20-3	0.059	

		Phenol	108-95-2	0.039	

		Pyridine	110-86-1	0.014	

0

		Toluene	108-88-3	0.080	
1					

		Triethylamine	121-44-8	0.081	

2

K157	Wastewaters (including scrubber waters, condenser waters, washwaters and separation waters) from the production of carbamates and carbamoyl oximes. [10]	Carbon tetrachloride	56-23-5	0.057

		Chloroform	67-66-3	0.046	

		Chloromethane	74-87-3	0.19	

		Methomyl	16752-77-5	0.028	

		Methylene chloride	75-09-2	0.089	

		Methyl ethyl ketone	78-93-3	0.28	

		o-Phenylenediamine	95-54-5	0.056	

		Pyridine	110-86-1	0.014	

0

		Triethylamine	121-44-8	0.081	

K158	Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oximes.	Benomyl	17804-35-2	0.056

		Benzene	71-43-2	0.14	
3					

		Carbenzadim	10605-21-7	0.056	

		Carbofuran	1563-66-2	0.006	

		Carbosulfan	55285-14-8	0.028	

		Chloroform	67-66-3	0.046	

		Methylene chloride	75-09-2	0.089	

		Phenol	108-95-2	0.039	

K159	Organics from the treatment of thiocarbamate wastes.	Benzene	71-43-2	0.14

0

		Butylate	2008-41-5	0.042	

		EPTC (Eptam)	759-94-4	0.042	

2

		Molinate	2212-67-1	0.042	
3					

		Pebulate	1114-71-2	0.042	

		Vernolate	1929-77-7	0.042	

K161	Purification solids (including filtration, evaporation and centrifugation solids), baghouse dust and floor sweepings from the production of dithiocarbamate acids and their salts.	Antimony	7440-36-0	1.9	

		Arsenic	7440-38-2	1.4	

		Carbon disulfide	75-15-0	3.8	

		Dithiocarbamates (total)	NA	0.028	

		Lead	7439-92-1	0.69	

0

		Nickel	7440-02-0	3.98	

		Selenium	7782-49-2	0.82	

K169	Crude oil tank sediment from petroleum refining operations.	Benz(a)anthracene	56-55-3	0.059

		Benzene	71-43-2	0.14	

		Benzo(g,h,i)perylene	191-24-2	0.0055	

		Chrysene	218-01-9	0.059	

		Ethyl benzene	100-41-4	0.057	

		Fluorene	86-73-7	0.059	

		Naphthalene	91-20-3	0.059	

		Phenanthrene	81-05-8	0.059	

0

		Pyrene	129-00-0	0.067	

		Toluene (Methyl Benzene)	108-88-3	0.080	

		Xylene(s) (Total)	1330-20-7	0.32	

3

K170	Clarified slurry oil sediment from petroleum refining operations.	Benz(a)anthracene	56-55-3	0.059

		Benzene	71-43-2	0.14	

		Benzo(g,h,i)perylene	191-24-2	0.0055	

		Chrysene	218-01-9	0.059	

		Dibenz(a,h)anthracene	53-70-3	0.055	

		Ethyl benzene	100-41-4	0.057	

		Fluorene	86-73-7	0.059	

0

		Indeno(1,2,3,-cd)pyrene	193-39-5	0.0055	

		Naphthalene	91-20-3	0.059	

		Phenanthrene	81-05-8	0.059	
3					

		Pyrene	129-00-0	0.067	

		Toluene (Methyl Benzene)	108-88-3	0.080	

		Xylene(s) (Total)	1330-20-7	0.32	

K171	Spent hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media).	Benz(a)anthracene	56-55-3	0.059

		Benzene	71-43-2	0.14	

		Chrysene	218-01-9	0.059	

		Ethyl benzene	100-41-4	0.057	

0

		Naphthalene	91-20-3	0.059	

		Phenanthrene	81-05-8	0.059	

		Pyrene	129-00-0	0.067	
3					

		Toluene (Methyl Benzene)	108-88-3	0.080	

		Xylene(s) (Total)	1330-20-7	0.32	
5					

		Arsenic	7740-38-2	1.4	

		Nickel	7440-02-0	3.98	

7

		Vanadium	7440-62-2	4.3	

		Reactive sulfides	NA	DEACT	

K172	Spent hydrorefining catalyst from petroleum refiing operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media).	Benzene	71-43-2	0.14

0

		Ethyl benzene	100-41-4	0.057	
1					

		Toluene (Methyl Benzene)	108-88-3	0.080	

		Xylene(s) (Total)	1330-20-7	0.32	

3

		Antimony	7740-36-0	1.9	

		Arsenic	7740-38-2	1.4	
5					

		Nickel	7440-02-0	3.98	

		Vanadium	7440-62-2	4.3	

		Reactive Sulfides	NA	DEACT	

K174	Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer.	1, 2, 3, 4, 6, 7, 8-Heptachlorodibenzo-p-dioxin (1, 2, 3, 4, 6, 7, 8 HpCDD	35822-46-9	0.000035 or CMBST[11]

		1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	67562-39-4	0.000035 or CMBST[11]

0

		1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	55673-89-7	0.000035 or CMBST[11]

		HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063 or CMBST[11]	

		HxCDFs (All Hexachlorodibenzofurans)	55684-94-1	0.000063 or CMBST[11]	

3

		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	3268-87-9	0.000063 or CMBST[11]	

		1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	39001-02-0	0.000063 or CMBST[11]

		PeCDDs (All Pentachlorodibenzo-p-dioxins	36088-22-9	0.000063 or CMBST[11]	

		PeCDFs (All Pentachlorodibenzofurans)	30402-15-4	0.000035 or CMBST[11]	

7

		TCDDs (All tetrachlorodibenzo-p-dioxins	41903-57-5	0.000063 or CMBST[11]	

		TCDFs (All tetrachlorodibenzofurans)	7440-36-0	1.4	

K175	Wastewater treatment sludge from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process.	Mercury [12]	7438-97-6	NA

0

		pH [12]		NA pH≤6.0	

All K175 wastewaters	Mercury	7438-97-6	0.15

K176	Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide).	Antimony	7440-36-0	1.9	

		Arsenic	7440-38-2	1.4	

4

		Cadmium	7440-43-9	0.69	
5					

6			Lead	7439-92-1	0.69

		Mercury	7439-97-6	0.15	

7

K177	Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide).	Antimony	7440-36-0	1.9	

		Arsenic	7440-38-2	1.4	

		Lead	7439-92-1	0.69	

0

K178	Residues from manufacturing and manufacturing-site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process.	1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin (1,2,3,4,6,7,8-HpCDD)	35822-39-4	0.000035 or CMBST[11]

		1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	67562-39-4	0.000035 or CMBST[11]	

2

		1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	55673-89-7	0.000035 or CMBST[11]	

3

		HxCDDs (All Hexachlorodibenzo-*p*-dioxins)	34465-46-8	0.000063 or CMBST[11]	

		HxCDFs (All Hexachlorodibenzofurans)	55684-94-1	0.000063 or CMBST[11]	

5

		1,2,3,4,6,7,8,9-Octachlorodibenzo-*p*-dioxin (OCDD)	3268-87-9	0.000063 or CMBST[11]	

		1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	39001-02-0	0.000063 or CMBST[11]	

7

		PeCDDs (All Pentachlorodibenzo-*p*-dioxins)	36088-22-9	0.000063 or CMBST[11]	

		PeCDFs (All Pentachlorodibenzofurans)	30402-15-4	0.000035 or CMBST[11]	

		TCDDs (All tetrachlorodi-benzo-*p*-dioxins)	41903-57-5	0.000063 or CMBST[11]	

0

		TCDFs (All tetrachlorodibenzofurans)	55722-27-5	0.000063 or CMBST[11]	

		Thallium	7440-28-0	1.4	

P001	Warfarin, & salts, when present at concentrations greater than 0.3%	Warfarin	81-81-2	(WETOX or CHOXD) fb CARBN; or CMBST

P002	1-Acetyl-2-thiourea	1-Acetyl-2-thiourea	591-08-2	(WETOX or CHOXD) fb CARBN; or CMBST

P003	Acrolein	Acrolein	107-02-8	0.29

P004	Aldrin	Aldrin	309-00-2	0.021

P005	Allyl alcohol	Allyl alcohol	107-18-6	(WETOX or CHOXD) fb CARBN; or CMBST

P006	Aluminum phosphide	Aluminum phosphide	20859-73-8	CHOXD; CHRED; or CMBST	C

P007	5-Aminomethyl 3-isoxazolol	5-Aminomethyl 3-isoxazolol	2763-96-4	(WETOX or CHOXD) fb CARBN; or CMBST

P008	4-Aminopyridine	4-Aminopyridine	504-24-5	(WETOX or CHOXD) fb CARBN; or CMBST

0

P009	Ammonium picrate	Ammonium picrate	131-74-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

P010	Arsenic acid	Arsenic	7440-38-2	1.4	

P011	Arsenic pentoxide	Arsenic	7440-38-2	1.4	

P012	Arsenic trioxide	Arsenic	7440-38-2	1.4	

P013	Barium cyanide	Barium	7440-39-3	NA	

		Cyanides (Total)[7]	57-12-5	1.2	

		Cyanides (Amenable)[7]	57-12-5	0.86	

7

P014	Thiophenol (Benzene thiol)	Thiophenol (Benzene thiol)	108-98-5	(WETOX or CHOXD) fb CARBN; or CMBST

P015	Beryllium dust	Beryllium	7440-41-7	RMETL; or RTHRM	I

P016	Dichloromethyl ether (Bis(chloromethyl)ether)	Dichloromethyl ether	542-88-1	(WETOX or CHOXD) fb CARBN; or CMBST

0

P017	Bromoacetone	Bromoacetone	598-31-2	(WETOX or CHOXD) fb CARBN; or CMBST

P018	Brucine	Brucine	357-57-3	(WETOX or CHOXD) fb CARBN; or CMBST

P020	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	0.066

P021	Calcium cyanide	Cyanides (Total)[7]	57-12-5	1.2

		Cyanides (Amenable)[7]	57-12-5	0.86	

P022	Carbon disulfide	Carbon disulfide	75-15-0	3.8

		Carbon disulfide; alternate[6] standard for nonwastewaters only	75-15-0	NA	

P023	Chloroacetaldehyde	Chloroacetaldehyde	107-20-0	(WETOX or CHOXD) fb CARBN; or CMBST

P024	p-Chloroaniline	p-Chloroaniline	106-47-8	0.46

P026	1-(o-Chlorophenyl)thiourea	1-(o-Chlorophenyl)thiourea	5344-82-1	(WETOX or CHOXD) fb CARBN; or CMBST

P027	3-Chloropropionitrile	3-Chloropropionitrile	542-76-7	(WETOX or CHOXD) fb CARBN; or CMBST

P028	Benzyl chloride	Benzyl chloride	100-44-7	(WETOX or CHOXD) fb CARBN; or CMBST

P029	Copper cyanide	Cyanides (Total)[7]	57-12-5	1.2

		Cyanides (Amenable)[7]	57-12-5	0.86	

P030	Cyanides (soluble salts and complexes)	Cyanides (Total)[7]	57-12-5	1.2

		Cyanides (Amenable)[7]	57-12-5	0.86	

P031	Cyanogen	Cyanogen	460-19-5	CHOXD; WETOX; or CMBST

P033	Cyanogen chloride	Cyanogen chloride	506-77-4	CHOXD; WETOX; or CMBST

P034	2-Cyclohexyl-4,6-dinitrophenol	2-Cyclohexyl-4,6-dinitrophenol	131-89-5	(WETOX or CHOXD) fb CARBN; or CMBST

P036	Dichlorophenylarsine	Arsenic	7440-38-2	1.4

P037	Dieldrin	Dieldrin	60-57-1	0.017

P038	Diethylarsine	Arsenic	7440-38-2	1.4

P039	Disulfoton	Disulfoton	298-04-4	0.017

P040	0,0-Diethyl O-pyrazinyl phosphorothioate	0,0-Diethyl O-pyrazinyl phosphorothioate	297-97-2	CARBN; or CMBST

P041	Diethyl-p-nitrophenyl phosphate	Diethyl-p-nitrophenyl phosphate	311-45-5	CARBN; or CMBST

P042	Epinephrine	Epinephrine	51-43-4	(WETOX or CHOXD) fb CARBN; or CMBST

P043	Diisopropylfluorophosphate (DFP)	Diisopropylfluorophosphate (DFP)	55-91-4	CARBN; or CMBST

P044	Dimethoate	Dimethoate	60-51-5	CARBN; or CMBST

P045	Thiofanox	Thiofanox	39196-18-4	(WETOX or CHOXD) fb CARBN; or CMBST

P046	alpha, alpha-Dimethylphenethylamine	alpha, alpha-Dimethylphenethylamine	122-09-8	(WETOX or CHOXD) fb CARBN; or CMBST

P047	4,6-Dinitro-o-cresol	4,6-Dinitro-o-cresol	543-52-1	0.28

	4,6-Dinitro-o-cresol salts	NA	NA	(WETOX or CHOXD) fb CARBN; or CMBST

2

P048	2,4-Dinitrophenol	2,4-Dinitrophenol	51-28-5	0.12

P049	Dithiobiuret	Dithiobiuret	541-53-7	(WETOX or CHOXD) fb CARBN; or CMBST

P050	Endosulfan	Endosulfan I	939-98-8	0.023

		Endosulfan II	33213-6-5	0.029	

		Endosulfan sulfate	1031-07-8	0.029	

P051	Endrin	Endrin	72-20-8	0.0028

		Endrin aldehyde	7421-93-4	0.025	

P054	Aziridine	Aziridine	151-56-4	(WETOX or CHOXD) fb CARBN; or CMBST

P056	Fluorine	Fluoride (measured in wastewaters only)	16964-48-8	35	

P057	Fluoroacetamide	Fluoroacetamide	640-19-7	(WETOX or CHOXD) fb CARBN; or CMBST

P058	Fluoroacetic acid, sodium salt	Fluoroacetic acid, sodium salt	62-74-8	(WETOX or CHOXD) fb CARBN; or CMBST

P059	Heptachlor	Heptachlor	76-44-8	0.0012

		Heptachlor epoxide	1024-57-3	0.016	

P060	Isodrin	Isodrin	465-73-6	0.021

P062	Hexaethyl tetraphosphate	Hexaethyl tetraphosphate	757-58-4	CARBN; or CMBST

P063	Hydrogen cyanide	Cyanides (Total)[7]	57-12-5	1.2

		Cyanides (Amenable)[7]	57-12-5	0.86	

P064	Isocyanic acid, ethyl ester	Isocyanic acid, ethyl ester	624-83-9	(WETOX or CHOXD) fb CARBN; or CMBST

P065	Mercury fulminate nonwastewaters, regardless of their total mercury content, that are not incinerator residues or are not residues from RMERC.	Mercury	7439-97-6	NA	

Mercury fulminate nonwastewaters that are either incinerator residues or are residues from RMERC; and contain greater than or equal to 260 mg/kg total mercury.	Mercury	7439-97-6	NA	

	Mercury fulminate nonwastewaters that are residues from RMERC and contain less than 260 mg/kg total mercury.	Mercury	7439-97-6	NA

Mercury fulminate nonwastewaters that are incinerator residues and contain less than 260 mg/kg total mercury.	Mercury	7439-97-6	NA	

All mercury fulminate wastewaters.	Mercury	7439-97-6	0.15

P066	Methomyl	Methomyl	16752-77-5	(WETOX or CHOXD) fb CARBN; or CMBST	

P067	2-Methyl-aziridine	2-Methyl-aziridine	75-55-8	(WETOX or CHOXD) fb CARBN; or CMBST

P068	Methyl hydrazine	Methyl hydrazine	60-34-4	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

P069	2-Methyllactonitrile	2-Methyllactonitrile	75-86-5	(WETOX or CHOXD) fb CARBN; or CMBST

P070	Aldicarb	Aldicarb	116-06-3	(WETOX or CHOXD) fb CARBN; or CMBST

0

P071	Methyl parathion	Methyl parathion	298-00-0	0.014

P072	1-Naphthyl-2-thiourea	1-Naphthyl-2-thiourea	86-88-4	(WETOX or CHOXD) fb CARBN; or CMBST

P073	Nickel carbonyl	Nickel	7440-02-0	3.98	

P074	Nickel cyanide	Cyanides (Total)[7]	57-12-5	1.2

		Cyanides (Amenable)[7]	57-12-5	0.86	

		Nickel	7440-02-0	3.98	

P075	Nicotine and salts	Nicotine and salts	54-11-5	(WETOX or CHOXD) fb CARBN; or CMBST

P076	Nitric oxide	Nitric oxide	10102-43-9	ADGAS	

P077	p-Nitroaniline	p-Nitroaniline	100-01-6	0.028

P078	Nitrogen dioxide	Nitrogen dioxide	10102-44-0	ADGAS

P081	Nitroglycerin	Nitroglycerin	55-63-0	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

P082	N-Nitrosodimethylamine	N-Nitrosodimethylamine	62-75-9	0.40

P084	N-Nitrosomethylvinylamine	N-Nitrosomethylvinylamine	4549-40-0	(WETOX or CHOXD) fb CARBN; or CMBST

P085	Octamethylpyrophosphoramide	Octamethylpyrophosphoramide	152-16-9	CARBN; or CMBST	

P087	Osmium tetroxide	Osmium tetroxide	20816-12-0	RMETL; or RTHRM	I

P088	Endothall	Endothall	145-73-3	(WETOX or CHOXD) fb CARBN; or CMBST

P089	Parathion	Parathion	56-38-2	0.014

P092	Phenyl mercuric acetate nonwastewaters, regardless of their total mercury content, that are not incinerator residues or are not residues from RMERC.	Mercury	7439-97-6	NA	

Phenyl mercuric acetate nonwastewaters that are either incinerator residues or are residues from RMERC; and still contain greater than or equal to 260 mg/kg total mercury.	Mercury	7439-97-6	NA	

Phenyl mercuric acetate nonwastewaters that are residues from RMERC and contain less than 260 mg/kg total mercury.	Mercury	7439-97-6	NA	

Phenyl mercuric acetate nonwastewaters that are incinerator residues and contain less than 260 mg/kg total mercury.	Mercury	7439-97-6	NA	

	All phenyl mercuric acetate wastewaters.	Mercury	7439-97-6	0.15

P093	Phenylthiourea	Phenylthiourea	103-85-5	(WETOX or CHOXD) fb CARBN; or CMBST

P094	Phorate	Phorate	298-02-2	0.021

P095	Phosgene	Phosgene	75-44-5	(WETOX or CHOXD) fb CARBN; or CMBST

P096	Phosphine	Phosphine	7803-51-2	CHOXD; CHRED; or CMBST	C

P097	Famphur	Famphur	52-85-7	0.017

P098	Potassium cyanide.	Cyanides (Total)[7]	57-12-5	1.2

		Cyanides (Amenable)[7]	57-12-5	0.86	

P099	Potassium silver cyanide	Cyanides (Total)[7]	57-12-5	1.2

0

		Cyanides (Amenable)[7]	57-12-5	0.86	

		Silver	7440-22-4	0.43	

P101	Ethyl cyanide (Propanenitrile)	Ethyl cyanide (Propanenitrile)	107-12-0	0.24

P102	Propargyl alcohol	Propargyl alcohol	107-19-7	(WETOX or CHOXD) fb CARBN; or CMBST

P103	Selenourea	Selenium	7782-49-2	0.82

P104	Silver cyanide	Cyanides (Total)[7]	57-12-5	1.2

		Cyanides (Amenable)[7]	57-12-5	0.86	

7

		Silver	7440-22-4	0.43	

P105	Sodium azide	Sodium azide	26628-22-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

P106	Sodium cyanide	Cyanides (Total)[7]	57-12-5	1.2

0

		Cyanides (Amenable)[7]	57-12-5	0.86	

P108	Strychnine and salts	Strychnine and salts	57-24-9	(WETOX or CHOXD) fb CARBN; or CMBST

P109	Tetraethyldithiopyrophosphate	Tetraethyldithiopyrophosphate	3689-24-5	CARBN; or CMBST	

P110	Tetraethyl lead	Lead	7439-92-1	0.69

P111	Tetraethylpyrophosphate	Tetraethylpyrophosphate	107-49-3	CARBN; or CMBST

P112	Tetranitromethane	Tetranitromethane	509-14-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

P113	Thallic oxide	Thallium (measured in wastewaters only)	7440-28-0	1.4	

P114	Thallium selenite	Selenium	7782-49-2	0.82

P115	Thallium (I) sulfate	Thallium (measured in wastewaters only)	7440-28-0	1.4	

P116	Thiosemicarbazide	Thiosemicarbazide	79-19-6	(WETOX or CHOXD) fb CARBN; or CMBST

P118	Trichloromethanethiol	Trichloromethanethiol	75-70-7	(WETOX or CHOXD) fb CARBN; or CMBST

P119	Ammonium vanadate	Vanadium (measured in wastewaters only)	7440-62-2	4.3	

P120	Vanadium pentoxide	Vanadium (measured in wastewaters only)	7440-62-2	4.3	

P121	Zinc cyanide	Cyanides (Total)[7]	57-12-5	1.2

		Cyanides (Amenable)[7]	57-12-5	0.86	

P122	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10%	Zinc Phosphide	1314-84-7	CHOXD; CHRED; or CMBST	C

P123	Toxaphene	Toxaphene	8001-35-2	0.0095

P127	Carbofuran	Carbofuran	1563-66-2	0.006	

P128	Mexacarbate	Mexacarbate	315-18-4	0.056

P185	Tirpate [10]	Tirpate	26419-73-8	0.056	

P188	Physostigmine salicylate	Physostigmine salicylate	57-64-7	0.056

P189	Carbosulfan	Carbosulfan	55285-14-8	0.028	

P190	Metolcarb	Metolcarb	1129-41-5	0.056	

P191	Dimetilan [10]	Dimetilan	644-64-4	0.056

P192	Isolan [10]	Isolan	119-38-0	0.056

P194	Oxamyl	Oxamyl	23135-22-0	0.056	

P196	Manganese dimethyldithiocarbamate [10]	Dithiocarbamates (total)	NA	0.028

P197	Formparanate [10]	Formparanate	17702-57-7	0.056	

P198	Formetanate hydrochloride	Formetanate hydrochloride	23422-53-9	0.056

P199	Methiocarb	Methiocarb	2032-65-7	0.056

P201	Promecarb	Promecarb	2631-37-0	0.056	

P202	m-Cumenyl methylcarbamate	m-Cumenyl methylcarbamate	64-00-6	0.056

P203	Aldicarb sulfone	Aldicarb sulfone	1646-88-4	0.056

P204	Physostigmine	Physostigmine	57-47-6	0.056

P205	Ziram	Dithiocarbamates (total)	NA	0.028

U001	Acetaldehyde	Acetaldehyde	75-07-0	(WETOX or CHOXD) fb CARBN; or CMBST

U002	Acetone	Acetone	67-64-1	0.28

U003	Acetonitrile	Acetonitrile	75-05-8	5.6

		Acetonitrile; alternate[6] standard for nonwastewaters only	75-05-8	NA	

U004	Acetophenone	Acetophenone	98-86-2	0.010

U005	2-Acetylaminofluorene	2-Acetylaminofluorene	53-96-3	0.059

U006	Acetyl chloride	Acetyl Chloride	75-36-5	(WETOX or CHOXD) fb CARBN; or CMBST

U007	Acrylamide	Acrylamide	79-06-1	(WETOX or CHOXD) fb CARBN; or CMBST

U008	Acrylic acid	Acrylic acid	79-10-7	(WETOX or CHOXD) fb CARBN; or CMBST

U009	Acrylonitrile	Acrylonitrile	107-13-1	0.24

U010	Mitomycin C	Mitomycin C	50-07-7	(WETOX or CHOXD) fb CARBN; or CMBST

U011	Amitrole	Amitrole	61-82-5	(WETOX or CHOXD) fb CARBN; or CMBST

U012	Aniline	Aniline	62-53-3	0.81

U014	Auramine	Auramine	492-80-8	(WETOX or CHOXD) fb CARBN; or CMBST

U015	Azaserine	Azaserine	115-02-6	(WETOX or CHOXD) fb CARBN; or CMBST

0

U016	Benz(c)acridine	Benz(c)acridine	225-51-4	(WETOX or CHOXD) fb CARBN; or CMBST

U017	Benzal chloride	Benzal chloride	98-87-3	(WETOX or CHOXD) fb CARBN; or CMBST

U018	Benz(a)anthracene	Benz(a)anthracene	56-55-3	0.059

U019	Benzene	Benzene	71-43-2	0.14

U020	Benzenesulfonyl chloride	Benzenesulfonyl chloride	98-09-9	(WETOX or CHOXD) fb CARBN; or CMBST

U021	Benzidine	Benzidine	92-87-5	(WETOX or CHOXD) fb CARBN; or CMBST

U022	Benzo(a)pyrene	Benzo(a)pyrene	50-32-8	0.061

U023	Benzotrichloride	Benzotrichloride	98-07-7	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

U024	bis(2-Chloroethoxy)methane	bis(2-Chloroethoxy)methane	111-91-1	0.036

U025	bis(2-Chloroethyl)ether	bis(2-Chloroethyl)ether	111-44-4	0.033

U026	Chlornaphazine	Chlornaphazine	494-03-1	(WETOX or CHOXD) fb CARBN; or CMBST

U027	bis(2-Chloroisopropyl)ether	bis(2-Chloroisopropyl)ether	39638-32-9	0.055	

U028	bis(2-Ethylhexyl) phthalate	bis(2-Ethylhexyl) phthalate	117-81-7	0.28	

U029	Methyl bromide (Bromomethane)	Methyl bromide (Bromomethane)	74-83-9	0.11

U030	4-Bromophenyl phenyl ether	4-Bromophenyl phenyl ether	101-55-3	0.055

U031	n-Butyl alcohol	n-Butyl alcohol	71-36-3	5.6

U032	Calcium chromate	Chromium (Total)	7440-47-3	2.77

U033	Carbon oxyfluoride	Carbon oxyfluoride	353-50-4	(WETOX or CHOXD) fb CARBN; or CMBST

U034	Trichloroacetaldehyde (Chloral)	Trichloroacetaldehyde (Chloral)	75-87-6	(WETOX or CHOXD) fb CARBN; or CMBST

U035	Chlorambucil	Chlorambucil	305-03-3	(WETOX or CHOXD) fb CARBN; or CMBST

U036	Chlordane	Chlordane (alpha and gamma isomers)	57-74-9	0.0033

U037	Chlorobenzene	Chlorobenzene	108-90-7	0.057

U038	Chlorobenzilate	Chlorobenzilate	510-15-6	0.10

U039	p-Chloro-m-cresol	p-Chloro-m-cresol	59-50-7	0.018

U041	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106-89-8	(WETOX or CHOXD) fb CARBN; or CMBST

U042	2-Chloroethyl vinyl ether	2-Chloroethyl vinyl ether	110-75-8	0.062

U043	Vinyl chloride	Vinyl chloride	75-01-4	0.27

U044	Chloroform	Chloroform	67-66-3	0.046

U045	Chloromethane (Methyl chloride)	Chloromethane (Methyl chloride)	74-87-3	0.19

U046	Chloromethyl methyl ether	Chloromethyl methyl ether	107-30-2	(WETOX or CHOXD) fb CARBN; or CMBST

U047	2-Chloronaphthalene	2-Chloronaphthalene	91-58-7	0.055

U048	2-Chlorophenol	2-Chlorophenol	95-57-8	0.044

U049	4-Chloro-o-toluidine hydrochloride	4-Chloro-o-toluidine hydrochloride	3165-93-3	(WETOX or CHOXD) fb CARBN; or CMBST

U050	Chrysene	Chrysene	218-01-9	0.059

U051	Creosote	Naphthalene	91-20-3	0.059

		Pentachlorophenol	87-86-5	0.089	

		Phenanthrene	85-01-8	0.059	

		Pyrene	129-00-0	0.067	

		Toluene	108-88-3	0.080	

		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	

0

		Lead	7439-92-1	0.69	

U052	Cresols (Cresylic acid)	o-Cresol	95-48-7	0.11

		m-Cresol(difficult to distinguish from p-cresol)	108-39-4	0.77	

		p-Cresol(difficult to distinguish from m-cresol)	106-44-5	0.77	

		Cresol-mixed isomers (Cresylic acid)(sum of o-, m-, and p-cresol concentrations)	1319-77-3	0.88	

U053	Crotonaldehyde	Crotonaldehyde	4170-30-3	(WETOX or CHOXD) fb CARBN; or CMBST

U055	Cumene	Cumene	98-82-8	(WETOX or CHOXD) fb CARBN; or CMBST

U056	Cyclohexane	Cyclohexane	110-82-7	(WETOX or CHOXD) fb CARBN; or CMBST

U057	Cyclohexanone	Cyclohexanone	108-94-1	0.36

		Cyclohexanone; alternate[6] standard for nonwastewaters only	108-94-1	NA	

0

U058	Cyclophosphamide	Cyclophosphamide	50-18-0	CARBN; or CMBST

U059	Daunomycin	Daunomycin	20830-81-3	(WETOX or CHOXD) fb CARBN; or CMBST	

U060	DDD	o,p'-DDD	53-19-0	0.023

		p,p’-DDD	72-54-8	0.023	

U061	DDT	o-p’-DDT	789-02-6	0.0039

		p,p’-DDT	50-29-3	0.0039	

		o,p’-DDD	53-19-0	0.023	

		p,p’-DDD	72-54-8	0.023	

		o,p’-DDE	3424-82-6	0.031	

		p,p’-DDE	72-55-9	0.031	

0

U062	Diallate	Diallate	2303-16-4	(WETOX or CHOXD) fb CARBN; or CMBST

U063	Dibenz(a,h)anthracene	Dibenz(a,h)anthracene	53-70-3	0.055

U064	Dibenz(a,i)pyrene	Dibenz(a,i)pyrene	189-55-9	(WETOX or CHOXD) fb CARBN; or CMBST

U066	1,2-Dibromo-3-chloropropane	1,2-Dibromo-3-chloropropane	96-12-8	0.11

U067	Ethylene dibromide (1,2-Dibromoethane)	Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028

U068	Dibromomethane	Dibromomethane	74-95-3	0.11

U069	Di-n-butyl phthalate	Di-n-butyl phthalate	84-74-2	0.057

U070	o-Dichlorobenzene	o-Dichlorobenzene	95-50-1	0.088

U071	m-Dichlorobenzene	m-Dichlorobenzene	541-73-1	0.036

U072	p-Dichlorobenzene	p-Dichlorobenzene	106-46-7	0.090

U073	3,3'-Dichlorobenzidine	3,3'-Dichlorobenzidine	91-94-1	(WETOX or CHOXD) fb CARBN; or CMBST

U074	1,4-Dichloro-2-butene	cis-1,4-Dichloro-2-butene	1476-11-5	(WETOX or CHOXD) fb CARBN; or CMBST

		trans-1,4-Dichloro-2-butene	764-41-0	(WETOX or CHOXD) fb CARBN; or CMBST	

U075	Dichlorodifluoromethane	Dichlorodifluoromethane	75-71-8	0.23	

U076	1,1-Dichloroethane	1,1-Dichloroethane	75-34-3	0.059

U077	1,2-Dichloroethane	1,2-Dichloroethane	107-06-2	0.21

U078	1,1-Dichloroethylene	1,1-Dichloroethylene	75-35-4	0.025

U079	1,2-Dichloroethylene	trans-1,2-Dichloroethylene	156-60-5	0.054

U080	Methylene chloride	Methylene chloride	75-09-2	0.089

U081	2,4-Dichlorophenol	2,4-Dichlorophenol	120-83-2	0.044

U082	2,6-Dichlorophenol	2,6-Dichlorophenol	87-65-0	0.044

U083	1,2-Dichloropropane	1,2-Dichloropropane	78-87-5	0.85

U084	1,3-Dichloropropylene	cis-1,3-Dichloropropylene	10061-01-5	0.036	

		trans-1,3-Dichloropropylene	10061-02-6	0.036	

U085	1,2:3,4-Diepoxybutane	1,2:3,4-Diepoxybutane	1464-53-5	(WETOX or CHOXD) fb CARBN; or CMBST

U086	N,N'-Diethylhydrazine	N,N'-Diethylhydrazine	1615-80-1	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

U087	O,O-Diethyl S-methyldithiophosphate	O,O-Diethyl S-methyldithiophosphate	3288-58-2	CARBN; or CMBST

U088	Diethyl phthalate	Diethyl phthalate	84-66-2	0.20

U089	Diethyl stilbestrol	Diethyl stilbestrol	56-53-1	(WETOX or CHOXD) fb CARBN; or CMBST

U090	Dihydrosafrole	Dihydrosafrole	94-58-6	(WETOX or CHOXD) fb CARBN; or CMBST

0

U091	3,3'-Dimethoxybenzidine	3,3'-Dimethoxybenzidine	119-90-4	(WETOX or CHOXD) fb CARBN; or CMBST

U092	Dimethylamine	Dimethylamine	124-40-3	(WETOX or CHOXD) fb CARBN; or CMBST

U093	p-Dimethylaminoazobenzene	p-Dimethylaminoazobenzene	60-11-7	0.13	

U094	7,12-Dimethylbenz(a)anthracene	7,12-Dimethylbenz(a)anthracene	57-97-6	(WETOX or CHOXD) fb CARBN; or CMBST

U095	3,3'-Dimethylbenzidine	3,3'-Dimethylbenzidine	119-93-7	(WETOX or CHOXD) fb CARBN; or CMBST

U096	alpha, alpha-Dimethyl benzyl hydroperoxide	alpha, alpha-Dimethyl benzyl hydroperoxide	80-15-9	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

U097	Dimethylcarbamoyl chloride	Dimethylcarbamoyl chloride	79-44-7	(WETOX or CHOXD) fb CARBN; or CMBST

U098	1,1-Dimethylhydrazine	1,1-Dimethylhydrazine	57-14-7	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

U099	1,2-Dimethylhydrazine	1,2-Dimethylhydrazine	540-73-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

U101	2,4-Dimethylphenol	2,4-Dimethylphenol	105-67-9	0.036

U102	Dimethyl phthalate	Dimethyl phthalate	131-11-3	0.047

U103	Dimethyl sulfate	Dimethyl sulfate	77-78-1	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

U105	2,4-Dinitrotoluene	2,4-Dinitrotoluene	121-14-2	0.32

U106	2,6-Dinitrotoluene	2,6-Dinitrotoluene	606-20-2	0.55

U107	Di-n-octyl phthalate	Di-n-octyl phthalate	117-84-0	0.017

U108	1,4-Dioxane	1,4-Dioxane	123-91-1	(WETOX or CHOXD) fb CARBN; or CMBST

		1,4-Dioxane; alternate[6]	123-91-1	12.0	

U109	1,2-Diphenylhydrazine	1,2-Diphenylhydrazine	122-66-7	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

		1,2-Diphenylhydrazine; alternate[6] standard for wastewaters only	122-66-7	0.087	

U110	Dipropylamine	Dipropylamine	142-84-7	(WETOX or CHOXD) fb CARBN; or CMBST

U111	Di-n-propylnitrosamine	Di-n-propylnitrosamine	621-64-7	0.40

U112	Ethyl acetate	Ethyl acetate	141-78-6	0.34

U113	Ethyl acrylate	Ethyl acrylate	140-88-5	(WETOX or CHOXD) fb CARBN; or CMBST

U114	Ethylenebisdithiocarbamic acid salts and esters	Ethylenebisdithiocarbamic acid	111-54-6	(WETOX or CHOXD) fb CARBN; or CMBST

U115	Ethylene oxide	Ethylene oxide	75-21-8	(WETOX or CHOXD) fb CARBN; or CMBST	C

		Ethylene oxide; alternate[6] standard for wastewaters only	75-21-8	0.12	

6

U116	Ethylene thiourea	Ethylene thiourea	96-45-7	(WETOX or CHOXD) fb CARBN; or CMBST

U117	Ethyl ether	Ethyl ether	60-29-7	0.12

U118	Ethyl methacrylate	Ethyl methacrylate	97-63-2	0.14

U119	Ethyl methane sulfonate	Ethyl methane sulfonate	62-50-0	(WETOX or CHOXD) fb CARBN; or CMBST

0

U120	Fluoranthene	Fluoranthene	206-44-0	0.068

U121	Trichloromonofluoromethane	Trichloromonofluoromethane	75-69-4	0.020

U122	Formaldehyde	Formaldehyde	50-00-0	(WETOX or CHOXD) fb CARBN; or CMBST

U123	Formic acid	Formic acid	64-18-6	(WETOX or CHOXD) fb CARBN; or CMBST

U124	Furan	Furan	110-00-9	(WETOX or CHOXD) fb CARBN; or CMBST

U125	Furfural	Furfural	98-01-1	(WETOX or CHOXD) fb CARBN; or CMBST

U126	Glycidylaldehyde	Glycidylaldehyde	765-34-4	(WETOX or CHOXD) fb CARBN; or CMBST

U127	Hexachlorobenzene	Hexachlorobenzene	118-74-1	0.055

U128	Hexachlorobutadiene	Hexachlorobutadiene	87-68-3	0.055	

U129	Lindane	alpha-BHC	319-84-6	0.00014

		beta-BHC	319-85-7	0.00014	

		delta-BHC	319-86-8	0.023	
2					

		gamma-BHC (Lindane)	58-89-9	0.0017	

U130	Hexachlorocyclopentadiene	Hexachlorocyclopentadiene	77-47-4	0.057

U131	Hexachloroethane	Hexachloroethane	67-72-1	0.055

U132	Hexachlorophene	Hexachlorophene	70-30-4	(WETOX or CHOXD) fb CARBN; or CMBST

U133	Hydrazine	Hydrazine	302-01-2	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

U134	Hydrogen fluoride	Fluoride (measured in wastewaters only)	16964-48-8	35	

U135	Hydrogen Sulfide	Hydrogen Sulfide	7783-06-4	CHOXD; CHRED, or CMBST	C

U136	Cacodylic acid	Arsenic	7440-38-2	1.4

U137	Indeno(1,2,3-c,d)pyrene	Indeno(1,2,3-c,d)pyrene	193-39-5	0.0055

U138	Iodomethane	Iodomethane	74-88-4	0.19

U140	Isobutyl alcohol	Isobutyl alcohol	78-83-1	5.6

U141	Isosafrole	Isosafrole	120-58-1	0.081

U142	Kepone	Kepone	143-50-8	0.0011

U143	Lasiocarpine	Lasiocarpine	303-34-4	(WETOX or CHOXD) fb CARBN; or CMBST

U144	Lead acetate	Lead	7439-92-1	0.69

U145	Lead phosphate	Lead	7439-92-1	0.69

U146	Lead subacetate	Lead	7439-92-1	0.69

U147	Maleic anhydride	Maleic anhydride	108-31-6	(WETOX or CHOXD) fb CARBN; or CMBST

U148	Maleic hydrazide	Maleic hydrazide	123-33-1	(WETOX or CHOXD) fb CARBN; or CMBST

U149	Malononitrile	Malononitrile	109-77-3	(WETOX or CHOXD) fb CARBN; or CMBST

U150	Melphalan	Melphalan	148-82-3	(WETOX or CHOXD) fb CARBN; or CMBST

U151	U151 (mercury) nonwastewaters that contain greater than or equal to 260 mg/kg total mercury.	Mercury	7439-97-6	NA	

U151 (mercury) nonwastewaters that contain less than 260 mg/kg total mercury and that are residues from RMERC only.	Mercury	7439-97-6	NA	

U151 (mercury) nonwastewaters that contain less than 260 mg/kg total mercury and that are not residues from RMERC.	Mercury	7439-97-6	NA	

All U151 (mercury) wastewaters.	Mercury	7439-97-6	0.15

	Elemental Mercury Contaminated with Radioactive Materials	Mercury	7439-97-6	NA

U152	Methacrylonitrile	Methacrylonitrile	126-98-7	0.24

U153	Methanethiol	Methanethiol	74-93-1	(WETOX or CHOXD) fb CARBN; or CMBST

U154	Methanol	Methanol	67-56-1	(WETOX or CHOXD) fb CARBN; or CMBST

		Methanol; alternate[6] set of standards for both wastewaters and nonwastewaters	67-56-1	5.6	

2

U155	Methapyrilene	Methapyrilene	91-80-5	0.081	

U156	Methyl chlorocarbonate	Methyl chlorocarbonate	79-22-1	(WETOX or CHOXD) fb CARBN; or CMBST

U157	3-Methylcholanthrene	3-Methylcholanthrene	56-49-5	0.0055

U158	4,4’-Methylene bis(2-chloroaniline)	4,4’-Methylene bis(2-chloroaniline)	101-14-4	0.50

U159	Methyl ethyl ketone	Methyl ethyl ketone	78-93-3	0.28

U160	Methyl ethyl ketone peroxide	Methyl ethyl ketone peroxide	1338-23-4	CHOXD; CHRED; CARBN; BIODG; or CMBST	C

U161	Methyl isobutyl ketone	Methyl isobutyl ketone	108-10-1	0.14

U162	Methyl methacrylate	Methyl methacrylate	80-62-6	0.14

U163	N-Methyl N'-nitro N-nitrosoguanidine	N-Methyl N'-nitro N-nitrosoguanidine	70-25-7	(WETOX or CHOXD) fb CARBN; or CMBST

1

U164	Methylthiouracil	Methylthiouracil	56-04-2	(WETOX or CHOXD) fb CARBN; or CMBST

U165	Naphthalene	Naphthalene	91-20-3	0.059

U166	1,4-Naphthoquinone	1,4-Naphthoquinone	130-15-4	(WETOX or CHOXD) fb CARBN; or CMBST

U167	1-Naphthylamine	1-Naphthylamine	134-32-7	(WETOX or CHOXD) fb CARBN; or CMBST

U168	2-Naphthylamine	2-Naphthylamine	91-59-8	0.52

U169	Nitrobenzene	Nitrobenzene	98-95-3	0.068

U170	p-Nitrophenol	p-Nitrophenol	100-02-7	0.12

U171	2-Nitropropane	2-Nitropropane	79-46-9	(WETOX or CHOXD) fb CARBN; or CMBST

U172	N-Nitrosodi-n-butylamine	N-Nitrosodi-n-butylamine	924-16-3	0.40

U173	N-Nitrosodiethanolamine	N-Nitrosodiethanolamine	1116-54-7	(WETOX or CHOXD) fb CARBN; or CMBST

U174	N-Nitrosodiethylamine	N-Nitrosodiethylamine	55-18-5	0.40

U176	N-Nitroso-N-ethylurea	N-Nitroso-N-ethylurea	759-73-9	(WETOX or CHOXD) fb CARBN; or CMBST

U177	N-Nitroso-N-methylurea	N-Nitroso-N-methylurea	684-93-5	(WETOX or CHOXD) fb CARBN; or CMBST

U178	N-Nitroso-N-methylurethane	N-Nitroso-N-methylurethane	615-53-2	(WETOX or CHOXD) fb CARBN; or CMBST

U179	N-Nitrosopiperidine	N-Nitrosopiperidine	100-75-4	0.013

U180	N-Nitrosopyrrolidine	N-Nitrosopyrrolidine	930-55-2	0.013

U181	5-Nitro-o-toluidine	5-Nitro-o-toluidine	99-55-8	0.32

U182	Paraldehyde	Paraldehyde	123-63-7	(WETOX or CHOXD) fb CARBN; or CMBST

U183	Pentachlorobenzene	Pentachlorobenzene	608-93-5	0.055	

0

U184	Pentachloroethane	Pentachloroethane	76-01-7	(WETOX or CHOXD) fb CARBN; or CMBST

		Pentachloroethane; alternate[6] standards for both wastewaters and nonwastewaters	76-01-7	0.055	

2

U185	Pentachloronitrobenzene	Pentachloronitrobenzene	82-68-8	0.055	

U186	1,3-Pentadiene	1,3-Pentadiene	504-60-9	(WETOX or CHOXD) fb CARBN; or CMBST

U187	Phenacetin	Phenacetin	62-44-2	0.081

U188	Phenol	Phenol	108-95-2	0.039

U189	Phosphorus sulfide	Phosphorus sulfide	1314-80-3	CHOXD; CHRED; or CMBST	C

U190	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	0.055

		Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	0.055	

U191	2-Picoline	2-Picoline	109-06-8	(WETOX or CHOXD) fb CARBN; or CMBST

U192	Pronamide	Pronamide	23950-58-5	0.093	

U193	1,3-Propane sultone	1,3-Propane sultone	1120-71-4	(WETOX or CHOXD) fb CARBN; or CMBST

U194	n-Propylamine	n-Propylamine	107-10-8	(WETOX or CHOXD) fb CARBN; or CMBST

U196	Pyridine	Pyridine	110-86-1	0.014

U197	p-Benzoquinone	p-Benzoquinone	106-51-4	(WETOX or CHOXD) fb CARBN; or CMBST

U200	Reserpine	Reserpine	50-55-5	(WETOX or CHOXD) fb CARBN; or CMBST

U201	Resorcinol	Resorcinol	108-46-3	(WETOX or CHOXD) fb CARBN; or CMBST

U202	Saccharin and salts	Saccharin	81-07-2	(WETOX or CHOXD) fb CARBN; or CMBST

U203	Safrole	Safrole	94-59-7	0.081

U204	Selenium dioxide	Selenium	7782-49-2	0.82

U205	Selenium sulfide	Selenium	7782-49-2	0.82	

U206	Streptozotocin	Streptozotocin	18883-66-4	(WETOX or CHOXD) fb CARBN; or CMBST

U207	1,2,4,5-Tetrachlorobenzene	1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	

U208	1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	630-20-6	0.057

U209	1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	79-34-5	0.057

U210	Tetrachloroethylene	Tetrachloroethylene	127-18-4	0.056

U211	Carbon tetrachloride	Carbon tetrachloride	56-23-5	0.057

U213	Tetrahydrofuran	Tetrahydrofuran	109-99-9	(WETOX or CHOXD) fb CARBN; or CMBST

U214	Thallium (I) acetate	Thallium (measured in wastewaters only)	7440-28-0	1.4	

U215	Thallium (I) carbonate	Thallium (measured in wastewaters only)	7440-28-0	1.4	

0

U216	Thallium (I) chloride	Thallium (measured in wastewaters only)	7440-28-0	1.4	

U217	Thallium (I) nitrate	Thallium (measured in wastewaters only)	7440-28-0	1.4	

2

U218	Thioacetamide	Thioacetamide	62-55-5	(WETOX or CHOXD) fb CARBN; or CMBST

U219	Thiourea	Thiourea	62-56-6	(WETOX or CHOXD) fb CARBN; or CMBST

U220	Toluene	Toluene	108-88-3	0.080

U221	Toluenediamine	Toluenediamine	25376-45-8	CARBN; or CMBST	

U222	o-Toluidine hydrochloride	o-Toluidine hydrochloride	636-21-5	(WETOX or CHOXD) fb CARBN; or CMBST

U223	Toluene diisocyanate	Toluene diisocyanate	26471-62-5	CARBN; or CMBST	

U225	Bromoform (Tribromomethane)	Bromoform (Tribromomethane)	75-25-2	0.63

U226	1,1,1-Trichloroethane	1,1,1-Trichloroethane	71-55-6	0.054

0

U227	1,1,2-Trichloroethane	1,1,2-Trichloroethane	79-00-5	0.054

U228	Trichloroethylene	Trichloroethylene	79-01-6	0.054

U234	1,3,5-Trinitrobenzene	1,3,5-Trinitrobenzene	99-35-4	(WETOX or CHOXD) fb CARBN; or CMBST

U235	tris-(2,3-Dibromopropyl)-phosphate	tris-(2,3-Dibromopropyl)-phosphate	126-72-7	0.11	

U236	Trypan Blue	Trypan Blue	72-57-1	(WETOX or CHOXD) fb CARBN; or CMBST

U237	Uracil mustard	Uracil mustard	66-75-1	(WETOX or CHOXD) fb CARBN; or CMBST

U238	Urethane (Ethyl carbamate)	Urethane (Ethyl carbamate)	51-79-6	(WETOX or CHOXD) fb CARBN; or CMBST

U239	Xylenes	Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32

U240	2,4-D (2,4-Dichlorophenoxyacetic acid)	2,4-D (2,4-Dichlorophenoxyacetic acid)	94-75-7	0.72

	2,4-D (2,4-Dichlorophenoxyacetic acid) salts and esters		NA	(WETOX or CHOXD) fb CARBN; or CMBST

0

U243	Hexachloropropylene	Hexachloropropylene	1888-71-7	0.035

U244	Thiram	Thiram	137-26-8	(WETOX or CHOXD) fb CARBN; or CMBST

U246	Cyanogen bromide	Cyanogen bromide	506-68-3	CHOXD; WETOX; or CMBST

U247	Methoxychlor	Methoxychlor	72-43-5	0.25	

U248	Warfarin, & salts, when present at concentrations of 0.3% or less	Warfarin	81-81-2	(WETOX or CHOXD) fb CARBN; or CMBST

U249	Zinc phosphide, Zn_3P_2, when present at concentrations of 10% or less	Zinc Phosphide	1314-84-7	CHOXD; CHRED; or CMBST	C

U271	Benomyl	Benomyl	17804-35-2	0.056	

U278	Bendiocarb	Bendiocarb	22781-23-3	0.056

U279	Carbaryl	Carbaryl	63-25-2	0.006

U280	Barban	Barban	101-27-9	0.056

0

U328	o-Toluidine	o-Toluidine	95-53-4	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN.

U353	p-Toluidine	p-Toluidine	106-49-0	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN

U359	2-Ethoxyethanol	2-Ethoxyethanol	110-80-5	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN

U364	Bendiocarb phenol [10]	Bendiocarb phenol	22961-82-6	0.056	

U367	Carbofuran phenol	Carbofuran phenol	1563-38-8	0.056

U372	Carbendazim	Carbendazim	10605-21-7	0.056	

U373	Propham	Propham	122-42-9	0.056

U387	Prosulfocarb	Prosulfocarb	52888-80-9	0.042

U389	Triallate	Triallate	2303-17-5	0.042

U394	A2213 [10]	A2213	30558-43-1	0.042	

U395	Diethylene glycol, dicarbamate [10]	Diethylene glycol, dicarbamate	5952-26-1	0.056	

U404	Triethylamine	Triethylamine	101-44-8	0.081

U409	Thiophanate-methyl	Thiophanate-methyl	23564-05-8	0.056	

U410	Thiodicarb	Thiodicarb	59669-26-0	0.019	

U411	Propoxur	Propoxur	114-26-1	0.056

[1] The waste descriptions provided in this table do not replace waste descriptions in ch. NR 661. Descriptions of Treatment/Regulatory Subcategories are provided, as needed, to distinguish between applicability of different standards.
[2] CAS means Chemical Abstract Services. When the waste code or regulated constituents are described as a combination of a chemical with its salts or esters, the CAS number is given for the parent compound only.
[3] Concentration standards for wastewaters are expressed in mg/L and are based on analysis of composite samples.
[4] All treatment standards expressed as a technology code or combination of technology codes are explained in detail in s. NR 668.42, Table 1—Technology Codes and Descriptions of Technology-Based Standards.
[5] Except for metals (EP or TCLP) and cyanides (total and amenable) the nonwastewater treatment standards expressed as a concentration were established, in part, based upon incineration in units operated according to the technical requirements of subch. O of ch. NR 664 or 665, or based upon combustion in fuel substitution units operating according to applicable technical requirements. A facility may comply with these treatment standards according to s. NR 668.40(4). All concentration standards for nonwastewaters are based on analysis of grab samples.
[6] Where an alternate treatment standard or set of alternate standards has been indicated, a facility may comply with this alternate standard, but only for the Treatment/Regulatory Subcategory or physical form (i.e., wastewater or nonwastewater) specified for that alternate standard.
[7] Both cyanides (total) and cyanides (amenable) for nonwastewaters are to be analyzed using Method 9010 or 9012, found in ‘‘Test Methods for Evaluating Solid Waste, Physical/Chemical Methods’’, EPA SW-846 incorporated by reference in s. NR 660.11, with a sample size of 10 grams and a distillation time of one hour and 15 minutes.
[8] These wastes, when rendered nonhazardous and then subsequently managed under ch. 283, Stats., or CWA-equivalent systems are not subject to treatment standards (see s. NR 668.01(3)(c) and(d)).
[9] These wastes, when rendered nonhazardous and then subsequently injected in a Class SDWA well, are not subject to treatment standards (see NR 665 subch. R).
[10] The treatment standard for this waste may be satisfied by either meeting the constituent concentrations in this table or by treating the waste by the specified technologies: combustion, as defined by the technology code CMBST at s. NR 668.42, Table 1, for nonwastewaters; and biodegradation as defined by the technology code BIODG, carbon adsorption as defined by the technology code CARBN, chemical oxidation as defined by the technology code CHOXD, or combustion as defined as technology code CMBST at s. NR 668.42, Table 1, for wastewaters.
[11] For these wastes, the definition of CMBST is limited to: (1) combustion units operating under ch. NR 666, (2) combustion units licensed under subch. O of ch. NR 664, or (3) combustion units licensed under subch. O of ch. NR 665 which have obtained a determination of equivalent treatment under 40 CFR 268.42(b).
[12] Disposal of K175 wastes that have complied with all applicable s. NR 668.40 treatment standards must also be macroencapsulated in accordance with s. NR 668.45, Table 1 unless the waste is placed in one of the following:

(1) A hazardous waste monofill containing only K175 wastes that meet all applicable s. NR 668.40 treatment standards.
(2) A dedicated hazardous waste landfill cell in which all other wastes being co-disposed are at pH≤6.0.

[13] “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11.

NR 668.41 Treatment standards expressed as concentrations in waste extract. For the requirements and the treatment standards in Table CCWE–Constituent Concentrations in Waste Extracts, both of which were found in s. NR 675.21 until June 1, 1998, refer to s. NR 668.40.

NR 668.42 Treatment standards expressed as specified technologies.

NOTE: For the requirements found in s. NR 675.22 until June 1, 1998 in Table 2–Technology–Based Standards By RCRA Waste Code, and Table 3–Technology– Based Standards for Specific Radioactive Hazardous Mixed Waste, refer to s. NR 668.40.

(1) In the table entitled Treatment Standards for Hazardous Wastes, in s. NR 668.40, wastes for which standards are expressed as a treatment method rather than a concentration level, must be treated using the technology or technologies specified in the table entitled Technology Codes and Description of Technology-Based Standards.

Table 1
Technology Codes and Description of Technology-Based Standards

Technology code	Description of technology-based standards

ADGAS:	Venting of compressed gases into an absorbing or reacting media (i.e., solid or liquid)—venting can be accomplished through physical release utilizing valves or piping; physical penetration of the container; or penetration through detonation.

AMLGM: Amalgamation of liquid, elemental mercury contaminated with radioactive materials utilizing inorganic reagents such as copper, zinc, nickel, gold, and sulfur that result in a nonliquid, semi-solid amalgam and thereby reducing potential emissions of elemental mercury vapors to the air.

BIODG: Biodegradation of organics or non-metallic inorganics (i.e., degradable inorganics that contain the elements of phosphorus, nitrogen, and sulfur) in units operated under either aerobic or anaerobic conditions such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., total organic carbon can often be used as an indicator parameter for the biodegradation of many organic constituents that cannot be directly analyzed in wastewater residues).

1

CARBN: Carbon adsorption (granulated or powdered) of non-metallic inorganics, organo-metallics, or organic constituents, operated such that a surrogate compound or indicator parameter has not undergone breakthrough (e.g., total organic carbon can often be used as an indicator parameter for the adsorption of many organic constituents that cannot be directly analyzed in wastewater residues). Breakthrough occurs when the carbon has become saturated with the constituent (or indicator parameter) and substantial change in adsorption rate associated with that constituent occurs.

CHOXD: Chemical or electrolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combinations of reagents: (1) Hypochlorite (e.g., bleach); (2) chlorine; (3) chlorine dioxide; (4) ozone or UV (ultraviolet light) assisted ozone; (5) peroxides; (6) persulfates; (7) perchlorates; (8) permangantes; or (9) other oxidizing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., total organic carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues). Chemical oxidation specifically includes what is commonly referred to as alkaline chlorination.

CHRED: Chemical reduction utilizing the following reducing reagents (or waste reagents) or combinations of reagents: (1) Sulfur dioxide; (2) sodium, potassium, or alkali salts or sulfites, bisulfites, metabisulfites, and polyethylene glycols (e.g., NaPEG and KPEG); (3) sodium hydrosulfide; (4) ferrous salts; or (5) other reducing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., total organic halogens can often be used as an indicator parameter for the reduction of many halogenated organic constituents that cannot be directly analyzed in wastewater residues). Chemical reduction is commonly used for the reduction of hexavalent chromium to the trivalent state.

CMBST: High temperature organic destruction technologies, such as combustion in incinerators, boilers, or industrial furnaces operated in accordance with the applicable requirements of subch. O of ch. NR 664 or 665, or subch. H of ch. NR 666, and in other units operated in accordance with applicable technical operating requirements; and certain non-combustive technologies, such as the catalytic extraction process.

DEACT: Deactivation to remove the hazardous characteristics of a waste due to its ignitability, corrosivity, or reactivity.

FSUBS: Fuel substitution in units operated in accordance with applicable technical operating requirements.

HLVIT: Vitrification of high level mixed radioactive wastes in units in compliance with all applicable radioactive protection requirements under control of the nuclear regulatory commission.

IMERC: Incineration of wastes containing organics and mercury in units operated according to the technical operating requirements of subch. O of ch. NR 664 and 665. All wastewater and nonwastewater residues derived from this process shall then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., high or low mercury subcategories).

INCIN:	Incineration in units operated in accordance with the technical operating requirements of subch. O of ch. NR 664 and 665.

LLEXT: Liquid-liquid extraction (often referred to as solvent extraction) of organics from liquid wastes into an immiscible solvent for which the hazardous constituents have a greater solvent affinity, resulting in an extract high in organics that shall undergo either incineration, reuse as a fuel, or other recovery or reuse and a raffinate (extracted liquid waste) proportionately low in organics that shall undergo further treatment as specified in the standard.

1

MACRO: Macroencapsulation with surface coating materials such as polymeric organics (e.g., resins and plastics) or with a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media. Macroencapsulation specifically does not include any material that would be classified as a tank or container according to s. NR 660.10.

NEUTR: Neutralization with the following reagents (or waste reagents) or combinations of reagents: (1) acids; (2) bases; or (3) water (including wastewaters) resulting in a pH greater than 2 but less than 12.5 as measured in the aqueous residuals.

NLDBR:	No land disposal based on recycling.

POLYM: Formation of complex high-molecular weight solids through polymerization of monomers in high-TOC D001 non-wastewaters which are chemical components in the manufacture of plastics.

PRECP: Chemical precipitation of metals and other inorganics as insoluble precipitates of oxides, hydroxides, carbonates, sulfides, sulfates, chlorides, flourides, or phosphates. The following reagents (or waste reagents) are typically used alone or in combination: (1) lime (i.e., containing oxides or hydroxides of calcium or magnesium; (2) caustic (i.e., sodium or potassium hydroxides; (3) soda ash (i.e., sodium carbonate); (4) sodium sulfide; (5) ferric sulfate or ferric chloride; (6) alum; or (7) sodium sulfate. Additional floculating, coagulation or similar reagents or processes that enhance sludge dewatering characteristics are not precluded from use.

RBERY: Thermal recovery of beryllium.

RCGAS: Recovery or reuse of compressed gases including techniques such as reprocessing of the gases for reuse or resale; filtering or adsorption of impurities; remixing for direct reuse or resale; and use of the gas as a fuel source.

RCORR: Recovery of acids or bases utilizing one or more of the following recovery technologies: (1) distillation (i.e., thermal concentration); (2) ion exchange; (3) resin or solid adsorption; (4) reverse osmosis; or (5) incineration for the recovery of acid—Note: this does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.

RLEAD:	Thermal recovery of lead in secondary lead smelters.

RMERC: Retorting or roasting in a thermal processing unit capable of volatilizing mercury and subsequently condensing the volatilized mercury for recovery. The retorting or roasting unit (or facility) shall be subject to one or more of the following: (a) a National Emissions Standard for Hazardous Air Pollutants (NESHAP) for mercury; (b) a Best Available Control Technology (BACT) or a Lowest Achievable Emission Rate (LAER) standard for mercury imposed pursuant to a Prevention of Significant Deterioration (PSD) permit; or (c) a state permit that establishes emission limitations (within meaning of section 302 of the Clean Air Act) for mercury. All wastewater and nonwastewater residues derived from this process shall then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., high or low mercury subcategories).

RMETL: Recovery of metals or inorganics utilizing one or more of the following direct physical or removal technologies: (1) ion exchange; (2) resin or solid (i.e., zeolites) adsorption; (3) reverse osmosis; (4) chelation or solvent extraction; (5) freeze crystalization; (6) ultrafiltration and/or (7) simple precipitation (i.e., crystalization)—Note: This does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.

RORGS: Recovery of organics utilizing one or more of the following technologies: (1) distillation; (2) thin film evaporation; (3) steam stripping; (4) carbon adsorption; (5) critical fluid extraction; (6) liquid-liquid extraction; (7) precipitation or crystallization (including freeze crystallization); or (8) chemical phase separation techniques (i.e., addition of acids, bases, demulsifiers, or similar chemicals);—Note: this does not preclude the use of other physical phase separation techniques such as a decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.

RTHRM: Thermal recovery of metals or inorganics from nonwastewaters in units identified as industrial furnaces according to s. NR 660.10(a), (f), (g), (k) and (L) under the definition of ‘‘industrial furnaces’’.

RZINC:	Resmelting in high temperature metal recovery units for the purpose of recovery of zinc.

STABL: Stabilization with the following reagents (or waste reagents) or combinations of reagents: (1) Portland cement; or (2) lime/pozzolans (e.g., fly ash and cement kiln dust)—this does not preclude the addition of reagents (e.g., iron salts, silicates, and clays) designed to enhance the set/cure time or compressive strength, or to overall reduce the leachability of the metal or inorganic.

SSTRP: Steam stripping of organics from liquid wastes utilizing direct application of steam to the wastes operated such that liquid and vapor flow rates, as well as, temperature and pressure ranges have been optimized, monitored, and maintained. These operating parameters are dependent upon the design parameters of the unit such as, the number of separation stages and the internal column design. Thus, resulting in a condensed extract high in organics that shall undergo either incineration, reuse as a fuel, or other recovery or reuse and an extracted wastewater that shall undergo further treatment as specified in the standard.

WETOX: Wet air oxidation performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., total organic carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues).

WTRRX: Controlled reaction with water for highly reactive inorganic or organic chemicals with precautionary controls for protection of workers from potential violent reactions as well as precautionary controls for potential emissions of toxic or ignitable levels of gases released during the reaction.

Note: When more than one technology (or treatment train) are specified as alternative treatment standards, the 5 letter technology codes (or the treatment trains) are separated by a semicolon (;) with the last technology preceded by the word ''OR''. This indicates that any one of these BDAT technologies or treatment trains can be used for compliance with the standard.

(2) Any person may submit an application to the EPA Administrator demonstrating that an alternative treatment method can achieve a measure of performance equivalent to that achieved by methods specified in subs. (1) , (3) and (4) for wastes, or specified in Table 1 for hazardous debris. The applicant shall submit information demonstrating that the treatment method is in compliance with federal, state and local requirements and is protective of human health and the environment. On the basis of this information and any other available information, the EPA Administrator may approve the use of the alternative treatment method if the EPA Administrator finds that the alternative treatment method provides a measure of performance equivalent to that achieved by methods specified in subs. (1), (3) and (4) for wastes or in s. NR 668.45, Table 1 for hazardous debris. The department shall accept any written determination issued by the EPA Administrator unless the department determines that the approved alternative method cannot achieve a measure of performance equivalent to that achieved by methods specified in subs. (1) , (3) and (4) for wastes, or specified in Table 1 for hazardous debris.

(3) As an alternative to the treatment standards required in subch. D, lab packs may be land disposed provided all of the following requirements are met:

(a) The lab packs comply with s. NR 664.0316 and s. NR 665.0316.

(b) The lab packs do not contain any of the wastes listed in ch. NR 668, Appendix IV.

(c) The lab packs are incinerated in accordance with the requirements of subch. O of ch. NR 664 or subch. O of ch. NR 665.

(d) Any incinerator residues from lab packs containing D004, D005, D006, D007, D008, D010, and D011 are treated in compliance with the applicable treatment standards specified for the wastes in subch. D.

(4) Radioactive hazardous mixed wastes are subject to the treatment standards in s. NR 668.40. Where the table entitled Treatment Standards for Hazardous Wastes found in s. NR 668.40 specifies treatment standards for radioactive mixed wastes, those treatment standards shall govern. Where there is no specific treatment standard for radioactive mixed waste, the treatment standard for the hazardous waste, as designated by EPA waste code, applies. Hazardous debris containing radioactive waste is subject to the treatment standards specified in s. NR 668.45.

NR 668.43 Treatment standards expressed as waste concentrations. For the requirements previously found in this section and for treatment standards in Table CCW—Constituent Concentrations in Wastes, refer to s. NR 668.40.

NR 668.44 Variance from a treatment standard. (1) Based on a petition filed by a generator or treater of hazardous waste, the EPA administrator may approve a variance from an applicable treatment standard if any of the following are met:

(a) It is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard. To show that this is the case, the petitioner shall demonstrate that because the physical or chemical properties of the waste differ significantly from waste analyzed in developing the treatment standard, the waste cannot be treated to the specified level or by the specified method.

(b) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though the treatment is technically possible. To show that this is the case, the petitioner shall demonstrate one of the following:

1. Treatment to the specified level or by the specified method is technically inappropriate (for example, resulting in combustion of large amounts of mildly contaminated environmental media).

2. For remediation waste only, treatment to the specified level or by the specified method is environmentally inappropriate because it would likely discourage aggressive remediation.

(2) Each petition shall be submitted to the EPA administrator according to the procedures in 40 CFR 260.20.

(6) A generator, treatment facility or disposal facility that is managing a waste covered by a variance from the treatment standards shall comply with the waste analysis requirements for restricted wastes found under s. NR 668.07.

(7) During the petition review process, the applicant is required to comply with all restrictions on land disposal under this chapter once the effective date for the waste has been reached.

(8) Based on a petition filed by a generator or treater of hazardous waste, the EPA administrator may approve a site-specific variance from an applicable treatment standard if one of the following conditions is met:

(a) It is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard. To show that this is the case, the petitioner shall demonstrate that because the physical or chemical properties of the waste differ significantly from waste analyzed in developing the treatment standard, the waste cannot be treated to the specified level or by the specified method.

(b) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though the treatment is technically possible. To show that this is the case, the petitioner shall demonstrate one of the following:

1. Treatment to the specified level or by the specified method is technically inappropriate, for example, the treatment would result in combustion of large amounts of mildly contaminated environmental media where the treatment standard is not based on combustion of the media.

2. For remediation waste only, treatment to the specified level or by the specified method is environmentally inappropriate because it would likely discourage aggressive remediation.

(c) For contaminated soil only, treatment to the level or by the method specified in the soil treatment standards would result in concentrations of hazardous constituents that are lower than the concentrations necessary to minimize short-term and long-term threats to human health and the environment. Treatment variances approved under this paragraph shall meet all of the following conditions:

1. At a minimum, treatment variances shall impose alternative land disposal restriction treatment standards that, using a reasonable maximum exposure scenario, meet all of the following conditions:

a. For carcinogens, the treatment variances shall achieve constituent concentrations that result in the total excess risk to an individual exposed over a lifetime generally falling within a range from 10^{-4} to 10^{-6}.

b. For constituents with non-carcinogenic effects, the treatment variances shall achieve constituent concentrations that an individual could be exposed to on a daily basis without appreciable risk of deleterious effect during a lifetime.

2. The treatment variances may not consider post-land-disposal controls.

(d) For contaminated soil only, treatment to the level or by the method specified in the soil treatment standards would result in concentrations of hazardous constituents that are lower than natural background concentrations at the site where the contaminated soil will be land disposed.

(e) Public notice and a reasonable opportunity for public comment shall be provided before granting or denying a petition.

(9) Each application for a site-specific variance from a treatment standard shall include the information in s. NR 660.20(2)(a) to (d).

(10) After receiving an application for a site-specific variance from a treatment standard, the EPA adminstrator may request any additional information or samples which may be required to evaluate the application.

(11) A generator, treatment facility or disposal facility that is managing a waste covered by a site-specific variance from a treatment standard shall comply with the waste analysis requirements for restricted wastes found in s. NR 668.07.

(12) During the application review process, the applicant for a site-specific variance shall comply with all restrictions on land disposal in this chapter once the effective date for the waste has been reached.

(13) For all variances, the petitioner shall also demonstrate that compliance with any given treatment variance is sufficient to minimize threats to human health and the environment posed by land disposal of the waste. In evaluating this demonstration, the EPA administrator may take into account whether a treatment variance should be approved if the subject waste is to be used in a manner constituting disposal pursuant to ss. NR 666.20 to 666.23.

NR 668.45 Treatment standards for hazardous debris. (1) Hazardous debris shall be treated prior to land disposal unless the department determines under s. NR 661.03(6)(b) that the debris is no longer contaminated with hazardous waste or the debris is treated to the waste-specific treatment standard provided in this subchapter for the waste contaminating the debris

(a) *General*. Hazardous debris shall be treated for each ”contaminant subject to treatment” defined by sub. (2) using the technology or technologies identified in Table 1.

(b) *Characteristic debris*. Hazardous debris that exhibits the characteristic of ignitability, corrosivity, or reactivity identified under ss. NR 661.21, 661.22 and 661.23, respectively, shall be deactivated by treatment using one of the technologies identified in Table 1.

(c) *Mixtures of debris types*. The treatment standards of Table 1 shall be achieved for each type of debris contained in a mixture of debris types. If an immobilization technology is used in a treatment train, it shall be the last treatment technology used.

(d) *Mixtures of contaminant types*. Debris that is contaminated with 2 or more contaminants subject to treatment identified under sub. (2) shall be treated for each contaminant using one or more treatment technologies identified in Table 1. If an immobilization technology is used in a treatment train, it shall be the last treatment technology used.

(e) *Waste PCBs*. Hazardous debris that is also a waste PCB under 40 CFR 761.3 is subject to the requirements of either 40 CFR 761.3 or the requirements of this section, whichever are more stringent.

(2) Hazardous debris shall be treated for each ”contaminant subject to treatment.” The contaminants subject to treatment shall be determined using all of the following criteria:

(a) *Toxicity characteristic debris*. The contaminants subject to treatment for debris that exhibits the toxicity characteristic (TC) by s. NR 661.24 are those EP constituents for which the debris exhibits the TC toxicity characteristic.

(b) *Debris contaminated with listed waste*. The contaminants subject to treatment for debris that is contaminated with a prohibited listed hazardous waste are those constituents or wastes for which treatment standards are established for the waste under s. NR 668.40.

(c) *Cyanide reactive debris*. Hazardous debris that is reactive because of cyanide shall be treated for cyanide.

(3) Hazardous debris that has been treated using one of the specified extraction or destruction technologies in Table 1 and that does not exhibit a characteristic of hazardous waste identified under subch. C of ch. NR 661 after treatment is not a hazardous waste and need not be managed in a facility licensed or permitted to accept hazardous waste. Hazardous debris contaminated with a listed waste that is treated by an immobilization technology specified in Table 1 is a hazardous waste and shall be managed in a facility licensed or permitted to accept hazardous waste.

(4) Treatment residuals shall be treated as follows:

(a) *General requirements*. Except as provided by pars. (b) and (d) all of the following conditions shall be met:

1. Residue from the treatment of hazardous debris shall be separated from the treated debris using simple physical or mechanical means.

2. Residue from the treatment of hazardous debris is subject to the waste-specific treatment standards provided by subch. D of ch. NR 668 for the waste contaminating the debris.

(b) *Nontoxic debris*. Residue from the deactivation of ignitable, corrosive or reactive characteristic hazardous debris (other than cyanide-reactive) that is not contaminated with a contaminant subject to treatment defined by sub. (2), shall be deactivated prior to land disposal and is not subject to the waste-specific treatment standards of subch. D.

(c) *Cyanide-reactive debris*. Residue from the treatment of debris that is reactive because of cyanide shall meet the treatment standards for D003 in Treatment Standards for Hazardous Wastes in s. NR 668.40.

(d) *Ignitable nonwastewater residue*. Ignitable nonwastewater residue containing equal to or greater than 10% total organic carbon is subject to the technology specified in the treatment standard for D001: Ignitable Liquids.

(e) *Residue from spalling*. Layers of debris removed by spalling are hazardous debris that remain subject to the treatment standards of this section.

Table 1
Alternative Treatment Standards For Hazardous Debris [1]

Technology description	Performance and/or design and operating standard	Contaminant restrictions [2]

A. Extraction Technologies:		

1. Physical Extraction

a. Abrasive Blasting: Removal of contaminated debris surface layers using water or air pressure to propel a solid media (e.g., steel shot, aluminum oxide grit, plastic beads).	Glass, Metal, Plastic, Rubber: Treatment to a clean debris surface[3]. Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Removal of at least 0.6 cm of the surface layer; treatment to a clean debris surface[3].	All Debris: None.

b. Scarification, Grinding and Planing: Process utilizing striking piston heads, saws, or rotating grinding wheels such that contaminated debris surface layers are removed.	Same as above.....	Same as above.

c. Spalling: Drilling or chipping holes at appropriate locations and depth in the contaminated debris surface and applying a tool which exerts a force on the sides of those holes such that the surface layer is removed. The surface layer removed remains hazardous debris subject to the debris treatment standards.	Same as above.....	Same as above.

d. Vibratory Finishing: Process utilizing scrubbing media, flushing fluid, and oscillating energy such that hazardous contaminants or contaminated debris surface layers are removed[4].	Same as above.....	Same as above.

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e. High Pressure Steam and Water Sprays: Application of water or steam sprays of sufficient temperature, pressure, residence time, agitation, surfactants and detergents to remove hazardous contaminants from debris surfaces or to remove contaminated debris surface layers.	Same as above.....	Same as above.

2. Chemical Extraction

a. Water Washing and Spraying: Application of water sprays or water baths of sufficient temperature, pressure, residence time, agitation, surfactants, acids, bases and detergents to remove hazardous contaminants from debris surfaces and surface pores or to remove contaminated	All Debris: Treatment to a clean debris surface[3]. Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris shall be no more than 1.2 cm (½ inch) in one dimension (i.e., thickness limit[5], except that this thickness limit may be waived under an ”Equivalent Technology” approval under s. NR 668.42(2)[8]; debris surfaces shall be in contact with water solution for at	Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Contaminant shall be soluble to at least 5% by weight in water solution or 5% by weight in emulsion; if debris is contaminated with a dioxin-listed waste[6], an ”Equivalent Technology” approval under s. NR

debris surface layers.	least 15 minutes.	668.42(2) shall be obtained[8].

b. Liquid Phase Solvent Extraction: Removal of hazardous contaminants from debris surfaces and surface pores by applying a nonaqueous liquid or liquid solution which causes the hazardous contaminants to enter the liquid phase and be flushed away from the debris along with the liquid or liquid solution while using appropriate agitation, temperature and residence time[4].	Same as above.....	Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Same as above, except that contaminant shall be soluble to at least 5% by weight in the solvent.

c. Vapor Phase Solvent Extraction: Application of an organic vapor using sufficient agitation, residence time, and temperature to cause hazardous contaminants on contaminated debris surfaces and surface pores to enter the vapor phase and be flushed away with the organic vapor[4].	Same as above, except that brick, cloth, concrete, paper, pavement, rock and wood surfaces shall be in contact with the organic vapor for at least 60 minutes.	Same as above.

3. Thermal Extraction

a. High Temperature Metals Recovery: Application of sufficient heat, residence time, mixing, fluxing agents, or carbon in a smelting, melting, or refining furnace to separate	For refining furnaces, treated debris shall be separated from treatment residuals using simple physical or mechanical means[9], and, prior to further treatment, the residuals shall meet the waste-specific treatment standards for organic compounds in the waste	Debris contaminated with a dioxin-listed waste:[5] Obtain an ”Equivalent Technology” approval under s. NR

metals from debris.	contaminating the debris.	668.42(2)[8].

b. Thermal Desorption: Heating in an enclosed chamber under either oxidizing or nonoxidizing atmospheres at sufficient temperature and residence time to vaporize hazardous contaminants from contaminated surfaces and surface pores and to remove the contaminants from the heating chamber	All Debris: Obtain an ”Equivalent Technology” approval under s. NR 668.42(2)[8]; treated debris shall be separated from treatment residuals using simple physical or mechanical means[9], and, prior to further treatment, the residue shall meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris. Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris shall be no more than 10 cm (4 inches) in one dimension (i.e., thickness limit)[5], except that this thickness limit may be waived under the ”Equivalent Technology”	All Debris: Metals other than

in a gaseous exhaust gas[7].

approval.

mercury.

1

B. Destruction Technologies:

1. Biological Destruction (Biodegradation): Removal of hazardous contaminants from debris surfaces and surface pores in an aqueous solution and biodegration of organic or nonmetallic inorganic compounds (i.e., inorganics that contain phosphorus, nitrogen or sulfur) in units operated under either aerobic or anaerobic conditions.	All Debris: Obtain an ”Equivalent Technology” approval under s. NR 668.42(2)[8]; treated debris shall be separated from treatment residuals using simple physical or mechanical means[9], and, prior to further treatment, the residue shall meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris. Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris shall be no more than 1.2 cm (½ inch) in one dimension (i.e., thickness limit)[5], except that this thickness limit may be waived under the ”Equivalent Technology” approval.	All Debris: Metal contaminants.

2. Chemical Destruction

a. <u>Chemical Oxidation:</u> Chemical or electolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combination of reagents—(1) hypochlorite (e.g., bleach); (2) chlorine; (3) chlorine dioxide; (4) ozone or UV (ultraviolet light) assisted ozone; (5) peroxides; (6) persulfates; (7) perchlorates; (8) permanganates; or (9) other oxidizing reagents of equivalent destruction efficiency[4]. Chemical oxidation specifically includes what is referred to as alkaline chlorination.	All Debris: Obtain an ”Equivalent Technology” approval under s. NR 668.42(2)[8]; treated debris shall be separated from treatment residuals using simple physical or mechanical means[9], and, prior to further treatment, the residue shall meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris. Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris shall be no more than 1.2 cm (½ inch) in one dimension (i.e., thickness limit)[5], except that this thickness limit may be waived under the ”Equivalent Technology” approval.	All Debris: Metal contaminants.

b. Chemical Reduction: Chemical reaction utilizing the following reducing reagents (or waste reagents) or combination of reagents: (1) sulfur dioxide; (2) sodium, potassium or alkali salts of sulfites, bisulfites and metabisulfites, and polyethylene glycols (e.g., NaPEG and KPEG); (3) sodium hydrosulfide; (4) ferrous salts; or (5) other reducing reagents of equivalent efficiency[4].	Same as above.....	Same as above.

3. Thermal Destruction: Treatment in an incinerator operating in accordance with subch. O of ch. NR 664 or 665; a boiler or industrial furnace operating in accordance with subch. H of ch. NR 666, or other thermal treatment unit operated in accordance with subch. X of ch. NR 664, or subch. P of ch. NR 665, but excluding for purposes of these debris treatment standards thermal	Treated debris shall be separated from treatment residuals using simple physical or mechanical means[9], and, prior to further treatment, the residue shall meet the waste-specific treatment standards for organic compounds in the waste contaminating the	<u>Brick, Concrete, Glass, Metal, Pavement, Rock, Metal:</u> Metals other than mercury, except that there are no metal restrictions for vitrification. Debris contaminated with a dioxin-listed waste:[6] Obtain an ”Equivalent Technology” approval under s. NR 668.42(2)[8], except that this requirement does not apply to

desorption units.

debris.

vitrification.

C. Immobilization Technologies:

1. Macroencapsulation: Application of surface coating materials such as polymeric organics (e.g., resins and plastics) or use of a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media.	Encapsulating material shall completely encapsulate debris and be resistant to degradation by the debris and its contaminants and materials into which it may come into contact after placement (leachate, other waste, microbes).	None.

2. Microencapsulation: Stabilization of the debris with the following reagents (or waste reagents) such that the leachability of the hazardous contaminants is reduced: (1) portland cement; or (2) lime/ pozzolans (e.g., fly ash and cement kiln dust). Reagents (e.g., iron salts, silicates, and clays) may be added to enhance the set/cure time or compressive strength, or to reduce the leachability of the hazardous constituents[5].	Leachability of the hazardous contaminants shall be reduced.	None.

1

3. Sealing: Application of an appropriate material which adheres tightly to the debris surface to avoid exposure of the surface to potential leaching media. When necessary to effectively seal the surface, sealing entails pretreatment of the debris surface to remove foreign matter and to clean and roughen the surface. Sealing materials include epoxy, silicone, and urethane compounds, but paint may not be used as a sealant.	Sealing shall avoid exposure of the debris surface to potential leaching media and sealant shall be resistent to degradation by the debris and its contaminants and materials into which it may come into contact after placement (leachate, other waste, microbes).	None.

[1] Hazardous debris shall be treated by either these standards or the waste-specific treatment standards for the waste contaminating the debris. The treatment standards shall be met for each type of debris contained in a mixture of debris types, unless the debris is converted into treatment residue as a result of the treatment process. Debris treatment residuals are subject to the waste-specific treatment standards for the waste contaminating the debris.

[2] Contaminant restriction means that the technology is not BDAT for that contaminant. If debris containing a restricted contaminant is treated by the technology, the contaminant shall be subsequently treated by a technology for which it is not restricted in order to be land disposed (and excluded from regulation as hazardous waste).

[3] ''Clean debris surface'' means the surface, when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except that residual staining from soil and waste consisting of light shadows, slight streaks or minor discolorations, and soil and waste in cracks, crevices and pits may be present if the staining and waste and soil in cracks, crevices and pits shall be limited to no more than 5% of each square inch of surface area.

[4] Acids, solvents and chemical reagents may react with some debris and contaminants to form hazardous compounds. For example, acid washing of cyanide-contaminated debris could result in the formation of hydrogen cyanide. Some acids may also react violently with some debris and contaminants, depending on the concentration of the acid and the type of debris and contaminants. Debris treaters should refer to the safety precautions specified in material safety data sheets for various acids to avoid applying an incompatible acid to a particular debris and contamination combination. For example, concentrated sulfuric acid may react violently with certain organic compounds, such as acrylonitrile.

[5] If reducing the particle size of debris to meet the treatment standards results in material that no longer meets the 60 mm minimum particle size limit for debris, the material is subject to the waste-specific treatment standards for the waste contaminating the material, unless the debris has been cleaned and separated from contaminated soil and waste prior to size reduction. At a minimum, simple physical or mechanical means shall be used to provide the cleaning and separation of nondebris materials to ensure that the debris surface is free of caked soil, waste or other nondebris material.

[6] Dioxin-listed wastes are EPA hazardous waste numbers FO20, FO21, FO22, FO23, FO26 and FO27.

[7] Thermal desorption is distinguished from thermal destruction in that the primary purpose of thermal desorption is to volatilize contaminants and to remove them from the treatment chamber for subsequent destruction or other treatment.

[8] The demonstration ''Equivalent Technology'' under s. NR 668.42(2) shall document that the technology treats contaminants subject to treatment to a level equivalent to that required by the performance and design and operating standards for other technologies in this table such that residual levels of hazardous contaminants will not pose a hazard to human health and the environment absent management controls.

[9] Any soil, waste and other nondebris material that remains on the debris surface (or remains mixed with the debris) after treatment is considered a treatment residual that shall be separated from the debris using, at a minimum, simple physical or mechanical means. Examples of simple physical or mechanical means are vibratory or trommel screening or water washing. The debris surface need not be cleaned to a ''clean debris surface'' as defined in note 3 when separating treated debris from residue; rather, the surface shall be free of caked soil, waste or other nondebris material. Treatment residuals are subject to the waste-specific treatment standards for the waste contaminating the debris.

NR 668.46 Alternative treatment standards based on HTMR. For the treatment standards previously found in this section, refer to s. NR 668.40.

NR 668.48 Universal treatment standards. (1) Table UTS identifies the hazardous constituents, along with the nonwastewater and wastewater treatment standard levels, that are used to regulate most prohibited hazardous wastes with numerical limits. For determining compliance with treatment standards

for underlying hazardous constituents as defined in s. NR 668.02(9), these treatment standards may not be exceeded. Compliance with these treatment standards is measured by an analysis of grab samples, unless otherwise noted in the following Table UTS.

Section NR 668.48 – Universal Treatment Standards

Regulated constituent common name	CAS[1] Number	Wastewater Standard	Nonwastewater Standard
		Concentration in mg/l[2]	Concentration in mg/kg[3] unless noted as ”mg/l TCLP”

Organic Constituents			

Acenaphthylene	208-96-8	0.059	3.4

Acenaphthene	83-32-9	0.059	3.4

Acetone	67-64-1	0.28	160

Acetonitrile	75-05-8	5.6	38

Acetophenone	96-86-2	0.010	9.7

0

2-Acetylaminofluorene	53-96-3	0.059	140

1

Acrolein	107-02-8	0.29	NA

Acrylamide	79-06-1	19	23

Acrylonitrile	107-13-1	0.24	84

Aldicarb sulfone[6]	1646-88-4	0.056	0.28

Aldrin	309-00-2	0.021	0.066

4-Aminobiphenyl	92-67-1	0.13	NA

Aniline	62-53-3	0.81	14

Anthracene	120-12-7	0.059	3.4

Aramite	140-57-8	0.36	NA

0

alpha-BHC	319-84-6	0.00014	0.066

1

beta-BHC	319-85-7	0.00014	0.066

delta-BHC	319-86-8	0.023	0.066

gamma-BHC	58-89-9	0.0017	0.066

Barban[6]	101-27-9	0.056	1.4

Bendiocarb[6]	22781-23-3	0.056	1.4

6

Benomyl[6]	17804-35-2	0.056	1.4

Benzene	71-43-2	0.14	10

Benz(a)anthracene	56-55-3	0.059	3.4

Benzal chloride	98-87-3	0.055	6.0

0

Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8

Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8

Benzo(g,h,i)perylene	191-24-2	0.0055	1.8

Benzo(a)pyrene	50-32-8	0.061	3.4

Bromodichloromethane	75-27-4	0.35	15

Bromomethane/Methyl bromide	74-83-9	0.11	15

4-Bromophenyl phenyl ether	101-55-3	0.055	15

n-Butyl alcohol	71-36-3	5.6	2.6

Butylate[6]	2008-41-5	0.042	1.4

Butyl benzyl phthalate	85-68-7	0.017	28

0

2-sec-Butyl-4,6-dinitrophenol/Dinoseb	88-85-7	0.066	2.5

1

Carbaryl[6]	63-25-2	0.006	0.14

Carbenzadim[6]	10605-21-7	0.056	1.4

Carbofuran[6]	1563-66-2	0.006	0.14

Carbofuran phenol[6]	1563-38-8	0.056	1.4

Carbon disulfide	75-15-0	3.8	4.8 mg/l TCLP

Carbon tetrachloride	56-23-5	0.057	6.0

Carbosulfan[6]	55285-14-8	0.028	1.4

Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26

p-Chloroaniline	106-47-8	0.46	16

0

Chlorobenzene	108-90-7	0.057	6.0

Chlorobenzilate	510-15-6	0.10	NA

2-Chloro-1,3-butadiene	126-99-8	0.057	0.28

Chlorodibromomethane	124-48-1	0.057	15

Chloroethane	75-00-3	0.27	6.0

bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2

bis(2-Chloroethyl)ether	111-44-4	0.033	6.0

Chloroform	67-66-3	0.046	6.0

bis(2-Chloroisopropyl)ether	39638-32-9	0.055	7.2

p-Chloro-m-cresol	59-50-7	0.018	14

0

2-Chloroethyl vinyl ether	110-75-8	0.062	NA

1

Chloromethane/Methyl chloride	74-87-3	0.19	30

2-Chloronaphthalene	91-58-7	0.055	5.6

2-Chlorophenol	95-57-8	0.044	5.7

3-Chloropropylene	107-05-1	0.036	30

Chrysene	218-01-9	0.059	3.4

o-Cresol	95-48-7	0.11	5.6

m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77	5.6

p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77	5.6

m-Cumenyl methylcarbamate[6]	64-00-6	0.056	1.4

0

Cyclohexanone	108-94-1	0.36	0.75 mg/l TCLP

1

o,p’-DDD	53-19-0	0.023	0.087

p,p’-DDD	72-54-8	0.023	0.087

o,p’-DDE	3424-82-6	0.031	0.087

p,p’-DDE	72-55-9	0.031	0.087

o,p’-DDT	789-02-6	0.0039	0.087

p,p’-DDT	50-29-3	0.0039	0.087

Dibenz(a,h)anthracene	53-70-3	0.055	8.2

Dibenz(a,e)pyrene	192-65-4	0.061	NA

1,2-Dibromo-3-chloropropane	96-12-8	0.11	15

0

1,2-Dibromoethane/Ethylene dibromide	106-93-4	0.028	15

1

Dibromomethane	74-95-3	0.11	15

m-Dichlorobenzene	541-73-1	0.036	6.0

o-Dichlorobenzene	95-50-1	0.088	6.0

p-Dichlorobenzene	106-46-7	0.090	6.0

Dichlorodifluoromethane	75-71-8	0.23	7.2

1,1-Dichloroethane	75-34-3	0.059	6.0

1,2-Dichloroethane	107-06-2	0.21	6.0

1,1-Dichloroethylene	75-35-4	0.025	6.0

trans-1,2-Dichloroethylene	156-60-5	0.054	30

0

2,4-Dichlorophenol	120-83-2	0.044	14

2,6-Dichlorophenol	87-65-0	0.044	14

2,4-Dichlorophenoxyacetic acid/2,4-D	94-75-7	0.72	10

1,2-Dichloropropane	78-87-5	0.85	18

cis-1,3-Dichloropropylene	10061-01-5	0.036	18

trans-1,3-Dichloropropylene	10061-02-6	0.036	18

Dieldrin	60-57-1	0.017	0.13

Diethyl phthalate	84-66-2	0.20	28

p-Dimethylaminoazobenzene	60-11-7	0.13	NA

2-4-Dimethyl phenol	105-67-9	0.036	14

0

Dimethyl phthalate	131-11-3	0.047	28

1

Dimetilan	644-64-4	0.056	1.4

Di-n-butyl phthalate	84-74-2	0.057	28

1,4-Dinitrobenzene	100-25-4	0.32	2.3

4,6-Dinitro-o-cresol	534-52-1	0.28	160

2,4-Dinitrophenol	51-28-5	0.12	160

2,4-Dinitrotoluene	121-14-2	0.32	140

2,6-Dinitrotoluene	606-20-2	0.55	28

Di-n-octyl phthalate	117-84-0	0.017	28

Di-n-propylnitrosamine	621-64-7	0.40	14

0

1,4-Dioxane	123-91-1	12.0	170

1

Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	13

Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	13

1,2-Diphenylhydrazine	122-66-7	0.087	NA

Disulfoton	298-04-4	0.017	6.2

Dithiocarbamates (total)[6]	NA	0.028	28

6

Endosulfan I	959-98-8	0.023	0.066

Endosulfan II	33213-65-9	0.029	0.13

Endosulfan sulfate	1031-07-8	0.029	0.13

Endrin	72-20-8	0.0028	0.13

0

Endrin aldehyde	7421-93-4	0.025	0.13

1

EPTC[6]	759-94-4	0.042	1.4

Ethyl acetate	141-78-6	0.34	33

Ethyl benzene	100-41-4	0.057	10

Ethyl cyanide/Propanenitrile	107-12-0	0.24	360

Ethyl ether	60-29-7	0.12	160

bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28

Ethyl methacrylate	97-63-2	0.14	160

Ethylene oxide	75-21-8	0.12	NA

Famphur	52-85-7	0.017	15

0

Fluoranthene	206-44-0	0.068	3.4

Fluorene	86-73-7	0.059	3.4

Formetanate hydrochloride[6]	23422-53-9	0.056	1.4

Heptachlor	76-44-8	0.0012	0.066

Heptachlor epoxide	1024-57-3	0.016	0.066

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin(1,2,3,4,6,7,8-HpCDD)	35822-46-9	0.000035	0.0025

1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	67562-39-4	0.000035	0.0025

1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	55673-89-7	0.000035	0.0025

Hexachlorobenzene	118-74-1	0.055	10

Hexachlorobutadiene	87-68-3	0.055	5.6

0

Hexachlorocyclopentadiene	77-47-4	0.057	2.4

HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001

HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001

Hexachloroethane	67-72-1	0.055	30

Hexachloropropylene	1888-71-7	0.035	30

Indeno (1,2,3-c,d) pyrene	193-39-5	0.0055	3.4

Iodomethane	74-88-4	0.19	65

Isobutyl alcohol	78-83-1	5.6	170

Isodrin	465-73-6	0.021	0.066

Isosafrole	120-58-1	0.081	2.6

0

Kepone	143-50-0	0.0011	0.13

Methacrylonitrile	126-98-7	0.24	84

Methanol	67-56-1	5.6	0.75 mg/l TCLP

Methapyrilene	91-80-5	0.081	1.5

Methiocarb[6]	2032-65-7	0.056	1.4

Methomyl[6]	16752-77-5	0.028	0.14

6

Methoxychlor	72-43-5	0.25	0.18

3-Methylcholanthrene	56-49-5	0.0055	15

4,4-Methylene bis(2-chloroaniline)	101-14-4	0.50	30

Methylene chloride	75-09-2	0.089	30

0

Methyl ethyl ketone	78-93-3	0.28	36

1

Methyl isobutyl ketone	108-10-1	0.14	33

Methyl methacrylate	80-62-6	0.14	160

Methyl methansulfonate	66-27-3	0.018	NA

Methyl parathion	298-00-0	0.014	4.6

Metolcarb[6]	1129-41-5	0.056	1.4

6

Mexacarbate[6]	315-18-4	0.056	1.4

Molinate[6]	2212-67-1	0.042	1.4

Naphthalene	91-20-3	0.059	5.6

2-Naphthylamine	91-59-8	0.52	NA

0

o-Nitroaniline	88-74-4	0.27	14

1

p-Nitroaniline	100-01-6	0.028	28

Nitrobenzene	98-95-3	0.068	14

5-Nitro-o-toluidine	99-55-8	0.32	28

o-Nitrophenol	88-75-5	0.028	13

p-Nitrophenol	100-02-7	0.12	29

N-Nitrosodiethylamine	55-18-5	0.40	28

N-Nitrosodimethylamine	62-75-9	0.40	2.3

N-Nitroso-di-n-butylamine	924-16-3	0.40	17

N-Nitrosomethylethylamine	10595-95-6	0.40	2.3

0

N-Nitrosomorpholine	59-89-2	0.40	2.3

1

N-Nitrosopiperidine	100-75-4	0.013	35

N-Nitrosopyrrolidine	930-55-2	0.013	35

1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	3268-87-9	0.000063	0.005

1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	39001-02-0	0.000063	0.005

Oxamyl[6]	23135-22-0	0.056	0.28

6

Parathion	56-38-2	0.014	4.6

Total PCBs (sum of all PCB isomers, or all Aroclors)[8]	1336-36-3	0.10	10

8

Pebulate[6]	1114-71-2	0.042	1.4

Pentachlorobenzene	608-93-5	0.055	10

0

PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001

PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001

Pentachloroethane	76-01-7	0.055	6.0

Pentachloronitrobenzene	82-68-8	0.055	4.8

Pentachlorophenol	87-86-5	0.089	7.4

Phenacetin	62-44-2	0.081	16

Phenanthrene	85-01-8	0.059	5.6

Phenol	108-95-2	0.039	6.2

o-Phenylenediamine	95-54-5	0.056	5.6

Phorate	298-02-2	0.021	4.6

0

Phthalic acid	100-21-0	0.055	28

1

Phthalic anhydride	85-44-9	0.055	28

Physostigmine[6]	57-47-6	0.056	1.4

Physostigmine salicylate[6]	57-64-7	0.056	1.4

Promecarb[6]	2631-37-0	0.056	1.4

Pronamide	23950-58-5	0.093	1.5

Propham[6]	122-42-9	0.056	1.4

Propoxur[6]	114-26-1	0.056	1.4

Prosulfocarb[6]	52888-80-9	0.042	1.4

Pyrene	129-00-0	0.067	8.2

0

Pyridine	110-86-1	0.014	16

1

Safrole	94-59-7	0.081	22

Silvex/2,4,5-TP	93-72-1	0.72	7.9

1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14

TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001

TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001

1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0

1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0

Tetrachloroethylene	127-18-4	0.056	6.0

2,3,4,6-Tetrachlorophenol	58-90-2	0.030	7.4

0

Thiodicarb[6]	59669-26-0	0.019	1.4

Thiophanate-methyl[6]	23564-05-8	0.056	1.4

Toluene	108-88-3	0.080	10

Toxaphene	8001-35-2	0.0095	2.6

Triallate[6]	2303-17-5	0.042	1.4

Tribromomethane/Bromoform	75-25-2	0.63	15

1,2,4-Trichlorobenzene	120-82-1	0.055	19

1,1,1-Trichloroethane	71-55-6	0.054	6.0

1,1,2-Trichloroethane	79-00-5	0.054	6.0

Trichloroethylene	79-01-6	0.054	6.0

0

Trichloromonofluoromethane	75-69-4	0.020	30

1

2,4,5-Trichlorophenol	95-95-4	0.18	7.4

2,4,6-Trichlorophenol	88-06-2	0.035	7.4

2,4,5-Trichlorophenoxyacetic acid/2,4,5-T	93-76-5	0.72	7.9

1,2,3-Trichloropropane	96-18-4	0.85	30

1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.057	30

Triethylamine[6]	101-44-8	0.081	1.5

tris-(2,3-Dibromopropyl) phosphate	126-72-7	0.11	0.10

Vernolate[6]	1929-77-7	0.042	1.4

Vinyl chloride	75-01-4	0.27	6.0

0

Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30

Inorganic Constituents			

Antimony	7440-36-0	1.9	1.15 mg/l TCLP

Arsenic	7440-38-2	1.4	5.0 mg/l TCLP

Barium	7440-39-3	1.2	21 mg/l TCLP

Beryllium	7440-41-7	0.82	1.22 mg/l TCLP

Cadmium	7440-43-9	0.69	0.11 mg/l TCLP

Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP

Cyanides (Total)[4]	57-12-5	1.2	590

Cyanides (Amenable)[4]	57-12-5	0.86	30

0

Fluoride[5]	16984-48-8	35	NA

Lead	7439-92-1	0.69	0.75 mg/l TCLP

Mercury - Nonwastewater from Retort	7439-97-6	NA	0.20 mg/l TCLP

Mercury - All Others	7439-97-6	0.15	0.025 mg/lTCLP

Nickel	7440-02-0	3.98	11. mg/l TCLP

Selenium[7]	7782-49-2	0.82	5.7 mg/l TCLP

Silver	7440-22-4	0.43	0.14 mg/l TCLP

Sulfide[5]	18496-25-8	14	NA

Thallium	7440-28-0	1.4	0.20 mg/l TCLP

Vanadium[5]	7440-62-2	4.3	1.6 mg/l TCLP

0

Zinc[5]	7440-66-6	2.61	4.3 mg/l TCLP

1

NA means not applicable.
[1] CAS means Chemical Abstract Services. When the waste code or regulated constituents are described as a combination of a chemical with its salts or esters, the CAS number is given for the parent compound only.
[2] Concentration standards for wastewaters are expressed in mg/l and are based on analysis of composite samples.
[3] Except for metals (EP or TCLP) and cyanides (total and amenable) the nonwastewater treatment standards expressed as a concentration were established, inpart, based upon incineration in units operated according to the technical requirements of subch. O of ch. NR 664 or 665, or based upon combustion in fuel substitution units operating according to applicable technical requirements. A facility may comply with these treatment standards according to s. NR 668.40(4). All concentration standards for nonwastewaters are based on analysis of grab samples.
[4] Both cyanides (total) and cyanides (amenable) for nonwastewaters are to be analyzed using Method 9010 or 9012, found in ‘‘Test Methods for Evaluating Solid Waste, Physical/Chemical Methods’’, EPA SW-846, incorporated by reference in s. NR 660.11, with a sample size of 10 grams and a distillation time of one hour and 15 minutes.
[5] These constituents are not ‘‘underlying hazardous constituents’’ in characteristic wastes, according to the definition at s. NR 668.02(9).
[6] Between August 26, 1996, and March 4, 1998, these constituents are not ‘‘underlying hazardous constituents’’ as defined at s. NR 668.02(9).
[7] This constituent is not an underlying hazardous constituent as defined at s. NR 668.02(9) because its UTS level is greater than its TC level, thus a treatment selenium waste would always be characteristically hazardous, unless it is treated to below its characteristic level.
[8] This standard is temporarily deferred for soil exhibiting a hazardous characteristic due to D004 to D011 only.

NR 668.49 Alternative LDR treatment standards for contaminated soil. (1) A person shall comply with LDRs prior to placing soil that exhibits a characteristic of hazardous waste, or exhibited a characteristic of hazardous waste at the time it was generated, into a land disposal unit. The following chart describes whether a person is required to comply with LDRs prior to placing soil contaminated by listed hazardous waste into a land disposal unit:

If LDRs	And if LDRs	And if	Then a person

Applied to the listed waste when it contaminated the soil*.	Apply to the listed waste now.		Shall comply with LDRs

Didn’t apply to the listed waste when it contami-nated the	Apply to the listed	The soil is determined to contain the listed waste when the soil	Shall comply with

soil*.	waste now.	is first generated.	LDRs.

Didn’t apply to the listed waste when it contami-nated the	Apply to the listed	The soil is determined not to contain the listed waste when the	Needn’t comply with

soil*.	waste now.	soil is first generated.	LDRs.

Didn’t apply to the listed waste when it contami-nated the soil*.	Don’t apply to the listed waste now.		Needn’t comply with LDRs.

[*] For dates of LDR applicability, see ch. NR 668, Appendix VII. To determine the date a listed hazardous waste contaminated a volume of soil, use the last date the listed hazardous waste was placed into the land disposal unit or, in the case of an accidental spill, the date of the spill.

(2) Prior to land disposal, contaminated soil identified by sub. (1) as needing to comply with LDRs shall be treated according to the applicable treatment standards specified in sub. (3) or according to the universal treatment standards specified in s. NR 668.48 applicable to the contaminating listed hazardous waste or the applicable characteristic of hazardous waste if the soil is characteristic, or both. The treatment standards specified in sub. (3) and the universal treatment standards may be modified through a treatment variance approved according to 40 CFR 268(a) to (g).

(3) Prior to land disposal, contaminated soil identified by sub. (1) as needing to comply with LDRs shall be treated according to all the standards specified in this subsection or according to the universal treatment standards specified in s. NR 668.48.

(a) *All soils*. Prior to land disposal, all constituents subject to treatment shall be treated as follows:

1. For non-metals except carbon disulfide, cyclohexanone and methanol, treatment shall achieve 90% reduction in total constituent concentrations, except as provided by subd. 3.

2. For metals and carbon disulfide, cyclohexanone and methanol, treatment shall achieve 90% reduction in constituent concentrations as measured in leachate from the treated media (tested according to the TCLP) or 90 % reduction in total constituent concentrations (when a metal removal treatment technology is used), except as provided by subd. 3.

3. When treatment of any constituent subject to treatment to a 90% reduction standard would result in a concentration less than 10 times the universal treatment standard for that constituent, then treatment to achieve constituent concentrations less than 10 times the universal treatment standard is not required. Universal treatment standards are identified in s. NR 668.48, Table UTS.

(b) *Soils that exhibit the characteristic of ignitability, corrosivity or reactivity*. In addition to the treatment required by par. (a), prior to land disposal, soils that exhibit the characteristic of ignitability, corrosivity or reactivity shall be treated to eliminate these characteristics.

(c) *Soils that contain nonanalyzable constituents*. In addition to the treatment requirements of pars. (a) and (b), prior to land disposal, the following treatment is required for soils that contain nonanalyzable constituents:

1. For soil that contains only analyzable and nonanalyzable organic constituents, the analyzable organic constituents shall be treated to the levels specified in pars. (a) and (b).

2. Soil that contains only nonanalyzable constituents shall be treated by the method or methods specified in s. NR 668.42 for the waste contained in the soil.

(4) When applying the soil treatment standards in sub. (3), constituents subject to treatment are any constituents listed in s. NR 668.48, Table UTS that are reasonably expected to be present in any given volume of contaminated soil, except flouride, selenium, sulfides, vanadium and zinc, and that are present at concentrations greater than ten times the universal treatment standard. PCBs are not constituents subject to treatment in any given volume of soil which exhibits the toxicity characteristic solely because of the presence of metals.

(5) Treatment residuals from treating contaminated soil identified by sub. (1) as needing to comply with LDRs shall be managed as follows:

(a) Soil residuals are subject to the treatment standards of this section.

(b) Non-soil residuals are subject to all of the following requirements:

1. Soils contaminated by listed hazardous waste are subject to the standards applicable to the listed hazardous waste under ch. 291, Stats. and chs. NR 600 to 673.

2. Soils that exhibit a characteristic of hazardous waste, if the non-soil residual also exhibits a characteristic of hazardous waste, are subject to the treatment standards applicable to the characteristic hazardous waste.

Subchapter E —Prohibitions on Storage

NR 668.50 Prohibitions on storage of restricted wastes. (1) Except as provided in this section, the storage of hazardous wastes restricted from land disposal under this chapter or 42 USC 6924 is prohibited, unless all of the following conditions are met:

(a) A generator stores the wastes in tanks, containers, or containment buildings on-site solely for the purpose of the accumulation of quantities of hazardous waste necessary to facilitate proper recovery, treatment or disposal, and a generator complies with the requirements in s. NR 662.034 and chs. NR 664 and 665.

(b) An owner or operator of a hazardous waste treatment, storage or disposal facility stores the wastes in tanks, containers or containment buildings solely for the purpose of the accumulation of quantities of hazardous waste necessary to facilitate proper recovery, treatment or disposal, and all of the following additional conditions are met:

1. Each container is clearly marked to identify its contents and the date each period of accumulation begins.

2. Each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received and the date each period of accumulation begins, or the information for each tank is recorded and maintained in the operating record at that facility. Regardless of whether the tank itself is marked, an owner or operator shall comply with the operating record requirements specified in s. NR 664.0073 or s. NR 665.0073.

(c) A transporter stores manifested shipments of the wastes at a transfer facility for 10 days or less.

(2) An owner or operator of a treatment, storage or disposal facility may store the wastes for up to one year unless the department can demonstrate that the storage was not solely for the purpose of accumulation of quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.

(3) A owner or operator of a treatment, storage or disposal facility may store the wastes beyond one year; however, the owner or operator bears the burden of proving that the storage was solely for the purpose of accumulation of quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.

(4) If a generator's waste is exempt from a prohibition on the type of land disposal utilized for the waste (for example, because of an approved case-by-case extension under 40 CFR 268.5, an approved 40 CFR 268.6 petition, or a national capacity variance under subch. C), the prohibition in sub. (1) does not apply during the period of the exemption.

(5) The prohibition in sub. (1) does not apply to hazardous wastes that meet the treatment standards specified under ss. NR 668.41, 668.42 and 668.43 or the treatment standards specified under the variance in 40 CFR 268.44, or, where treatment standards have not been specified, is in compliance with the applicable prohibitions specified in s. NR 668.32 or s. 291.05(6), Stats.

(6) Liquid hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 ppm shall be stored at a facility that meets the requirements of 40 CFR 761.65(b) and shall be removed from storage and treated or disposed as required by this chapter within one year of the date when the wastes are first placed into storage. The provisions of sub. (3) do not apply to PCB wastes prohibited under s. NR 668.32.

(7) The prohibition and requirements in this do not apply to hazardous remediation wastes stored in a staging pile approved pursuant to s. NR 664.0554.

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APPENDIX III
LIST OF HALOGENATED ORGANIC COMPOUNDS REGULATED UNDER S. NR 668.32

In determining the concentration of HOCs in a hazardous waste for purposes of the s. NR 668.32 land disposal prohibition, the department has defined the HOCs that shall be included in a calculation as any compounds having a carbon-halogen bond which are listed in this appendix (see s. NR 668.02). This appendix consists of the following compounds:

I. VOLATILES

1. Bromodichloromethane
2. Bromomethane
3. Carbon Tetrachloride
4. Chlorobenzene
5. 2-Chloro-1,3-butadiene
6. Chlorodibromomethane
7. Chloroethane
8. 2-Chloroethyl vinyl ether
9. Chloroform
10. Chloromethane
11. 3-Chloropropene
12. 1,2-Dibromo-3-chloropropane
13. 1,2-Dibromomethane
14. Dibromomethane
15. Trans-1,4-Dichloro-2-butene
16. Dichlorodifluoromethane
17. 1,1-Dichloroethane
18. 1,2-Dichloroethane
19. 1,1-Dichloroethylene
20. Trans-1,2-Dichloroethene
21. 1,2-Dichloropropane
22. Trans-1,3-Dichloropropene
23. cis-1,3-Dichloropropene
24. Iodomethane
25. Methylene chloride
26. 1,1,1,2-Tetrachloroethane
27. 1,1,2,2-Tetrachloroethane
28. Tetrachloroethene
29. Tribromomethane
30. 1,1,1-Trichloroethane
31. 1,1,2-Trichloroethane
32. Trichlorothene
33. Trichloromonofluoromethane
34. 1,2,3-Thrichloropropane
35. Vinyl Chloride

II. SEMIVOLATILES

1. Bis(2-chloroethoxy)ethane
2. Bis(2-chloroethyl)ether
3. Bis(2-chloroisopropyl)ether
4. p-Chloroaniline
5. Chlorobenzilate

6. p-Chloro-m-cresol
7. 2-Chloronaphthalene
8. 2-Chlorphenol
9. 3-Chloropropionitrile
10. m-Dichlorobenzene
11. o-Dichlorobenzene
12. p-Dichlorobenzene
13. 3.3'-Dichlorobenzidine
14. 2,4-Dichlorophenol
15. 2,6-Dichlorophenol
16. Hexachlorobenzene
17. Hexachlorobutadiene
18. Hexachlorocyclopentadiene
19. Hexachloroethane
20. Hexachloroprophene
21. Hexachlorpropene
22. 4,4'-Methylenebis(2-chloroanaline)
23. Pentachlorobenzene
24. Pentachloroethane
25. Pentachloronitrobenzene
26. Pentachlorophenol
27. Pronamide
28. 1,2,4,5-Tetrachlorobenzene
29. 2,3,4,6-Tetrachlorophenol
30. 1,2,4-Trichlorobenzene
31. 2,4,5-Trichlorophenol
32. 2,4,6-Trichlorophenol
33. Tris(2,3-dibromopropyl)phosphate

III. Organochlorine Pesticides

1. Aldrin
2. alpha-BHC
3. beta-BHC
4. delta-BHC
5. gamma-BHC
6. Chlorodane
7. DDD
8. DDE
9. DDT
10. Dieldrin
11. Endosulfan I
12. Endosulfan II
13. Endrin
14. Endrin aldehyde
15. Heptachlor
16. Heptachlor epoxide
17. Isodrin
18. Kepone
19. Methoxyclor

20. Toxaphene

IV. PHENOXYACETIC ACID HERBICIDES

1. 2,4-Dichlorophenoxyacetic acid
2. Silvex
3. 2,4,5-T

V. PCBS

1. Aroclor 1016
2. Aroclor 1221
3. Aroclor 1232
4. Aroclor 1242
5. Aroclor 1248
6. Aroclor 1254
7. Aroclor 1260
8. PCBs not otherwise specified

VI. DIOXINS AND FURANS

1. Hexachlorodibenzo-p-dioxins
2. Hexachlorodibenzofuran
3. Pentachlorodibenzo-p-dioxins
4. Pentachlorodibenzofuran
5. Tetrachlorodibenzo-p-dioxins
6. Tetrachlorodibenzofuran
7. 2,3,7,8-Tetrachlorodibenzo-p-dioxin

APPENDIX IV
WASTES EXCLUDED FROM LAB PACKS UNDER THE ALTERNATIVE TREATMENT STANDARDS OF S. NR 668.42(3)

Hazardous waste with the following EPA hazardous waste codes may not be placed in lab packs under the alternative lab pack treatment standards of s. NR 668.42(3): D009, F019, K003, K004, K005, K006, K062, K071, K100, K106, P010, P011, P012, P076, P078, U134, U151.

APPENDIX VI
RECOMMENDED TECHNOLOGIES TO ACHIEVE DEACTIVATION OF CHARACTERISTICS IN S. NR 668.42

The treatment standard for many characteristic wastes is stated in the s. NR 668.40 Table of Treatment Standards as ”Deactivation and meet UTS.” The department has determined that many technologies, when used alone or in combination, can achieve the deactivation portion of the treatment standard. Characteristic wastes that are not managed in a facility regulated by ch. 283, Stats., or in a CWA-equivalent facility, and that also contain underlying hazardous constituents (see s. NR 668.02(9)) shall be treated not only by a ”deactivating” technology to remove the characteristic, but also to achieve the universal treatment standards (UTS) for underlying hazardous constituents. The following appendix presents a partial list of technologies, utilizing the 5 letter technology codes established in s. NR 668.42, Table 1, that may be useful in meeting the treatment standard. Use of these specific technologies is not mandatory and does not preclude direct reuse, recovery or the use of other pretreatment technologies, provided deactivation is achieved and underlying hazardous constituents are treated to achieve the UTS.

Waste code/subcategory	Nonwastewaters	Wastewaters

D001 Ignitable Liquids based on 661.21(1)(a) -- Low TOC Nonwastewater Subcategory (containing 1% to <10% TOC)	RORGS ..... INCIN..... WETOX ..... CHOXD ..... BIODG	n.a.

D001 Ignitable Liquids based on 661.21(1)(a) -- Ignitable Wastewater Subcategory (containing <1% TOC)	n.a.	RORGS INCIN WETOX CHOXD BIODG

D001	Compressed Gases based on 661.21(1)(c)	RCGAS ..... INCIN..... FSUBS ..... ADGAS fb. INCIN ADGAS fb. (CHOXD; or CHRED).	n.a.

D001	Ignitable Reactives based on 661.21(1)(b)	WTRRX ..... CHOXD ..... CHRED ..... STABL ..... INCIN.....	n.a.

0

D001	Ignitable Oxidizers based on 661.21(1)(d)	CHRED ..... INCIN.....	CHRED INCIN

1

D002	Acid Subcategory based on 661.22(1)(a) with pH less than or	RCORR ..... NEUTR	NEUTR

equal to 2	INCIN.....	INCIN

D002	Alkaline Subcategory based on 661.22(1)(a) with pH greater	NEUTR	NEUTR

than or equal to 12.5	INCIN.....	INCIN

D002	Other Corrosives based on 661.22(1)(b).....	CHOXD ..... CHRED ..... INCIN..... STABL	CHOXD CHRED INCIN

D003	Water Reactives based on 661.23(1) (b), (c), and (d)	INCIN.....	n.a.
		WTRRX	
		CHOXD	
		CHRED	

D003	Reactive Sulfides based on 661.23(1)(e)	CHOXD	CHOXD
		CHRED	CHRED
		INCIN.....	BIODG
		STABL	INCIN

D003	Explosives based on 661.23(1) (f), (g), and (h)	INCIN.....	INCIN
		CHOXD	CHOXD
		CHRED	CHRED
			BIODG
			CARBN

D003 Other Reactives based on 661.23(1)(a).....	INCIN.....	INCIN
	CHOXD	CHOXD
	CHRED	CHRED
		BIODG
		CARBN

0

K044	Wastewater treatment sludges from the manufacturing and	CHOXD	CHOXD
		CHRED	CHRED
			BIODG
			CARBN

processing of explosives	INCIN.....	INCIN

K045	Spent carbon from the treatment of wastewaters containing	CHOXD	CHOXD
		CHRED	CHRED
			BIODG
			CARBN

explosives	INCIN.....	INCIN

K047 Pink/red water from TNT operations	CHOXD CHRED INCIN	CHOXD CHRED BIODG CARBN INCIN

Note: ‘‘n.a.’’ stands for ‘‘not applicable’’; ‘‘fb.’’ stands for ‘‘followed by’’.

APPENDIX VII
LDR EFFECTIVE DATES OF SURFACE DISPOSED PROHIBITED HAZARDOUS WASTES

Table 1
Effective Dates of Surface Disposed Wastes (Non-Soil and Debris) Regulated in the LDRS
[a]Comprehensive List

Waste code	Waste category	Effective date

D001[c]	All (except High TOC Ignitable Liquids)	Aug. 9, 1993.

D001	High TOC Ignitable Liquids	Aug. 8, 1990.

D002[c]	All	Aug. 9, 1993.

0

D003[e]	Newly identified surface-disposed elemental phosphorus processing wastes.	May 26, 2000.

1

D004	Newly identified D004 and mineral processing wastes	Aug. 24, 1998.

D004	Mixed radioactive/newly identified D004 or mineral processing wastes.	May 26, 2000.

D005	Newly identified D005 and mineral processing wastes	Aug. 24, 1998.

D005	Mixed radioactive/newly identified D005 or mineral processing wastes.	May 26, 2000.

D006	Newly identified D006 and mineral processing wastes	Aug. 24, 1998.

D006	Mixed radioactive/newly identified D006 or mineral processing wastes.	May 26, 2000.

D007	Newly identified D007 and mineral processing wastes	Aug. 24, 1998.

D007	Mixed radioactive/newly identified D007 or mineral processing wastes.	May 26, 2000.

D008	Newly identified D008 and mineral processing wastes	Aug. 24, 1998.

0

D008	Mixed radioactive/newly identified D008 or mineral processing wastes.	May 26, 2000.

1

D009	Newly identified D009 and mineral processing wastes	Aug. 24, 1998.

D009	Mixed radioactive/newly identified D009 or mineral processing wastes.	May 26, 2000.

D010	Newly identified D010 and mineral processing wastes	Aug. 24, 1998.

D010	Mixed radioactive/newly identified D010 or mineral processing wastes.	May 26, 2000.

D011	Newly identified D011 and mineral processing wastes	Aug. 24, 1998.

D011	Mixed radioactive/newly identified D011 or mineral processing wastes.	May 26, 2000.

D012 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994.

D013 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994.

D014 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994.

0

D015 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994.

1

D016 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994.

D017 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994.

D018	Mixed with radioactive wastes	Sept. 19, 1996.

D018	All others	Dec. 19, 1994.

D019	Mixed with radioactive wastes	Sept. 19, 1996.

D019	All others	Dec. 19, 1994.

D020	Mixed with radioactive wastes	Sept. 19, 1996.

D020	All others	Dec. 19, 1994.

D021	Mixed with radioactive wastes	Sept. 19, 1996.

0

D021	All others	Dec. 19, 1994.

D022	Mixed with radioactive wastes	Sept. 19, 1996.

D022	All others	Dec. 19, 1994.

D023	Mixed with radioactive wastes	Sept. 19, 1996.

D023	All others	Dec. 19, 1994.

D024	Mixed with radioactive wastes	Sept. 19, 1996.

D024	All others	Dec. 19, 1994.

D025	Mixed with radioactive wastes	Sept. 19, 1996.

D025	All others	Dec. 19, 1994.

D026	Mixed with radioactive wastes	Sept. 19, 1996.

0

D026	All others	Dec. 19, 1994.

D027	Mixed with radioactive wastes	Sept. 19, 1996.

D027	All others	Dec. 19, 1994.

D028	Mixed with radioactive wastes	Sept. 19, 1996.

D028	All others	Dec. 19, 1994.

D029	Mixed with radioactive wastes	Sept. 19, 1996.

D029	All others	Dec. 19, 1994.

D030	Mixed with radioactive wastes	Sept. 19. 1996.

D030	All others	Dec. 19, 1994.

D031	Mixed with radioactive wastes	Sept. 19, 1996.

0

D031	All others	Dec. 19, 1994.

D032	Mixed with radioactive wastes	Sept. 19, 1996.

D032	All others	Dec. 19, 1994.

D033	Mixed with radioactive wastes	Sept. 19, 1996.

D033	All others	Dec. 19, 1994.

D034	Mixed with radioactive wastes	Sept. 19, 1996.

D034	All others	Dec. 19, 1994.

D035	Mixed with radioactive wastes	Sept. 19, 1996.

D035	All others	Dec. 19, 1994.

D036	Mixed with radioactive wastes	Sept. 19, 1996.

0

D036	All others	Dec. 19, 1994.

D037	Mixed with radioactive wastes	Sept. 19, 1996.

D037	All others	Dec. 19, 1994.

D038	Mixed with radioactive wastes	Sept. 19, 1996.

D038	All others	Dec. 19, 1994.

D039	Mixed with radioactive wastes	Sept. 19, 1996.

D039	All others	Dec. 19, 1994.

D040	Mixed with radioactive wastes	Sept. 19, 1996.

D040	All others	Dec. 19, 1994.

D041	Mixed with radioactive wastes	Sept. 19, 1996.

0

D041	All others	Dec. 19, 1994.

D042	Mixed with radioactive wastes	Sept. 19, 1996.

D042	All others	Dec. 19, 1994.

D043	Mixed with radioactive wastes	Sept. 19, 1996.

D043	All others	Dec. 19, 1994.

F001	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids.	Nov. 8, 1988.

F001	All others	Nov. 8, 1986.

F002 (1,1,2-trichloroethane)	Wastewater and Nonwastewater	Aug. 8, 1990.

F002	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids.	Nov. 8, 1988.

F002	All others	Nov. 8, 1986.

0

F003	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids.	Nov. 8, 1988.

1

F003	All others	Nov. 8, 1986.

F004	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids.	Nov. 8, 1988.

F004	All others	Nov. 8, 1986.

F005 (benzene, 2-ethoxy ethanol, 2-nitropropane)	Wastewater and Nonwastewater	Aug. 8, 1990.

F005	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids.	Nov. 8, 1988.

F005	All others	Nov. 8, 1986.

F006	Wastewater	Aug. 8, 1990.

F006	Nonwastewater	Aug. 8, 1988.

F006(cyanides)	Nonwastewater	July 8, 1989.

0

F007	All	July 8, 1989.

F008	All	July 8, 1989.

F009	All	July 8, 1989.

F010	All	June 8, 1989.

F011(cyanides)	Nonwastewater	Dec. 8, 1989.

F011	All others	July 8, 1989.

F012(cyanides)	Nonwastewater	Dec. 8, 1989.

F012	All others	July 8, 1989.

F019	All	Aug. 8, 1990.

F020	All	Nov. 8, 1988.

0

F021	All	Nov. 8, 1988.

F025	All	Aug. 8, 1990.

F026	All	Nov. 8, 1988.

F027	All	Nov. 8, 1988.

F028	All	Nov. 8, 1988.

F032	Mixed with radioactive wastes	May 12, 1999

F032	All others	May 12, 1997

F033	Mixed with radioactive wastes	May 12, 1999

F033	All others	May 12, 1997

F034	Mixed with radioactive wastes	May 12, 1999

0

F034	All others	May 12, 1997

F037	Not generated from surface impoundment cleanouts or closures	June 30, 1993.

F037	Generated from surface impoundment cleanouts or closures	June 30, 1994.

F037	Mixed with radioactive wastes	June 30, 1994.

F038	Not generated from surface impoundment cleanouts or closures	June 30, 1993.

F038	Generated from surface impoundment cleanouts or closures	June 30, 1994.

F038	Mixed with radioactive wastes	June 30, 1994.

F039	Wastewater	Aug. 8, 1990.

F039	Nonwastewater	May 8, 1992.

K001(organics)[b]	All	Aug. 8, 1988

0

K001	All others	Aug. 8, 1988.

K002	All	Aug. 8, 1990

K003	All	Aug. 8, 1990.

K004	Wastewater	Aug. 8, 1990.

K004	Nonwastewater	Aug. 8, 1988.

K005	Wastewater	Aug. 8, 1990.

K005	Nonwastewater	June 8, 1989.

K006	All	Aug. 8, 1990.

K007	Wastewater	Aug. 8, 1990.

K007	Nonwastewater	June 8, 1989.

0

K008	Wastewater	Aug. 8, 1990.

K008	Nonwastewater	Aug. 8, 1988.

K009	All	June 8, 1989.

K010	All	June 8, 1989.

K011	Wastewater	Aug. 8, 1990.

K011	Nonwastewate	June 8, 1989.

K013	Wastewater	Aug. 8, 1990.

K013	Nonwastewater	June 8, 1989.

K014	Wastewater	Aug. 8, 1990.

K014	Nonwastewater	June 8, 1989.

0

K015	Wastewater	Aug. 8, 1988.

K015	Nonwastewater	Aug. 8, 1990.

K016	All	Aug. 8, 1988.

K017	All	Aug. 8, 1990.

K018	All	Aug. 8, 1988.

K019	All	Aug. 8, 1988.

K020	All	Aug. 8, 1988.

K021	Wastewater	Aug. 8, 1990.

K021	Nonwastewater	Aug. 8, 1988.

K022	Wastewater	Aug. 8, 1990.

0

K022	Nonwastewater	Aug. 8, 1988.

K023	All	June 8, 1989.

K024	All	Aug. 8, 1988.

K025	Wastewater	Aug. 8, 1990.

K025	Nonwastewater	Aug. 8, 1988.

K026	All	Aug. 8, 1990.

K027	All	June 8, 1989.

K028 (metals)	Nonwastewater	Aug. 8, 1990.

K028	All others	June 8, 1989.

K029	Wastewater	Aug. 8, 1990.

0

K029	Nonwastewater	June 8, 1989.

K030	All	Aug. 8, 1988.

K031	Wastewater	Aug. 8, 1990.

K031	Nonwastewater	May 8, 1992.

K032	All	Aug. 8, 1990.

K033	All	Aug. 8, 1990.

K034	All	Aug. 8, 1990.

K035	All	Aug. 8, 1990.

K036	Wastewater	June 8, 1989.

K036	Nonwastewater	Aug. 8, 1988.

0

K037	Wastewater	Aug. 8, 1988.

K037	Nonwastewater	Aug. 8, 1988.

K038	All	June 8, 1989.

K039	All	June 8, 1989.

K040	All	June 8, 1989.

K041	All	Aug. 8, 1990.

K042	All	Aug. 8, 1990.

K043	All	June 8, 1989.

K044	All	Aug. 8, 1988.

K045	All	Aug. 8, 1988.

0

K046 (Nonreactive)	Nonwastewater	Aug. 8, 1988.

1

K046	All others	Aug. 8, 1990.

K047	All	Aug. 8, 1988.

K048	Wastewater	Aug. 8, 1990.

K048	Nonwastewater	Nov. 8, 1990.

K049	Wastewater	Aug. 8, 1990.

K049	Nonwastewater	Nov. 8, 1990.

K050	Wastewater	Aug. 8, 1990.

K050	Nonwastewater	Nov. 8, 1990.

K051	Wastewater	Aug. 8, 1990.

0

K051	Nonwastewater	Nov. 8, 1990.

K052	Wastewater	Aug. 8, 1990.

K052	Nonwastewater	Nov. 8, 1990.

K060	Wastewater	Aug. 8, 1990.

K060	Nonwastewater	Aug. 8, 1988.

K061	Wastewater	Aug. 8, 1990.

K061	Nonwastewater	June 30, 1992.

K062	All	Aug. 8, 1988.

K069 (Non-sulfate) Calcium	Nonwastewater	Aug. 8, 1988.

K069	All others	Aug. 8, 1990.

0

K071	All	Aug. 8, 1990.

K073	All	Aug. 8, 1990.

K083	All	Aug. 8, 1990.

K084	Wastewater	Aug. 8, 1990.

K084	Nonwastewater	May 8, 1992.

K085	All	Aug. 8, 1990.

K086 (organics)[b]	All	Aug. 8, 1988

K086	All others	Aug. 8, 1988

K087	All	Aug. 8, 1988.

K088	Mixed with radioactive waste	Apr. 8, 1998.

0

K088	All others	Jan. 8, 1997.

K093	All	June 8, 1989.

K094	All	June 8, 1989.

K095	Wastewater	Aug. 8, 1990.

K095	Nonwastewate	June 8, 1989.

K096	Wastewater	Aug. 8, 1990.

K096	Nonwastewater	June 8, 1989.

K097	All	Aug. 8, 1990.

K098	All	Aug. 8, 1990.

K099	All	Aug. 8, 1988.

0

K100	Wastewater	Aug. 8, 1990.

K100	Nonwastewater	Aug. 8, 1988.

K101(organics)	Wastewater	Aug. 8, 1988.

K101 (metals)	Wastewater	Aug. 8, 1990.

K101(organics)	Nonwastewater	Aug. 8, 1988.

K101 (metals)	Nonwastewater	May 8, 1992.

K102(organics)	Wastewater	Aug. 8, 1988.

K102 (metals)	Wastewater	Aug. 8, 1990.

K102(organics)	Nonwastewater	Aug. 8, 1988.

K102 (metals)	Nonwastewater	May 8, 1992.

0

K103	All	Aug. 8, 1988.

K104	All	Aug. 8, 1988.

K105	All	Aug. 8, 1990.

K106	Wastewater	Aug. 8, 1990.

K106	Nonwastewater	May 8, 1992.

K107	Mixed with radioactive wastes	June 30, 1994.

K107	All others	Nov. 9, 1992.

K108	Mixed with radioactive wastes	June 30, 1994.

K108	All others	Nov. 9, 1992.

K109	Mixed with radioactive wastes	June 30, 1994.

0

K109	All others	Nov. 9, 1992.

K110	Mixed with radioactive wastes	June 30, 1994.

K110	All others	Nov. 9, 1992.

K111	Mixed with radioactive wastes	June 30, 1994.

K111	All other	Nov. 9, 1992.

K112	Mixed with radioactive wastes	June 30, 1994.

K112	All other	Nov. 9, 1992.

K113	All	June 8, 1989.

K114	All	June 8, 1989.

K115	All	June 8, 1989.

0

K116	All	June 8, 1989.

1

K117	Mixed with radioactive wastes	June 30, 1994.

K117	All others	Nov. 9, 1992.

K118	Mixed with radioactive wastes	June 30, 1994.

K118	All others	Nov. 9, 1992.

K123	Mixed with radioactive wastes	June 30, 1994.

K123	All others	Nov. 9, 1992.

K124	Mixed with radioactive wastes	June 30, 1994.

K124	All others	Nov. 9, 1992.

K125	Mixed with radioactive wastes	June 30, 1994.

0

K125	All others	Nov. 9, 1992.

K126	Mixed with radioactive wastes	June 30, 1994.

K126	All others	Nov. 9, 1992.

K131	Mixed with radioactive wastes	June 30, 1994.

K131	All others	Nov. 9, 1992.

K132	Mixed with radioactive wastes	June 30, 1994.

K132	All others	Nov. 9, 1992.

K136	Mixed with radioactive wastes	June 30, 1994.

K136	All others	Nov. 9, 1992.

K141	Mixed with radioactive wastes	Sep. 19, 1996.

0

K141	All others	Dec. 19, 1994.

K142	Mixed with radioactive wastes	Sep. 19, 1996..

K142	All others	Dec. 19, 1994.

K143	Mixed with radioactive wastes	Sep. 19, 1996.

K143	All others	Dec. 19, 1994.

K144	Mixed with radioactive wastes	Sep. 19, 1996.

K144	All others	Dec. 19, 1994.

K145	Mixed with radioactive wastes	Sep. 19, 1996.

K145	All others	Dec. 19, 1994.

K147	Mixed with radioactive wastes	Sep. 19, 1996.

0

K147	All others	Dec. 19, 1994.

K148	Mixed with radioactive wastes	Sep. 19, 1996.

K148	All others	Dec. 19, 1994.

K149	Mixed with radioactive wastes	Sep. 19, 1996.

K149	All others	Dec. 19, 1994.

K150	Mixed with radioactive wastes	Sep. 19, 1996.

K150	All others	Dec. 19, 1994.

K151	Mixed with radioactive wastes	Sep. 19, 1996.

K151	All others	Dec. 19, 1994.

K156	Mixed with radioactive wastes	Apr. 8, 1998.

0

K156	All others	July 8, 1996.

1

K157	Mixed with radioactive wastes	Apr. 8, 1998.

K157	All others	July 8, 1996.

K158	Mixed with radioactive wastes	Apr. 8, 1998.

K158	All others	July 8, 1996.

K159	Mixed with radioactive wastes	Apr. 8, 1998.

K159	All others	July 8, 1996.

K160	Mixed with radioactive wastes	Apr. 8, 1998.

K160	All others	July 8, 1996.

K161	Mixed with radioactive wastes	Apr. 8, 1998.

0

K161	All others	July 8, 1996.

1

P001	All	Aug. 8, 1990.

P002	All	Aug. 8, 1990.

P003	All	Aug. 8, 1990.

P004	All	Aug. 8, 1990.

P005	All	Aug. 8, 1990.

P006	All	Aug. 8, 1990.

P007	All	Aug. 8, 1990.

P008	All	Aug. 8, 1990.

P009	All	Aug. 8, 1990.

0

P010	Wastewater	Aug. 8, 1990.

P010	Nonwastewater	May 8, 1992.

P011	Wastewater	Aug. 8, 1990.

P011	Nonwastewater	May 8, 1992.

P012	Wastewater	Aug. 8, 1990.

P012	Nonwastewater	May 8, 1992.

P013 (barium)	Nonwastewater	Aug. 8, 1990.

P013	All	June 8, 1989.

P014	All	Aug. 8, 1990.

P015	All	Aug. 8, 1990.

0

P016	All	Aug. 8, 1990.

P017	All	Aug. 8, 1990.

P018	All	Aug. 8, 1990.

P020	All	Aug. 8, 1990.

P021	All	June 8, 1989.

P022	All	Aug. 8, 1990.

P023	All	Aug. 8, 1990.

P024	All	Aug. 8, 1990.

P026	All	Aug. 8, 1990.

P027	All	Aug. 8, 1990.

0

P028	All	Aug. 8, 1990.

P029	All	June 8, 1989.

P030	All	June 8, 1989.

P031	All	Aug. 8, 1990.

P033	All	Aug. 8, 1990.

P034	All	Aug. 8, 1990.

P036	Wastewater	Aug. 8, 1990.

P036	Nonwastewater	May 8, 1992.

P037	All	Aug. 8, 1990.

P038	Wastewater	Aug. 8, 1990.

0

P038	Nonwastewater	May 8, 1992.

P039	All	June 8, 1989.

P040	All.	June 8, 1989.

P041	All	June 8, 1989.

P042	All	Aug. 8, 1990.

P043	All	June 8, 1989.

P044	All	June 8, 1989.

P045	All	Aug. 8, 1990.

P046	All	Aug. 8, 1990.

P047	All	Aug. 8, 1990.

0

P048	All	Aug. 8, 1990.

P049	All	Aug. 8, 1990.

P050	All	Aug. 8, 1990.

P051	All	Aug. 8, 1990.

P054	All	Aug. 8, 1990.

P056	All	Aug. 8, 1990.

P057	All	Aug. 8, 1990.

P058	All	Aug. 8, 1990.

P059	All	Aug. 8, 1990.

P060	All	Aug. 8, 1990.

0

P062	All	June 8, 1989.

1

P063	All	June 8, 1989.

P064	All	Aug. 8, 1990.

P065	Wastewater	Aug. 8, 1990.

P065	Nonwastewater	May 8, 1992.

P066	All	Aug. 8, 1990.

P067	All	Aug. 8, 1990.

P068	All	Aug. 8, 1990.

P069	All	Aug. 8, 1990.

P070	All	Aug. 8, 1990.

0

P071	All	June 8, 1989.

P072	All	Aug. 8, 1990.

P073	All	Aug. 8, 1990.

P074	All	June 8, 1989.

P075	All	Aug. 8, 1990.

P076	All	Aug. 8, 1990.

P077	All	Aug. 8, 1990.

P078	All	Aug. 8, 1990.

P081	All	Aug. 8, 1990.

P082	All	Aug. 8, 1990.

0

P084	All	Aug. 8, 1990.

P085	All	June 8, 1989.

P087	All	May 8, 1992.

P088	All	Aug. 8, 1990.

P089	All	June 8, 1989.

P092	Wastewater	Aug. 8, 1990.

P092	Nonwastewater	May 8, 1992.

P093	All	Aug. 8, 1990.

P094	All	June 8, 1989.

P095	All	Aug. 8, 1990.

0

P096	All	Aug. 8, 1990.

P097	All	June 8, 1989.

P098	All	June 8, 1989.

P099 (silver)	Wastewater	Aug. 8, 1990.

P099	All others	June 8, 1989.

P101	All	Aug. 8, 1990.

P102	All	Aug. 8, 1990.

P103	All	Aug. 8, 1990.

P104 (silver)	Wastewater	Aug. 8, 1990.

P104	All others	June 8, 1989.

0

P105	All	Aug. 8, 1990.

P106	All	June 8, 1989.

P108	All	Aug. 8, 1990.

P109	All	June 8, 1989.

P110	All	Aug. 8, 1990.

P111	All	June 8, 1989.

P112	All	Aug. 8, 1990.

P113	All	Aug. 8, 1990.

P114	All	Aug. 8, 1990.

P115	All	Aug. 8, 1990.

0

P116	All	Aug. 8, 1990.

P118	All	Aug. 8, 1990.

P119	All	Aug. 8, 1990.

P120	All	Aug. 8, 1990.

P121	All	June 8, 1989.

P122	All	Aug. 8, 1990.

P123	All	Aug. 8, 1990.

P127	Mixed with radioactive waste	Apr. 8, 1998.

P127	All others	July 8, 1996.

P128	Mixed with radioactive wastes	Apr. 8, 1998.

0

P128	All others	July 8, 1996.

P185	Mixed with radioactive wastes	Apr. 8, 1998.

P185	All others	July 8, 1996.

P188	Mixed with radioactive wastes	Apr. 8, 1998.

P188	All others	July 8, 1996.

P189	Mixed with radioactive wastes	Apr. 8, 1998.

P189	All others	July 8, 1996.

P190	Mixed with radioactive wastes	Apr. 8, 1998.

P190	All others	July 8, 1996.

P191	Mixed with radioactive wastes	Apr. 8, 1998.

0

P191	All others	July 8, 1996.

1

P192	Mixed with radioactive wastes	Apr. 8, 1998.

P192	All others	July 8, 1996.

P194	Mixed with radioactive wastes	Apr. 8, 1998.

P194	All others	July 8, 1996.

P196	Mixed with radioactive wastes	Apr. 8, 1998.

P196	All others	July 8, 1996.

P197	Mixed with radioactive wastes	Apr. 8, 1998.

P197	All others	July 8, 1996.

P198	Mixed with radioactive wastes	Apr. 8, 1998.

0

P198	All others	July 8, 1996.

1

P199	Mixed with radioactive wastes	Apr. 8, 1998.

P199	All others	July 8, 1996.

P201	Mixed with radioactive wastes	Apr. 8, 1998.

P201	All others	July 8, 1996.

P202	Mixed with radioactive wastes	Apr. 8, 1998.

P202	All others	July 8, 1996.

P203	Mixed with radioactive wastes	Apr. 8, 1998.

P203	All others	July 8, 1996.

P204	Mixed with radioactive wastes	Apr. 8, 1998.

0

P204	All others	July 8, 1996.

1

P205	Mixed with radioactive wastes	Apr. 8, 1998.

P205	All others	July 8, 1996.

U001	All	Aug 8, 1990.

U002	All	Aug 8, 1990.

U003	All	Aug 8, 1990.

U004	All	Aug 8, 1990.

U005	All	Aug. 8, 1990.

U006	All	Aug. 8, 1990.

U007	All	Aug. 8, 1990.

0

U008	All	Aug. 8, 1990.

U009	All	Aug. 8, 1990.

U010	All	Aug. 8, 1990.

U011	All	Aug. 8, 1990.

U012	All	Aug. 8, 1990.

U014	All	Aug. 8, 1990.

U015	All	Aug. 8, 1990.

U016	All	Aug. 8, 1990.

U017	All	Aug. 8, 1990.

U018	All	Aug. 8, 1990.

0

U019	All	Aug. 8, 1990.

U020	All	Aug. 8, 1990.

U021	All	Aug. 8, 1990.

U022	All	Aug. 8, 1990.

U023	All	Aug. 8, 1990.

U024	All	Aug. 8, 1990.

U025	All	Aug. 8, 1990.

U026	All	Aug. 8, 1990.

U027	All	Aug. 8, 1990.

U028	All	June 8, 1989.

0

U029	All	Aug. 8, 1990.

U030	All	Aug. 8, 1990.

U031	All	Aug. 8, 1990.

U032	All	Aug. 8, 1990.

U033	All	Aug. 8, 1990.

U034	All	Aug. 8, 1990.

U035	All	Aug. 8, 1990.

U036	All	Aug. 8, 1990.

U037	All	Aug. 8, 1990.

U038	All	Aug. 8, 1990.

0

U039	All	Aug. 8, 1990.

U041	All	Aug. 8, 1990.

U042	All	Aug. 8, 1990.

U043	All	Aug. 8, 1990.

U044	All	Aug. 8, 1990.

U045	All	Aug. 8, 1990.

U046	All	Aug. 8, 1990.

U047	All	Aug. 8, 1990.

U048	All	Aug. 8, 1990.

U049	All	Aug. 8, 1990.

0

U050	All	Aug. 8, 1990.

U051	All	Aug. 8, 1990.

U052	All	Aug. 8, 1990.

U053	All	Aug. 8, 1990.

U055	All	Aug. 8, 1990.

U056	All	Aug. 8, 1990.

U057	All	Aug. 8, 1990.

U058	All	June 8, 1989.

U059	All	Aug. 8, 1990.

U060	All	Aug. 8, 1990.

0

U061	All	Aug. 8, 1990.

U062	All	Aug. 8, 1990.

U063	All	Aug. 8, 1990.

U064	All	Aug. 8, 1990.

U066	All	Aug. 8, 1990.

U067	All	Aug. 8, 1990.

U068	All	Aug. 8, 1990.

U069	All	June 30, 1992.

U070	All	Aug. 8, 1990.

U071	All	Aug. 8, 1990.

0

U072	All	Aug. 8, 1990.

U073	All	Aug. 8, 1990.

U074	All	Aug. 8, 1990.

U075	All	Aug. 8, 1990.

U076	All	Aug. 8, 1990.

U077	All	Aug. 8, 1990.

U078	All	Aug. 8, 1990.

U079	All	Aug. 8, 1990.

U080	All	Aug. 8, 1990.

U081	All	Aug. 8, 1990.

0

U082	All	Aug. 8, 1990.

U083	All	Aug. 8, 1990.

U084	All	Aug. 8, 1990.

U085	All	Aug. 8, 1990.

U086	All	Aug. 8, 1990.

U087	All	June 8, 1989.

U088	All	June 8, 1989.

U089	All	Aug. 8, 1990.

U090	All	Aug. 8, 1990.

U091	All	Aug. 8, 1990.

0

U092	All	Aug. 8, 1990.

U093	All	Aug. 8, 1990.

U094	All	Aug. 8, 1990.

U095	All	Aug. 8, 1990.

U096	All	Aug. 8, 1990.

U097	All	Aug. 8, 1990.

U098	All	Aug. 8, 1990.

U099	All	Aug. 8, 1990.

U101	All	Aug. 8, 1990.

U102	All	June 8, 1989.

0

U103	All	Aug. 8, 1990.

U105	All	Aug. 8, 1990.

U106	All	Aug. 8, 1990.

U107	All	June 8, 1989.

U108	All	Aug. 8, 1990.

U109	All	Aug. 8, 1990.

U110	All	Aug. 8, 1990.

U111	All	Aug. 8, 1990.

U112	All	Aug. 8, 1990.

U113	All	Aug. 8, 1990.

0

U114	All	Aug. 8, 1990.

U115	All	Aug. 8, 1990.

U116	All	Aug. 8, 1990.

U117	All	Aug. 8, 1990.

U118	All	Aug. 8, 1990.

U119	All	Aug. 8, 1990.

U120	All	Aug. 8, 1990.

U121	All	Aug. 8, 1990.

U122	All	Aug. 8, 1990.

U123	All	Aug. 8, 1990.

0

U124	All	Aug. 8, 1990.

U125	All	Aug. 8, 1990.

U126	All	Aug. 8, 1990.

U127	All	Aug. 8, 1990.

U128	All	Aug. 8, 1990.

U129	All	Aug. 8, 1990.

U130	All	Aug. 8, 1990.

U131	All	Aug. 8, 1990.

U132	All	Aug. 8, 1990.

U133	All	Aug. 8, 1990.

0

U134	All	Aug. 8, 1990.

U135	All	Aug. 8, 1990.

U136	Wastewater	Aug. 8, 1990.

U136	Nonwastewater	May 8, 1992.

U137	All	Aug. 8, 1990.

U138	All	Aug. 8, 1990.

U140	All	Aug. 8, 1990.

U141	All	Aug. 8, 1990.

U142	All	Aug. 8, 1990.

U143	All	Aug. 8, 1990.

0

U144	All	Aug. 8, 1990.

U145	All	Aug. 8, 1990.

U146	All	Aug. 8, 1990.

U147	All	Aug. 8, 1990.

U148	All	Aug. 8, 1990.

U149	All	Aug. 8, 1990.

U150	All	Aug. 8, 1990.

U151	Wastewater	Aug. 8, 1990.

U151	Nonwastewater	May 8, 1992.

U152	All	Aug. 8, 1990.

0

U153	All	Aug. 8, 1990.

U154	All	Aug. 8, 1990.

U155	All	Aug. 8, 1990.

U156	All	Aug. 8, 1990.

U157	All	Aug. 8, 1990.

U158	All	Aug. 8, 1990.

U159	All	Aug. 8, 1990.

U160	All	Aug. 8, 1990.

U161	All	Aug. 8, 1990.

U162	All	Aug. 8, 1990.

0

U163	All	Aug. 8, 1990.

U164	All	Aug. 8, 1990.

U165	All	Aug. 8, 1990.

U166	All	Aug. 8, 1990.

U167	All	Aug. 8, 1990.

U168	All	Aug. 8, 1990.

U169	All	Aug. 8, 1990.

U170	All	Aug. 8, 1990.

U171	All	Aug. 8, 1990.

U172	All	Aug. 8, 1990.

0

U173	All	Aug. 8, 1990.

U174	All	Aug. 8, 1990.

U176	All	Aug. 8, 1990.

U177	All	Aug. 8, 1990.

U178	All	Aug. 8, 1990.

U179	All	Aug. 8, 1990.

U180	All	Aug. 8, 1990.

U181	All	Aug. 8, 1990.

U182	All	Aug. 8, 1990.

U183	All	Aug. 8, 1990.

0

U184	All	Aug. 8, 1990.

U185	All	Aug. 8, 1990.

U186	All	Aug. 8, 1990.

U187	All	Aug. 8, 1990.

U188	All	Aug. 8, 1990.

U189	All	Aug. 8, 1990.

U190	All	June 8, 1989.

U191	All	Aug. 8, 1990.

U192	All	Aug. 8, 1990.

U193	All	Aug. 8, 1990.

0

U194	All	June 8, 1989.

U196	All	Aug. 8, 1990.

U197	All	Aug. 8, 1990.

U200	All	Aug. 8, 1990.

U201	All	Aug. 8, 1990.

U202	All	Aug. 8, 1990.

U203	All	Aug. 8, 1990.

U204	All	Aug. 8, 1990.

U205	All	Aug. 8, 1990.

U206	All	Aug. 8, 1990.

0

U207	All	Aug. 8, 1990.

U208	All	Aug. 8, 1990.

U209	All	Aug. 8, 1990.

U210	All	Aug. 8, 1990.

U211	All	Aug. 8, 1990.

U213	All	Aug. 8, 1990.

U214	All	Aug. 8, 1990.

U215	All	Aug. 8, 1990.

U216	All	Aug. 8, 1990.

U217	All	Aug. 8, 1990.

0

U218	All	Aug. 8, 1990.

U219	All	Aug. 8, 1990.

U220	All	Aug. 8, 1990.

U221	All	June 8, 1989.

U222	All	Aug. 8, 1990.

U223	All	June 8, 1989.

U225	All	Aug. 8, 1990.

U226	All	Aug. 8, 1990.

U227	All	Aug. 8, 1990.

U228	All	Aug. 8, 1990.

0

U234	All	Aug. 8, 1990.

U235	All	June 8, 1989.

U236	All	Aug. 8, 1990.

U237	All	Aug. 8, 1990.

U238	All	Aug. 8, 1990.

U239	All	Aug. 8, 1990.

U240	All	Aug. 8, 1990.

U243	All	Aug. 8, 1990.

U244	All	Aug. 8, 1990.

U246	All	Aug. 8, 1990.

0

U247	All	Aug. 8, 1990.

U248	All	Aug. 8, 1990.

U249	All	Aug. 8, 1990.

U271	Mixed with radioactive wastes	Apr. 8, 1998.

U271	All others	July 8, 1996.

U277	Mixed with radioactive wastes	Apr. 8, 1998.

U277	All others	July 8, 1996.

U278	Mixed with radioactive wastes	Apr. 8, 1998.

U278	All others	July 8, 1996.

U279	Mixed with radioactive wastes	Apr. 8, 1998.

0

U279	All others	July 8, 1996.

U280	Mixed with radioactive wastes	Apr. 8, 1998.

U280	All others	July 8, 1996.

U328	Mixed with radioactive wastes	June 30, 1994.

U328	All others	Nov. 9, 1992.

U353	Mixed with radioactive wastes	June 30, 1994.

U353	All others	Nov. 9, 1992.

U359	Mixed with radioactive wastes	June 30, 1994.

U359	All others	Nov. 9, 1992.

U364	Mixed with radioactive wastes	Apr. 8, 1998.

0

U364	All others	July 8, 1996.

U365	Mixed with radioactive wastes	Apr. 8, 1998.

U365	All others	July 8, 1996.

U366	Mixed with radioactive wastes	Apr. 8, 1998.

U366	All others	July 8, 1996.

U367	Mixed with radioactive wastes	Apr. 8, 1998.

U367	All others	July 8, 1996.

U372	Mixed with radioactive wastes	Apr. 8, 1998.

U372	All others	July 8, 1996.

U373	Mixed with radioactive wastes	Apr. 8, 1998.

0

U373	All others	July 8, 1996.

U375	Mixed with radioactive wastes	Apr. 8, 1998.

U375	All others	July 8, 1996.

U376	Mixed with radioactive wastes	Apr. 8, 1998.

U376	All others	July 8, 1996.

U377	Mixed with radioactive wastes	Apr. 8, 1998.

U377	All others	July 8, 1996.

U378	Mixed with radioactive wastes	Apr. 8, 1998.

U378	All others	July 8, 1996.

U379	Mixed with radioactive wastes	Apr. 8, 1998.

0

U379	All others	July 8, 1996.

U381	Mixed with radioactive wastes	Apr. 8, 1998.

U381	All others	July 8, 1996.

U382	Mixed with radioactive wastes	Apr. 8, 1998.

U382	All others	July 8, 1996.

U383	Mixed with radioactive wastes	Apr. 8, 1998.

U383	All others	July 8, 1996.

U384	Mixed with radioactive wastes	Apr. 8, 1998.

U384	All others	July 8, 1996.

U385	Mixed with radioactive wastes	Apr. 8, 1998.

0

U385	All others	July 8, 1996.

U386	Mixed with radioactive wastes	Apr. 8, 1998.

U386	All others	July 8, 1996.

U387	Mixed with radioactive wastes	Apr. 8, 1998.

U387	All others	July 8, 1996.

U389	Mixed with radioactive wastes	Apr. 8, 1998.

U389	All others	July 8, 1996.

U390	Mixed with radioactive wastes	Apr. 8, 1998.

U390	All others	July 8, 1996.

U391	Mixed with radioactive wastes	Apr. 8, 1998.

0

U391	All others	July 8, 1996.

U392	Mixed with radioactive wastes	Apr. 8, 1998.

U392	All others	July 8, 1996.

U393	Mixed with radioactive wastes	Apr. 8, 1998.

U393	All others	July 8, 1996.

U394	Mixed with radioactive wastes	Apr. 8, 1998.

U394	All others	July 8, 1996.

U395	Mixed with radioactive wastes	Apr. 8, 1998.

U395	All others	July 8, 1996.

U396	Mixed with radioactive wastes	Apr. 8, 1998.

0

U396	All others	July 8, 1996.

U400	Mixed with radioactive wastes	Apr. 8, 1998.

U400	All others	July 8, 1996.

U401	Mixed with radioactive wastes	Apr. 8, 1998.

U401	All others	July 8, 1996.

U402	Mixed with radioactive wastes	Apr. 8, 1998.

U402	All others	July 8, 1996.

U403	Mixed with radioactive wastes	Apr. 8, 1998.

U403	All others	July 8, 1996.

U404	Mixed with radioactive wastes	Apr. 8, 1998.

0

U404	All others	July 8, 1996.

1

U407	Mixed with radioactive wastes	Apr. 8, 1998.

U407	All others	July 8, 1996.

U409	Mixed with radioactive wastes	Apr. 8, 1998.

U409	All others	July 8, 1996.

U410	Mixed with radioactive wastes	Apr. 8, 1998.

U410	All others	July 8, 1996.

U411	Mixed with radioactive wastes	Apr. 8, 1998.

U411	All others	July 8, 1996.

[a] This table does not include mixed radioactive wastes which received national capacity variance until May 8, 1992. This table also does not include contaminated soil and debris wastes.
[b] The standard was revised in the Third Third Final Rule (55 FR 22520, June 1, 1990).
[c] The standard was revised in the Third Third Emergency Rule (58 FR 29860, May 24, 1993); the original effective date was August 8, 1990.
[d] The standard was revised in the Phase II Final Rule (59 FR 47982, Sept. 19, 1994); the original effective date was August 8, 1990.
[e] The standards for selected reactive wastes was revised in the Phase III Final Rule (61 FR 15566, Apr. 8, 1996); the original effective date was August 8, 1990.

Table 2
Summary of Effective Dates of Land Disposal Restrictions for Contaminated Soil and Debris (CSD)

Restricted hazardous waste in CSD	Effective date

1

1. Solvent (F001-F005) and dioxin (F020 - F023 and F026 - F028) containing soil and debris from CERCLA response or RCRA corrective actions.	Nov. 8, 1990.
2. Soil and debris not from CERCLA response or RCRA corrective actions contaminated with less than 1 % total solvents (F001-F005) or dioxins (F020-F023 and F026-F028).	Nov. 8, 1988.

3. All soil and debris contaminated with First Third wastes for which treatment standards are based on incineration.	Aug. 8, 1990.

4. All soil and debris contaminated with Second Third wastes for which treatment standards are based on incineration.

June 8, 1991.

5. All soil and debris contaminated with Third Third wastes or, First or Second Third “soft hammer” wastes which had treatment standards promulgated in the Third Third rule for which treatment standards are based on incineration, vitrification, or mercury retorting, acid leaching followed by chemical precipitation, or thermal recovery of metals; as well as inorganic solids debris contaminated with D004-D011 wastes, and all solid and debris contaminated with mixed RCRA/radioactive wastes.	May 8,1992.

6. Soil and debris contaminated with D012-D043, K141-K145, and K147-K151 wastes.	Dec. 19, 1994.

7. Debris (only) contaminated with F037, F038, K107-K112, K117, K118, K123-K126, K131, K132, K136, U328 - U353, U359.	Dec. 19, 1994.

8. Soil and debris contaminated with K156-161, P127, P128, P188-192, P194, P196-199, P201-205, U271, U277-U280, U364-U367, U372, U373, U375-U379, U381-U387, U389-U396, U400-404, U407, and U409-411 wastes	July 8, 1996.

9. Soil and debris contaminated with K088 wastes.	Oct. 8, 1997.

10. Soil and debris contaminated with radioactive wastes mixed with K088, K156-161, P127, P128, P188-192, P194, P196-199, P201-205, U271, U277-280, U364-367, U372, U373, U375-379, U381-387, U389-396, U400-404, U407, and U409-411 wastes.	April 8, 1998.

11. Soil and debris contaminated with F032, F034, and F035.	May 12, 1997.

12. Soil and debris contaminated with newly identified D004-D011 toxicity characteristic wastes and mineral processing wastes.	Aug. 24, 1998

13. Soil and debris contaminated with mixed radioactive newly identified D004-D011 characteristic wastes and mineral processing wastes.	May 26, 2000

Note: Appendix VII is provided for the convenience of the reader.

APPENDIX VIII
LDR EFFECTIVE DATES OF INJECTED PROHIBITED HAZARDOUS WASTES

National Capacity LDR Variances for UIC Wastes [a]

Waste code	Waste category	Effective date

F001-F005	All spent F001-F005 solvent containing less than 1 percent total F001-F005 solvent constituents.	Aug. 8, 1990.

D001 (except High TOC Ignitable Liquids Subcategory).	All	Feb. 10, 1994.

D001 (High TOC Ignitable Characteristic Liquids Subcategory).	Nonwastewater	Sept. 19, 1995.

D002	All	May 8, 1992.

D002	All	Feb. 10, 1994.

0

D003 (cyanides)	All	May 8, 1992.

1

D003 (sulfides).....	All	May 8, 1992.

D003 (explosives, reactives)	All	May 8, 1992.

D007	All	May 8, 1992.

D009	Nonwastewater	May 8, 1992.

D012	All	Sept. 19, 1995.

D013	All	Sept. 19, 1995.

D014	All	Sept. 19, 1995.

D015	All	Sept. 19, 1995.

D016	All	Sept. 19, 1995.

0

D017	All	Sept. 19, 1995.

D018.....	All, including mixed with radioactive wastes.....	Apr. 8, 1998.

D019.....	All, including mixed with radioactive wastes.....	Apr. 8, 1998.

D020.....	All, including mixed with radioactive wastes.....	Apr. 8, 1998.

D021	All, including mixed with radioactive wastes	Apr. 8, 1998.

D022.....	All, including mixed with radioactive wastes.....	Apr. 8, 1998.

D023	All, including mixed radioactive wastes	Apr. 8, 1998.

D024.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

D025	All, including mixed radioactive wastes	Apr. 8, 1998.

D026.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

0

D027.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

1

D028.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

D029.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

D030.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

D031	All, including mixed radioactive wastes	Apr. 8, 1998.

D032.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

D033	All, including mixed radioactive wastes	Apr. 8, 1998.

D034.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

D035.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

D036.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

0

D037.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

1

D038.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

D039.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

D040.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

D041	All, including mixed radioactive wastes	Apr. 8, 1998.

D042.....	All, including mixed radioactive wastes.....	Apr. 8, 1998.

D043	All, including mixed radioactive wastes	Apr. 8, 1998.

F007	All	June 8, 1991.

F032	All, including mixed radioactive wastes.....	May 12, 1999.

F034	All, including mixed radioactive wastes.....	May 12,1999.

0

F035	All, including mixed radioactive wastes.....	May 12, 1999.

1

F037	All	Nov. 8, 1992.

F038	All	Nov. 8, 1992.

F039	Wastewater	May 8, 1992.

K009.....	Wastewater	June 8, 1991.

K011	Nonwastewater	June 8, 1991.

K011	Wastewater	May 8, 1992.

K011	Nonwastewater	June 8, 1991.

K011	Wastewater	May 8, 1992.

K013	Nonwastewater	June 8, 1991.

0

K013.....	Wastewater	May 8, 1992.

1

K014.....	All	May 8, 1992.

K016 (dilute)	All	June 8, 1991.

K049	All	Aug. 8, 1990.

K050	All	Aug. 8, 1990.

K051	All	Aug. 8, 1990.

K052	All	Aug. 8, 1990.

K062	All	Aug. 8, 1990.

K071	All	Aug. 8, 1990.

K088	All	Jan. 8, 1997.

0

K104.....	All.....	Aug. 8, 1990.

K107	All	Nov. 8, 1992.

K108	All	Nov. 9, 1992.

K109	All	Nov. 9, 1992.

K110	All	Nov. 9, 1992.

K111	All	Nov. 9, 1992.

K112.....	All	Nov. 9, 1992.

K117.....	All.....	June 30, 1995.

K118.....	All	June 30, 1995.

K123	All	Nov. 9, 1992.

0

K124.....	All	Nov. 9, 1992.

1

K125	All	Nov. 9, 1992.

K126.....	All	Nov. 9, 1992.

K131	All	June 30, 1995.

K132.....	All	June 30, 1995.

K136.....	All	Nov. 9, 1992.

K141	All	Dec. 19, 1994.

K142	All	Dec. 19, 1994.

K143	All	Dec. 19, 1994.

K144	All	Dec. 19, 1994.

0

K145	All	Dec. 19, 1994.

1

K147	All	Dec. 19, 1994.

K148	All	Dec. 19, 1994.

K149	All	Dec. 19, 1994.

K150	All	Dec. 19, 1994.

K151	All	Dec. 19, 1994.

K156.....	All	July 8, 1996.

K157	All	July 8, 1996.

K158.....	All.....	July 8, 1996.

K159.....	All.....	July 8, 1996.

0

K160.....	All.....	July 8, 1996.

1

K161	All	July 8, 1996.

NA	Newly identified mineral processing wastes from titanium dioxide production and mixed radioactive/newly identified D004-D011 characteristic wastes and mineral processing wastes.	May 26, 2000

P127	All	July 8, 1996.

P128	All	July 8, 1996.

P185	All	July 8, 1996.

P188	All	July 8, 1996.

P189	All	July 8, 1996.

P190	All	July 8, 1996.

P191	All	July 8, 1996.

0

P192	All	July 8, 1996.

1

P194	All	July 8, 1996.

P196	All	July 8, 1996.

P197	All	July 8, 1996.

P198	All	July 8, 1996.

P199	All	July 8, 1996.

P201	All	July 8, 1996.

P202	All	July 8, 1996.

P203	All	July 8, 1996.

P204	All	July 8, 1996.

0

P205	All	July 8, 1996.

1

U271	All	July 8, 1996.

U277	All	July 8, 1996.

U278	All	July 8, 1996.

U279	All	July 8, 1996.

U280	All	July 8, 1996.

U328	All	Nov. 9, 1992.

U353	All	Nov. 9, 1992.

U359	All	Nov. 9, 1992.

U364	All	July 8, 1996.

0

U365	All	July 8, 1996.

U366	All	July 8, 1996.

U367	All	July 8, 1996.

U372	All	July 8, 1996.

U373	All	July 8, 1996.

U375	All	July 8, 1996.

U376	All	July 8, 1996.

U377	All	July 8, 1996.

U378	All	July 8, 1996.

U379	All	July 8, 1996.

0

U381	All	July 8, 1996.

U382	All	July 8, 1996.

U383	All	July 8, 1996.

U384	All	July 8, 1996.

U385	All	July 8, 1996.

U386	All	July 8, 1996.

U387	All	July 8, 1996.

U389	All	July 8, 1996.

U390	All	July 8, 1996.

U391	All	July 8, 1996.

0

U392	All	July 8, 1996.

U395	All	July 8, 1996.

U396	All	July 8, 1996.

U400	All	July 8, 1996.

U401	All	July 8, 1996.

U402	All	July 8, 1996.

U403	All	July 8, 1996.

U404	All	July 8, 1996.

U407	All	July 8, 1996.

U409	All	July 8, 1996.

0

U410	All	July 8, 1996.

1

U411	All	July 8, 1996.

[a] Wastes that are deep well disposed on-site receive a six-month variance, with restrictions effective in November 1990.
[b] Deepwell injected D002 liquids with a pH less than 2 shall meet the California List treatment standards on August 8, 1990.
[c] Managed in systems defined in 40 CFR 144.6(e) and 14.6(e) as Class V injection wells, that do not engage in CWA-equivalent treatment before injection.

Note: This table is provided for the convenience of the reader.

APPENDIX IX
EXTRACTION PROCEDURE (EP) TOXICITY TEST METHOD AND STRUCTURAL INTEGRITY TEST (METHOD 1310)

Note: The EP (method 1310) is published in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, (see s. NR 660.11).

APPENDIX XI
METAL BEARING WASTES PROHIBITED FROM DILUTION IN A COMBUSTION UNIT ACCORDING TO S. NR 668.03(3) [1]

Waste code	

D004	Toxicity Characteristic for Arsenic.

D005	Toxicity Characteristic for Barium.

D006	Toxicity Characteristic for Cadmium.

D007	Toxicity Characteristic for Chromium.

D008	Toxicity Characteristic for Lead.

D009	Toxicity Characteristic for Mercury.

0

D010	Toxicity Characteristic for Selenium.

D011	Toxicity Characteristic for Silver.

F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.

F007	Spent cyanide plating bath solutions from electroplating operations.

F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.

F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.

F010	Quenching bath residues from oil baths from metal treating operations where cyanides are used in the process.

F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.

F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.

F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum car washing when phosphating is an exclusive conversion coating process.

0

K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.

1

K003	Wastewater treatment sludge from the production of molybdate orange pigments.

K004	Wastewater treatment sludge from the production of zinc yellow pigments.

K005	Wastewater treatment sludge from the production of chrome green pigments.

K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).

K007	Wastewater treatment sludge from the production of iron blue pigments.

K008	Oven residue from the production of chrome oxide green pigments.

K061	Emission control dust/sludge from the primary production of steel in electric furnaces.

K069	Emission control dust/sludge from secondary lead smelting.

K071	Brine purification muds from the mercury cell processes in chlorine production, where separately prepurified brine is not used.

K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.

1

K106	Sludges from the mercury cell processes for making chlorine.

P010	Arsenic acid H_3AsO_4

P011	Arsenic oxide As_2O_5

P012	Arsenic trioxide

P013	Barium cyanide

P015	Beryllium

P029	Copper cyanide Cu(CN)

P074	Nickel cyanide $Ni(CN)_2$

P087	Osmium tetroxide

0

P099	Potassium silver cyanide

P104	Silver cyanide

P113	Thallic oxide

P114	Thallium (I) selenite

P115	Thallium (I) sulfate

P119	Ammonium vanadate

P120	Vanadium oxide V_2O_5

P121	Zinc cyanide.

U032	Calcium chromate.

U145	Lead phosphate.

0

U151	Mercury.

1

U204	Selenious acid.

U205	Selenium disulfide.

U216	Thallium (I) chloride.

U217	Thallium (I) nitrate.

[1]A combustion unit is defined as any thermal technology subject to subch. O of ch. NR 664; subch. O of ch. NR 665; and/or subch. H of ch. NR 666.

CHAPTER NR 670
HAZARDOUS WASTE LICENSING AND DECISIONMAKING PROCEDURES

Subchapter A —General Information

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NR 670.004	Effect of a license.
NR 670.005	Noncompliance and program reporting by the department.

Subchapter B —License Application

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NR 670.013	Contents of part A of the license application.
NR 670.014	Contents of feasibility and plan of operation report (FPOR): general requirements.
NR 670.015	Specific FPOR information requirements for containers.
NR 670.016	Specific FPOR information requirements for tank systems.
NR 670.017	Specific FPOR information requirements for surface impoundments.
NR 670.018	Specific FPOR information requirements for waste piles.
NR 670.019	Specific FPOR information requirements for incinerators.
NR 670.021	Specific FPOR information requirements for landfills.
NR 670.022	Specific FPOR information requirements for boilers and industrial furnaces burning hazardous waste.
NR 670.023	Specific FPOR information requirements for miscellaneous units.
NR 670.024	Specific FPOR information requirements for process vents.
NR 670.025	Specific FPOR information requirements for equipment.
NR 670.026	Specific FPOR information requirements for drip pads.
NR 670.027	Specific FPOR information requirements for air emission controls for tanks, surface impoundments and containers.
NR 670.028	Information requirements for long-term care licenses.
NR 670.029	License denial.

Subchapter C —License Conditions

NR 670.030	Conditions applicable to all licenses.
NR 670.031	Requirements for recording and reporting of monitoring results.
NR 670.032	Establishing license conditions.
NR 670.033	Schedules of compliance

Subchapter D —Changes to Licenses

NR 670.040	Transfer of licenses.
NR 670.041	Modification or revocation and reissuance of licenses.
NR 670.042	License modification at the request of the licensee.
NR 670.043	Revocation or denial of licenses.

Subchapter E —Expiration and Continuation of Licenses

NR 670.050	Duration of licenses.
NR 670.051	Continuation of expiring operating licenses.

Subchapter F —Special Forms of Licenses
NR 670.061 Emergency licenses.
NR 670.062 Hazardous waste incinerator licenses.
NR 670.065 Research, development and demonstration licenses.
NR 670.066 Licenses for boilers and industrial furnaces burning hazardous waste.
NR 670.068 Remediation variances.

Subchapter G —Interim Licenses
NR 670.070 Qualifying for an interim license.
NR 670.071 Operation during an interim license period.
NR 670.072 Modifications to an interim license.
NR 670.073 Termination of an interim license.

Subchapter H — Remediation Variances
NR 670.079 Remediation variances

Subchapter I —Integration with Maximum Achievable Control Technology (MACT) Standards
NR 670.235 Options for incinerators and cement and lightweight aggregate kilns to minimize emissions from startup, shutdown, and malfunction events.

Subchapter L —General Decisionmaking Procedures
NR 670.401 Purpose and scope.
NR 670.403 License application procedures.
NR 670.404 Consolidation of EPA permit and department license processing.
NR 670.405 Modification, revocation and reissuance, or revocation or denial of licenses.
NR 670.406 Preliminary determination of the
NR 670.408 Fact sheet.
NR 670.409 Administrative record.
NR 670.410 Public notice and public comment period.
NR 670.411 Public comments and requests for public hearings.
NR 670.412 Public hearings.
NR 670.415 Issuance of the operating license.
NR 670.417 Response to comments.
NR 670.427 Annual renewal of the operating license.

Subchapter M —Specific Decisionmaking Procedures
NR 670.431 Pre-application public meeting and notice.
NR 670.432 Public notice requirements at the application stage.
NR 670.433 Information repository.

APPENDIX I - CLASSIFICATION OF LICENSE MODIFICATION
APPENDIX II - HAZARDOUS WASTE FEE TABLE

Note: This chapter is similar to federal regulations contained in 40 CFR part 270, revised as of July 1, 2003.

Subchapter A —General Information

NR 670.001 Purpose and scope of subchs. A to I. (1) COVERAGE. (a) These license rules establish provisions for the hazardous waste facility licensing program under ch. 291.25, Stats.

(b) The rules in this chapter cover basic department licensing requirements, such as license application requirements, standard license conditions, and monitoring and reporting requirements. These

rules are part of a regulatory scheme implementing chs. 289 and 291, Stats., set forth in different parts of the Wisconsin Administrative Code. The following chart indicates where the rules implementing ch. 291, Stats., appear in the Wisconsin Administrative Code.

Section of ch. 291, Stats	Coverage	Final rule

ch. 291.001 and 291.01, Stats.,	Overview and definitions.	ch. NR 660

s. 291.05(1) to (4), Stats.....	Identification and listing of hazardous waste.	ch. NR 661

s. 291.21, Stats.....	Generators of hazardous waste.	ch. NR 662

ss. 291.05(5) (a) and 291.23, Stats.....	Transporters of hazardous waste.	ch. NR 663

s. 291.05(6	Standards for HWM	chs. NR 664, 665

), Stats. ..... facili-ties. and 666

s. 291.25, Stats.....	License requirements for HWM facilities.	ch. NR 670

s. 291.05(1), Stats.	Preliminary notification of HWM activity.	s. NR 660.07

(2) OVERVIEW OF THE HAZARDOUS WASTE LICENSE PROGRAM. Not later than 90 days after the promulgation or revision of rules in ch. NR 661, identifying and listing hazardous wastes, generators and transporters of hazardous waste, and owners or operators of hazardous waste treatment, storage or disposal facilities may be required to file a notification of that activity under s. NR 660.07. Treatment, storage or disposal of hazardous waste by any person who has not applied for and received a hazardous waste license is prohibited. A license application consists of two parts, part A (see s. NR 670.013) and a feasibility and plan of operation report (see s. NR 670.014 and applicable sections in ss. NR 670.015 to 670.029). For existing HWM facilities, the requirement to submit a license application is satisfied by submitting only part A until the date the department sets for submitting the feasibility and plan of operation report. Part A consists of Forms 1 and 3 of the EPA Consolidated Permit Application Forms. Timely submission of both notification under s. NR 660.07 and part A qualifies owners and operators of existing HWM facilities (who are required to have a license) for an interim license under s. 291.25, Stats. Facility owners and operators with an interim license are treated as having been issued an operating license until the department makes a final determination on the operating license application. Facility owners and operators with interim licenses shall comply with interim license standards set forth at chs. NR 665 and 666. Facility owners and operators with interim licenses are not relieved from complying with other state requirements. For existing HWM facilities, the department shall set a date, giving at least 6 months notice, for submission of the feasibility and plan of operation report. There is no form for the feasibility and plan of operation report; rather, the report shall be submitted in narrative form and contain the information set forth in ss. NR 670.014 to 670.029. Owners or operators of new HWM facilities shall submit the license application at least 180 days before physical construction is expected to commence.

Note: EPA part A form may be obtained from:
http://www.epa.gov/epaoswer/hazwaste/data/form8700/8700-23.pdf, or the department by E-mail: waste.management@dnr.state.wi.us mailto:waste.management@dnr.state.wi.us, phone (608)266-2111 or Fax (608)266-2111.

(3) SCOPE OF THE LICENSE REQUIREMENT. Section 291.25(2), Stats., requires a license for the operation of a treatment, storage or disposal facility where any hazardous waste identified or listed in ch. NR 661 is managed. The terms ”treatment,” ”storage,” ”disposal” and ”hazardous waste” are defined in s. NR 670.002. Owners and operators of hazardous waste management units shall have licenses during the active life (including the closure period) of the unit. Owners and operators of surface impoundments, landfills and waste pile units that received waste after July 26, 1982, or that certified closure (according to s. NR 665.0115) after January 26, 1983, shall have long-term care licenses, unless they demonstrate closure by removal or decontamination as provided under s. NR 670.001(3)(e) and (f), or obtain an enforceable document in lieu of a long-term care license, as provided under par. (g). If a long-term care license is required, the license shall address applicable ch. NR 664 groundwater monitoring, unsaturated zone monitoring, corrective action and long-term care requirements of this chapter. The denial of a license for the active life of a hazardous waste management facility or unit does not affect the requirement to obtain a long-term care license under this section.

(b) *Specific exclusions.* The following persons are among those who are not required to obtain a hazardous waste license:

1. Generators who accumulate hazardous waste on-site in compliance with s. NR 662.034 or 662.192.
2. Farmers who dispose of hazardous waste pesticides from their own use as provided in s. NR 662.070.
3. Persons who own or operate facilities solely for the treatment, storage or disposal of hazardous waste excluded from regulation under this chapter by s. NR 661.04.
4. Owners or operators of totally enclosed treatment facilities as defined in s. NR 660.10.
5. Owners and operators of elementary neutralization units or wastewater treatment units as defined in s. NR 660.10.

6. Licensed transporters storing manifested shipments of hazardous waste in containers meeting the requirements of s. NR 662.030 at a transfer facility for a period of 10 days or less.

7. Persons adding absorbent material to waste in a container (as defined in s. NR 660.10) and persons adding waste to absorbent material in a container, if these actions occur at the time waste is first placed in the container; and ss. NR 664.0017(2), 664.0171 and 664.0172 are complied with.

8. Universal waste handlers and universal waste transporters (as defined in s. NR 660.10) managing the wastes listed in subd. 8.a. to d. These handlers are regulated under ch. NR 673.

a. Batteries as described in s. NR 673.02.

b. Pesticides as described in s. NR 673.03.

c. Thermostats as described in s. NR 673.04.

d. Lamps as described in s. NR 673.05.

9. Owners or operators of POTWs which accept hazardous waste for treatment, if the owners or operators comply with all of the following:

a. Have a WPDES permit.

b. Comply with the conditions of that permit.

c. Comply with the notification requirements in s. NR 660.07, the manifest requirements in ss. NR 664.0071, NR 664.0072 and NR 664.0076, the operating record requirements in ss. NR 664.0073(1) and (2)a. and the annual reporting requirements in s. NR 664.0075.

d. For WPDES permits issued after November 8, 1984, POTWs shall comply with the corrective action requirements of s. NR 664.0101.

e. Meet all federal, state and local pretreatment requirements which would be applicable to the waste if it were being discharged into the POTW through a sewer, pipe or similar conveyance.

Owners or operators of household and very small quantity generator hazardous waste collection facilities, provided the applicable requirements of ch. NR 666 HH are met.

A generator who treats waste in containers or tanks, provided the requirements of s. NR 662.034, 662.192 or 662.220 are met.

(c) *Further exclusions.* 1. A person is not required to obtain a hazardous waste license for treatment or containment activities taken during immediate response to any of the following situations:

a. A discharge of a hazardous waste.

b. An imminent and substantial threat of a discharge of hazardous waste.

c. A discharge of a material which, when discharged, becomes a hazardous waste.

d. An immediate threat to human health, public safety, property or the environment from the known or suspected presence of military munitions, other explosive material, or an explosive device, as determined by an explosive or munitions emergency response specialist as defined in s. NR 660.10.

2. Any person who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to this chapter for those activities.

3. In the case of emergency responses involving military munitions, the responding military emergency response specialist's organizational unit shall retain records for 3 years identifying the dates of the response, the responsible persons responding, the type and description of material addressed, and its disposition.

(d) *Licenses for less than an entire facility.* The department may issue or deny a license for one or more units at a facility without simultaneously issuing or denying a license to all of the units at the facility. The interim license of any unit for which an operating license has not been issued or denied is not affected by the issuance or denial of an operating license to any other unit at the facility.

(e) *Closure by removal.* Owners or operators of surface impoundments and waste piles closing by removal or decontamination under ch. NR 665 shall obtain a long-term care license unless they can demonstrate to the department that the closure met the standards for closure by removal or decontamination in s. NR 664.0228 or NR 664.0258. The demonstration may be made in any of the following ways:

1. If the owner or operator has submitted a feasibility and plan of operation report for a long-term care license, the owner or operator may request a determination, based on information contained in the feasibility and plan of operation report, that ch. NR 664 closure by removal standards were met. If the department believes that ch. NR 664 standards were met, the department will notify the public of this proposed decision, allow for public comment, and reach a final determination according to the procedures in par. (f).

2. If the owner or operator has not submitted a feasibility and plan of operation report for a long-term care license, the owner or operator may petition the department for a determination that a long-term care license is not required because the closure met the applicable ch. NR 664 closure standards.

a. The petition shall include data demonstrating that closure by removal or decontamination standards were met, or it shall demonstrate that the unit closed under state requirements that met or exceeded the applicable ch. NR 664 closure-by-removal standard.

b. The department shall approve or deny the petition according to the procedures outlined in par. (f).

(f) *Procedures for closure equivalency determination.* 1. If a facility owner or operator seeks an equivalency demonstration under par. (e), the department will provide the public, through a newspaper notice, the opportunity to submit written comments on the information submitted by the owner or operator within 30 days from the date of the notice. The department may also, in response to a request or at the department's own discretion, hold a public hearing whenever a hearing might clarify one or more issues concerning the equivalence of the ch. NR 665 closure to a ch. NR 664 closure. The department will give public notice of the hearing at least 30 days before it occurs. Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the 2 notices may be combined. Department determinations under this chapter are made as part of the process for approving a feasibility and plan of operation report or license under subch. III of ch. 289, Stats., or ch. 291, Stats., and are therefore exempt from s. 227.42 (1), Stats.

2. The department will determine whether the ch. NR 665 closure met ch. NR 664 closure by removal or decontamination requirements within 90 days of the receipt of the request under subd. 1. If the department finds that the closure did not meet the applicable ch. NR 664 standards, the department will provide the owner or operator with a written statement of the reasons why the closure failed to meet ch. NR 664 standards. The owner or operator may submit additional information in support of an equivalency demonstration within 30 days after receiving a written statement. The department will review any additional information submitted and make a final determination within 60 days.

3. If the department determines that the facility did not close according to ch. NR 664 closure by removal standards, the facility is subject to long-term care licensing requirements.

(g) *Enforceable documents for long-term care.* At the discretion of the department, an owner or operator may obtain, in lieu of a long-term care license, an enforceable document imposing the requirements of s. NR 665.0121. "Enforceable document" means a special order, variance, license, or plan approval issued by the department.

NR 670.002 Definitions. The following definitions apply to this chapter:

(1) "Closure" means the act of securing a hazardous waste management facility pursuant to ch. NR 664 and in compliance with the operating license or approved closure plan under s. 291.29, Stats.

(2) "Component" means any constituent part of a unit or any group of constituent parts of a unit which are assembled to perform a specific function (e.g., a pump seal, pump, kiln liner, kiln thermocouple).

(3) "Corrective Action Management Unit" or "CAMU" means an area within a facility that is designated by the department under subch. S of ch. NR 664, for the purpose of implementing corrective action requirements under s. NR 664.0101 and s. 291.37, Stats. A CAMU shall only be used for the management of remediation wastes pursuant to implementing corrective action requirements at the facility.

(4) "Emergency license" means an operating license issued according to s. NR 670.061.

(5) "Facility mailing list" means the mailing list for a facility maintained by the department according to s. NR 670.410(3)(a)9.

(6) "Facility" or "activity" means any HWM facility or any other facility or activity (including land or appurtenances thereto) that is regulated under ch. 291, Stats., and chs. NR 660 to 673.

(7) "Feasibility and plan of operation report" means a report required by the department under s. 289.30(3), Stats., that includes a description of the facility and operation in terms of land use, topography, soils, geology, groundwater, surface water, design, construction, operation, maintenance, closure and long-term care.

(8) "Federal, state and local approvals, permits or licenses necessary to begin physical construction" means permits, licenses and approvals required under federal, state or local hazardous waste control statutes, regulations or ordinances.

(9) "Final authorization" means approval by EPA of a State program which has met section 3006(b) of RCRA and the applicable requirements of 40 CFR part 271, subpart A.

(10) "Functionally equivalent component" means a component which performs the same function or measurement and which meets or exceeds the performance specifications of another component.

(11) "Hazardous waste management facility" or "HWM facility" means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing or disposing of hazardous waste. A facility may consist of several treatment, storage or disposal operational units (for example, one or more landfills, surface impoundments or combinations of them).

(12) "Interim authorization" means approval by EPA of a state hazardous waste program which has met the requirements of section 3006(g)(2) of RCRA and applicable requirements of 40 CFR part 271, subpart B.

(13) "Interim license" means a license that grants the licensee permission to operate an existing hazardous waste treatment, storage or disposal facility in compliance with its terms or conditions and the requirements of ch. NR 665.

(14) "License" means an approval issued by the department under this chapter that grants the licensee permission to operate a hazardous waste treatment, storage or disposal facility. "License" includes an operating license, interim license and emergency license.

(15) "License application" means the EPA Part A form and the feasibility and plan of operation report for applying for an operating license, including any additions, revisions or modifications to the form or report. The specific requirements for the Part A application are in s. NR 670.013. The specific requirements for the feasibility and plan of operation report are in ss. NR 670.014 to 670.029.

(16) "Major facility" means any facility or activity classified as such by the EPA region 5 administrator in conjunction with the department.

(17) "Operating license" means an annual license that incorporates a feasibility and plan of operation report approval and grants the licensee permission to operate a hazardous waste treatment, storage or disposal facility in compliance with that approval, chs. NR 660 to 679 and ch. 291, Stats.

(18) "Owner or operator" means the owner or operator of any facility or activity regulated under ch. 291, Stats., and chs. NR 660 to 673.

(19) "Permit" means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of 40 CFR parts 270, 271 and 124. Permit includes permit by rule (40 CFR 270.60) and emergency permit (40 CFR 270.61). Permit does not include RCRA interim status (40 CFR part 270 subpart G), or any permit which has not yet been the subject of final action by EPA, such as a draft permit or a proposed permit.

(20) "Physical construction" means excavation, movement of earth, erection of forms or structures, or similar activity to prepare an HWM facility to accept hazardous waste.

(21) "RCRA" means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. L. 94-580, as amended by Pub. L. 95-609 and Pub. L. 96-482, 42 U.S.C. 6901 *et seq.*).

(22) "Schedule of compliance" means a schedule of remedial measures included in a license, including an enforceable sequence of interim requirements (for example, actions, operations or milestone events) leading to compliance with ch. 291, Stats., and chs. NR 660 to 673.

(23) "Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

(24)"UIC" means the underground injection control program under 42 USC 300h, including an approved program.

(25) "Underground source of drinking water" means an aquifer or its portion which supplies any public water system or contains a sufficient quantity of groundwater to supply a public water system and either of the following:

(a) Currently supplies drinking water for human consumption.

(b) Contains fewer than 10,000 mg/L total dissolved solids.

(26) "Wisconsin pollutant discharge elimination system (WPDES)" means the permit issued by the department under ch. 283, Stats., for the discharge of pollutants.

NR 670.004 Effect of a license. (1) Compliance with a hazardous waste license during its term constitutes compliance, for purposes of enforcement, with ch. 291, Stats., and chs. NR 660 to 673 except for the following:

(a) Those requirements not included in the license which become effective by statute.

(b) Those requirements in ch. NR 668 restricting the placement of hazardous wastes in or on the land.

(c) Those requirements in ch. NR 664 regarding leak detection systems for new and replacement surface impoundment, waste pile and landfill units, and lateral expansions of surface impoundment, waste pile and landfill units. The leak detection system requirements include double liners, CQA programs, monitoring, action leakage rates and response action plans, and will be implemented through the procedures of s. NR 670.042 Class 1 license modifications.

(d) Those requirements in subchs. AA, BB or CC of ch. NR 665 limiting air emissions.

(2) The issuance of a license does not convey any property rights of any sort, or any exclusive privilege.

(3) The issuance of a license does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations.

NR 670.005 Noncompliance and program reporting by the department. The department shall prepare quarterly and annual reports as detailed below. The department shall submit any reports required under this section to the EPA region 5 administrator. For purposes of this section only, licensees shall include interim status facilities, when appropriate

(1) QUARTERLY REPORTS. The department shall submit quarterly narrative reports for major facilities as follows:

(a) *Format.* The report shall list all of the following:

1. Information on noncompliance for each facility.

2. Alphabetize by licensee name. When 2 or more licensees have the same name, the lowest license number shall be entered first.

3. For each entry on the list, include all of the following information in the following order:

a. Name, location and license number of the noncomplying licensee.

b. A brief description and date of each instance of noncompliance for that licensee. Instances of noncompliance may include one or more of the kinds set forth in par. (b). When a licensee has noncompliance of more than one kind, combine the information into a single entry for each licensee.

c. The dates and a brief description of the actions taken by the department to ensure compliance.

d. Status of the instances of noncompliance with the date of the review of the status or the date of resolution.

e. Any details which tend to explain or mitigate the instances of noncompliance.

(b) *Instances of noncompliance to be reported.* Any instances of noncompliance within the following categories shall be reported in successive reports until the noncompliance is reported as resolved. Once noncompliance is reported as resolved it need not appear in subsequent reports.

1. 'Failure to complete construction elements.' When the licensee has failed to complete, by the date specified in the license, an element of a compliance schedule involving either planning for construction (for example, award of a contract, preliminary plans), or a construction step (for example, begin construction, attain operation level); and the licensee has not returned to compliance by accomplishing the required element of the schedule within 30 days from the date a compliance schedule report is due under the license.

2. 'Modifications to schedules of compliance.' When a schedule of compliance in the license has been modified under s. NR 670.041 or 670.042 because of the licensee's noncompliance.

3. 'Failure to complete or provide compliance schedule or monitoring reports.' When the licensee has failed to complete or provide a report required in a license compliance schedule (for example, progress report or notice of noncompliance or compliance) or a monitoring report; and the licensee has not submitted the complete report within 30 days from the date it is due under the license for compliance schedules, or from the date specified in the license for monitoring reports.

4. 'Deficient reports.' When the required reports provided by the licensee are so deficient as to cause misunderstanding by the department and thus impede the review of the status of compliance.

5. 'Noncompliance with other license requirements.' Noncompliance shall be reported in any of the following circumstances:

a. Whenever the licensee has violated a license requirement (other than reported under subds. 1. or 2.), and has not returned to compliance within 45 days from the date reporting of noncompliance was due under the license.

b. When the department determines that a pattern of noncompliance exists for a major facility licensee over the most recent 4 consecutive reporting periods. This pattern includes any violation of the same requirement in 2 consecutive reporting periods, and any violation of one or more requirements in each of 4 consecutive reporting periods.

c. When the department determines significant license non-compliance or other significant event has occurred such as a fire or explosion or migration of fluids into an underground source of drinking water.

6. 'All other.' Statistical information shall be reported quarterly on all other instances of noncompliance by major facilities with license requirements not otherwise reported under this subsection.

(2) ANNUAL REPORTS (a) *Annual noncompliance report.* Statistical reports shall be submitted by the department on nonmajor licensees indicating the total number reviewed, the number of noncomplying nonmajor licensees, the number of enforcement actions, and number of license modifications extending compliance deadlines. The statistical information shall be organized to follow the types of noncompliance listed in sub. (1).

(b) In addition to the annual noncompliance report, the department shall prepare a "program report" which contains information (in a manner and form prescribed by the EPA region 5 administrator) on generators and transporters and the license status of regulated facilities. The department shall also include, on a biennial basis, summary information on the quantities and types of hazardous wastes generated, transported, treated, stored and disposed during the preceding odd-numbered year. This summary information shall be reported in a manner and form prescribed by the EPA region 5 administrator and shall be reported according to EPA characteristics and lists of hazardous wastes at ch. NR 661.

(3) SCHEDULE. For all quarterly reports, on the last working day of May, August, November and February, the department shall submit to the EPA region 5 administrator information concerning

noncompliance with license requirements by major facilities in Wisconsin according to the following schedule.

Quarters Covered by Reports on Noncompliance by Major Dischargers

[Date for completion of reports]

January, February, and March .... [1] May 31

April, May, and June..... [1] August 31

July, August, and September ..... [1] November 30

October, November, and Decem-ber	[1] February 28

[1] Reports shall be made available to the public for inspection and copying on this date.

Subchapter B —License Application

NR 670.007 Pre-application requirements. (1) A person proposing to obtain a license for an interim facility or construct a new facility or expand an existing facility shall comply with all of the following local approval and pre-application and meeting requirements:

(a) Submit a written request including the standard notice developed under s. 289.22 (2), Stats., to each affected municipality as required in s. 289.22 (1m), Stats.

(b) Apply for all applicable local approvals required by a municipality under s. 289.22 (1m), Stats., at least 120 days prior to submitting the license application to the department if subject to s. 289.33(6), Stats. If the municipality either fails to respond within 15 days after the receipt of the written request from the applicant or indicates that there are no applicable local approval requirements, the applicant may submit the license application 135 days after receipt by the municipality of the written request from the applicant or 120 days after receipt of the response from the municipality indicating that there are no local approval requirements, whichever occurs first.

(c) Hold a public meeting and give notice as required in s. NR 670.431**.**

Note: Refer to s. 289.33, Stats., to determine if local approval requirements and negotiation and arbitration requirements apply to an existing facility.

(2) An applicant proposing to construct a hazardous waste disposal facility may submit an initial site report to the department. prior to submitting the operating license application. The purpose of an initial site report is to obtain a preliminary opinion from the department on the feasibility of the site for development as a disposal facility. A favorable opinion under this section does not guarantee a favorable determination of site feasibility. If an initial site report is submitted, it must contain the following information at a minimum:

(a) General site information. Identify the project title; name, address and phone number of the primary contacts including the proposed owner, operator and any consultants; present property owner; site location by quarter section; identification of adjacent landowners; total acreage of the property and proposed licensed acreage; proposed site life and design capacity; estimated waste types and volumes, and preliminary design configuration.

(b) Regional geotechnical information. Include a discussion of the regional setting of the proposed disposal facility. This discussion may be limited to information available from publications, although field verification may be desirable. Address the following items:

1. Topography, including predominant topographic features.

2. Hydrology and hydrogeology, including surface water drainage patterns and significant hydrologic features; groundwater flow direction and the identification of aquifers used for supply wells.

3.Geology, including the nature and distribution of bedrock and unconsolidated deposits.

4.Zoning and present land uses, with emphasis on known recreational, historic or archeological areas, and present or proposed access roads and weight restrictions.

(c) Site specific geotechnical information. Conduct field investigations to define the following:

1. Install soil borings to investigate the site specific geology. Extend borings to a minimum of 25 feet below the anticipated facility sub-base grade and distribute in a grid pattern throughout the area. Conduct at least one boring per 5 acres, with a minimum of 5 borings.

2. Install observation wells, in accordance with ch. NR 141 requirements, to investigate the site specific hydrogeology.

(d) Data analysis and design recommendations. Provide an analysis of the results from the regional geotechnical information, land use and groundwater investigation; give preliminary conclusions and

recommendations on facility development, including a discussion of factors that may affect the development, design or operation of the proposed disposal facility.

NR 670.010 General application requirements. (1) LICENSE APPLICATION. Any person who is required to have a license (including new applicants and licensees with expiring 10 year operating licenses) shall complete, sign, and submit two copies of the license application to the department as described in this section and ss. NR 670.070 to 670.073. A person currently authorized with an interim license shall submit the feasibility and plan of operation report when required by the department. Procedures for applications, issuance and administration of emergency licenses are found in s. NR 670.061. Procedures for application, issuance and administration of research, development and demonstration licenses are found in s. NR 670.065.

(2) WHO APPLIES? When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a license, except that the owner shall also sign the license application.

(3) COMPLETENESS. The department may not issue an operating license before receiving a complete license application and for new facilities, before the owner or operator completes construction in compliance with the approved feasibility and plan of operation report except for emergency licenses. An application for an operating license is complete when the department receives a part A application form, the feasibility and plan of operation report, and any supplemental information which are completed to the department's satisfaction. An application for a license is complete notwithstanding the failure of the owner or operator to submit the exposure information described in sub. (10). The department may deny a license for the active life of a hazardous waste management facility or unit before receiving a complete application for a license.

(4) INFORMATION REQUIREMENTS. All applicants for licenses shall provide information set forth in s. NR 670.013 and applicable sections in ss. NR 670.014 to 670.029 to the department. Part A of the license application shall be submitted on the EPA application form 8700-023.

(5) EXISTING HWM FACILITIES AND INTERIM LICENSE QUALIFICATIONS. (a) Owners and operators of existing hazardous waste management facilities or of hazardous waste management facilities in existence on the effective date of the statute or rule that first rendered the facility subject to the requirement to have a hazardous waste license shall submit part A of the license application no later than any of the following:

1. The date of publication of rules which first require them to comply with the standards set forth in ch. NR 665 or 666.

2. Thirty days after the date they first become subject to the standards set forth in ch. NR 665 or 666, whichever first occurs.

3. For generators generating greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month and treats, stores or disposes of these wastes on-site, by March 24, 1987.

(d) The owner or operator of an existing hazardous waste management facility shall submit a feasibility and plan of operation report. Any owner or operator shall be allowed at least 6 months from the date of request to submit the feasibility and plan of operation report. Any owner or operator of an existing hazardous waste management facility may voluntarily submit a feasibility and plan of operation report at any time. Notwithstanding the above, any owner or operator of an existing hazardous waste management facility shall submit a feasibility and plan of operation report according to the dates specified in s. NR 670.073. Any owner or operator of a land disposal facility in existence on the effective date of statutory or regulatory amendments under ss. NR 660 to 679 and ch. 291, Stats., that render the facility subject to the requirement to have a hazardous waste license shall submit a feasibility and plan of operation report according to the dates specified in s. NR 670.073.

(e) Failure to furnish a requested feasibility and plan of operation report on time, or to furnish in full the information required by the feasibility and plan of operation report, is grounds for revocation of an interim license under this chapter.

(6) NEW HWM FACILITIES. (a) Except as provided in par. (c), no person may begin physical construction of a new HWM facility without having submitted the license application and having received final approval of the feasibility and plan of operation report.

(b) A license application for a new hazardous waste management facility, including both part A and a feasibility and plan of operation report may be filed any time after promulgation of those standards in subch. I of ch. NR 664 applicable to the facility. Except as provided in par. (c), all applications shall be submitted at least 180 days before physical construction is expected to commence.

(c) Notwithstanding par. (a), a person may construct a facility for the incineration of polychlorinated biphenyls pursuant to an approval issued by the EPA region 5 administrator under section (6)(e) of the Toxic Substances Control Act and any person owning or operating such a facility may, at any time after construction or operation of the facility has begun, file an application for a hazardous waste license to incinerate hazardous waste authorizing the facility to incinerate waste identified or listed under ch. NR 661.

(7) UPDATING LICENSE APPLICATIONS. (a) If any owner or operator of a hazardous waste management facility has filed Part A of a license application and has not yet submitted a feasibility and plan of operation report, the owner or operator shall file an amended part A application if any of the following applies:

2. With the department, no later than the effective date of rules listing or designating wastes as hazardous in Wisconsin in addition to those already listed or designated, if the facility is treating, storing or disposing of any of those newly listed or designated wastes.

3. As necessary to comply with s. NR 670.072 for changes to the interim license. Revised Part A applications necessary to comply with s. NR 670.072 shall be filed with the department.

(b) The owner or operator of a facility who fails to comply with the updating requirements of par. (a) does not receive an interim license as to the wastes not covered by duly filed part A applications.

(8) REAPPLICATION FOR AN OPERATING LICENSE. Any HWM facility with an operating license shall re-submit a license application at least 180 days before the expiration date of the operating license, unless permission for a later date has been granted by the department. The department may not grant permission for applications to be submitted later than the expiration date of the license.

(9) RECORDKEEPING. Applicants shall keep records of all data used to complete license applications and any supplemental information submitted under sub. (4), ss. NR 670.013 and 670.014 to 670.021 for a period of at least 3 years from the date the application is signed.

(10) EXPOSURE INFORMATION. (a) After August 8, 1985, any feasibility and plan of operation report submitted by an owner or operator of a facility that stores, treats or disposes of hazardous waste in a surface impoundment or a landfill shall include a list of all persons living within 0.5 mile of the facility and be accompanied by information, reasonably ascertainable by the owner or operator, on the potential for the public to be exposed to hazardous wastes or hazardous constituents through releases related to the unit. At a minimum, the information shall address all of the following:

1. Reasonably foreseeable potential releases from both normal operations and accidents at the unit, including releases associated with transportation to or from the unit.

2. The potential pathways of human exposure to hazardous wastes or constituents resulting from the releases described under subd. 1.

3. The potential magnitude and nature of the human exposure resulting from the releases.

(11) ADDITIONAL INFORMATION. The department may require a licensee or an applicant to submit information in order to establish license conditions under ss. NR 670.032(2)(b) and 670.050(4).

(12) FEES**.** The plan review or license fee specified in Appendix II shall accompany all license applications, plans, reports, and other documents submitted to the department for approval.

NR 670.011 Signatories to license applications and reports. (1) APPLICATIONS. All license applications shall be signed as follows:

(a) For a corporation, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

1. A president, secretary, treasurer or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decisionmaking functions for the corporation.

2. The manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager according to corporate procedures.

Note: The department does not require specific assignments or delegations of authority to responsible corporate officers identified in subd. 1. The department will presume that these responsible corporate officers have the requisite authority to sign license applications unless the corporation has notified the department to the contrary. Corporate procedures governing authority to sign license applications may provide for assignment or delegation to applicable corporate positions under subd. 2. rather than to specific individuals.

(b) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively.

(c) For a municipality, state, federal or other public agency, by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes any of the following:

1. The chief executive officer of the agency.

2. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrators of EPA).

(2) REPORTS. All reports required by licenses and other information requested by the department shall be signed by a person described in sub. (1), or by a duly authorized representative of that person. A person is a duly authorized representative only if all of the following are met:

(a) The authorization is made in writing by a person described in sub. (1).

(b) The authorization specifies either an individual or a position having responsibility for overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

(c) The written authorization is submitted to the department.

(3) CHANGES TO AUTHORIZATION. If an authorization under sub.(2) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying sub. (2) shall be submitted to the department prior to or together with any reports, information or applications to be signed by an authorized representative.

(4)(a) Any person signing a document under sub. (1) or (2) shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NR 670.012 Confidentiality of information. (1) According to s. NR 660.02, any information submitted to the department pursuant to chs. NR 660 to 670 may be claimed as confidential by the submitter. Any claim shall be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words ”confidential business information” on each page containing the information. If no claim is made at the time of

submission, the department may make the information available to the public without further notice. If a claim is asserted, the information will be treated according to the procedures in s. NR 660.02.

(2) Claims of confidentiality for the name and address of any license applicant or licensee will be denied.

NR 670.013 Contents of part A of the license application. Part A of the license application shall include all of the following information:

(1) The activities conducted by the applicant which require it to obtain a license.

(2) Name, mailing address and location, including latitude and longitude of the facility for which the application is submitted.

(3) Up to 4 SIC codes which best reflect the principal products or services provided by the facility.

(4) The operator's name, address, telephone number, ownership status and status as federal, state, private, public or other entity.

(5) The name, address and phone number of the owner of the facility.

(6) Whether the facility is located on Indian lands.

(7) An indication of whether the facility is new or existing and whether it is a first or revised application.

(8) For existing facilities, all of the following:

(a) A scale drawing of the facility showing the location of all past, present and future treatment, storage and disposal areas.

(b) Photographs of the facility clearly delineating all existing structures; existing treatment, storage and disposal areas; and sites of future treatment, storage and disposal areas.

(9) A description of the processes to be used for treating, storing and disposing of hazardous waste, and the design capacity of these items.

(10) A specification of the hazardous wastes listed or designated under ch. NR 661 to be treated, stored or disposed of at the facility, an estimate of the quantity of wastes to be treated, stored or disposed annually, and a general description of the processes to be used for the wastes.

(11) A listing of all permits, licenses or construction approvals received or applied for under any applicable federal or state regulations.

(12) A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source, depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant within ¼ mile of the facility property boundary.

(13) A brief description of the nature of the business.

(14) For hazardous debris, a description of the debris categories and contaminant categories to be treated, stored or disposed of at the facility.

NR 670.014 Contents of the feasibility and plan of operation report: general requirements. **(1)** GENERAL INFORMATION. The feasibility and plan of operation report consists of the general information requirements of this section, and the specific information requirements in ss. NR 670.014 to 670.029 applicable to the facility. The feasibility and plan of operation information requirements presented in ss. NR 670.014 to 670.029 reflect the standards promulgated in ch. NR 664. These information requirements are necessary in order for the department to determine compliance with the ch. NR 664 standards. If owners and operators of HWM facilities can demonstrate that the information prescribed in the feasibility and plan of operation report can not be provided to the extent required, the department may make allowance for submission of the information on a case-by-case basis. Information required in the feasibility and plan of operation report shall be submitted to the department and signed according to s. NR 670.011. Technical data, such as design drawings and specifications, and engineering

studies shall be certified by a registered professional engineer. For long-term care licenses, only the information specified in s. NR 670.028 is required in the feasibility and plan of operation report.

Note: See ch. 443, Stats., for Wisconsin professional engineering registration requirements.

(2) GENERAL INFORMATION REQUIREMENTS. All of the following information is required for all HWM facilities, except as s. NR 664.0001 provides otherwise:

(a) A general description of the facility.

(b) Chemical and physical analyses of the hazardous waste and hazardous debris to be handled at the facility. At a minimum, these analyses shall contain all the information which must be known to treat, store or dispose of the wastes properly according to ch. NR 664.

(c) A copy of the waste analysis plan required by s. NR 664.0013(2) and, if applicable s. NR 664.0013(3).

(d) A description of the security procedures and equipment required by s. NR 664.0014, or a justification demonstrating the reasons for requesting a waiver of this requirement.

(e) A copy of the general inspection schedule required by s. NR 664.0015(2). Include where applicable, as part of the inspection schedule, specific requirements in ss. NR 664.0174, 664.0193(9), 664.0195, 664.0226, 664.0254, 664.0303, 664.0602, 664.1033, 664.1052, 664.1053, 664.1058, 664.1084, 664.1085, 664.1086 and 664.1088.

(f) A justification of any request for a waiver of the preparedness and prevention requirements of subch. C of ch. NR 664.

(g) A copy of the contingency plan required by subch. D of ch. NR 664.

Note: Include, where applicable, as part of the contingency plan, specific requirements in ss. NR 664.0227 and 664.0200.

(h) A description of procedures, structures or equipment used at the facility to do all of the following:

1. Prevent hazards in unloading operations (for example, ramps, special forklifts).

2. Prevent runoff from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (for example, berms, dikes, trenches).

3. Prevent contamination of water supplies.

4. Mitigate effects of equipment failure and power outages.

5. Prevent undue exposure of personnel to hazardous waste (for example, protective clothing).

6. Prevent releases to atmosphere.

(i) A description of precautions to prevent accidental ignition or reaction of ignitable, reactive or incompatible wastes as required to demonstrate compliance with s. NR 664.0017 including documentation demonstrating compliance with s. NR 664.0017(3).

(j) Traffic pattern, estimated volume (number, types of vehicles) and control (for example, show turns across traffic lanes, and stacking lanes (if appropriate); describe access road surfacing and load bearing capacity; show traffic control signals).

(k) 3. Owners and operators of all facilities shall provide an identification of whether the facility is located within a 100-year floodplain. This identification must indicate the source of data for such determination and include a copy of the relevant federal insurance administration flood map, if used, or the calculations and maps used where an FIA map is not available. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in designing, constructing, operating, or maintaining the facility to withstand washout from a 100-year flood.

Note: Where maps for the national flood insurance program produced by the federal insurance administration (FIA) of the federal emergency management agency are available, they will normally be determinative of whether a facility is located within or outside of the 100-year floodplain. However, where the FIA map excludes an area,

usually areas of the floodplain less than 200 feet in width, these areas must be considered and a determination made as to whether they are in the 100-year floodplain. Where FIA maps are not available for a proposed facility location, the owner or operator must use equivalent mapping techniques to determine whether the facility is within the 100-year floodplain, and if so located, what the 100-year flood elevation would be.

4. Owners and operators of facilities located in the 100-year floodplain shall provide the following information:

a. Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as consequence of a 100-year flood.

b. Structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., floodwalls, dikes) at the facility and how these will prevent washout.

c. If applicable, and in lieu of subds 4.a. and b., a detailed description of procedures to be followed to remove hazardous waste to safety before the facility is flooded, including:

1) Timing of such movement relative to flood levels, including estimated time to move the waste, to show that such movement can be completed before floodwaters reach the facility.

2) A description of the location or locations to which the waste will be moved and demonstration that those facilities will be eligible to receive hazardous waste in accordance with the regulations under chs. 664 to 666 and 670.

3) The planned procedures, equipment, and personnel to be used and the means to ensure that such resources will be available in time for use.

4) The potential for accidental discharges of the waste during movement.

5. Existing facilities not in compliance with s. NR 664.0018(2) shall provide a plan showing how the facility will be brought into compliance and a schedule for compliance.

6. Owners and operators of all facilities shall provide an identification of whether the facility is located in:

a. A habitat determined by the department to be critical to the continued existence of any threatened or endangered species listed in ch. NR 27.

b. A wetland.

(L) An outline of both the introductory and continuing training programs by owners or operators to prepare persons to operate or maintain the HWM facility in a safe manner as required to demonstrate compliance with s. NR 664.0016. A brief description of how training will be designed to meet actual job tasks according to s. NR 664.0016(1)(c).

(m) A copy of the closure plan and, where applicable, the long-term care plan required by ss. NR 664.0112, 664.0118 and 664.0197. Include, where applicable, as part of the plans, specific requirements in ss. NR 664.0178, 664.0197, 664.0228, 664.0258, 664.0310, 664.0351, 664.0601 and 664.0603.

(n) For hazardous waste disposal units that have been closed, documentation that notices required under s. NR 664.0119 have been filed.

(o) The most recent closure cost estimate for the facility prepared according to s. NR 664.0142 and a copy of the documentation required to demonstrate financial assurance under s. NR 664.0143. For a new facility, a copy of the required documentation may be submitted 60 days prior to the initial receipt of hazardous wastes, if that is later than the submission of the feasibility and plan of operation report.

(p) Where applicable, the most recent long-term care cost estimate for the facility prepared according to s. NR 664.0144 plus a copy of the documentation required to demonstrate financial assurance under s. NR 664.0145. For a new facility, a copy of the required documentation may be submitted 60 days prior to the initial receipt of hazardous wastes, if that is later than the submission of the feasibility and plan of operation report.

(q) Where applicable, a copy of the insurance policy or other documentation which comprises compliance with s. NR 664.0147. For a new facility, documentation showing the amount of insurance meeting the specification of s. NR 664.0147(1) and, if applicable, s. NR 664.0147(2), that the owner or

operator plans to have in effect before initial receipt of hazardous waste for treatment, storage or disposal. A request for an alternate amount of required coverage, for a new or existing facility, may be submitted as specified in s. NR 664.0147(3).

(s) A topographic map showing a distance of 1,000 feet around the facility at a scale of 2.5 centimeters (one inch) equal to not more than 61.0 meters (200 feet). Contours shall be shown on the map. The contour interval shall be sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. For example, contours with an interval of 1.5 meters (5 feet), if relief is greater than 6.1 meters (20 feet), or an interval of 0.6 meters (2 feet), if relief is less than 6.1 meters (20 feet). Owners and operators of HWM facilities located in mountainous areas shall use large contour intervals to adequately show topographic profiles of facilities. The map shall clearly show all of the following:

1. Map scale and date.
2. 100-year floodplain area.
3. Surface waters including intermittant streams.
4. Surrounding land uses (residential, commercial, agricultural, recreational).
5. A wind rose (i.e., prevailing wind-speed and direction).
6. Orientation of the map (north arrow).
7. Legal boundaries of the HWM facility site.
8. Access control (fences, gates).
9. Injection and withdrawal wells both on-site and off-site.
10. Buildings; treatment, storage or disposal operations; or other structure (recreation areas, runoff control systems, access and internal roads, storm, sanitary and process sewerage systems, loading and unloading areas, fire control facilities, etc.)
11. Barriers for drainage or flood control.
12. Location of operational units within the HWM facility site, where hazardous waste is (or will be) treated, stored or disposed (include equipment cleanup areas).

Note: For large HWM facilities the department may allow the use of other scales on a case-by-case basis.

(u) For land disposal facilities, if a case-by-case extension has been approved under 40 CFR 268.5 or a petition has been approved under 40 CFR 268.6, a copy of the notice of approval for the extension or petition is required.

(v) A summary of the pre-application meeting, along with a list of attendees and their addresses, and copies of any written comments or materials submitted at the meeting, as required under s. NR 670.431(3).

(w) Documentation demonstrating compliance with the local approval requirements of s. NR 670.007(1)(a) to (c).

(x) Applicants shall submit information to enable the department to make a determination on all of the following:

1. Noncompliance with plans or orders under s. 289.34, Stats., including the following information:

a. Identification of all persons owning a 10% or greater legal or equitable interest in the applicant or in the assets of the applicant, including shareholders of a corporation which is an applicant and partners of a partnership which is an applicant.

b. Identification of all other Wisconsin solid or hazardous waste facilities for which the applicant or any person identified in subpar. a. is named in, or subject to an order or plan approval issued by the department.

c. Identification of all other Wisconsin solid or hazardous waste facilities which are owned by persons, including corporations and partnerships, in which the applicant or person identified in subpar. a. owns or previously owned a 10% or greater legal or equitable interest or a 10% or greater interest in the assets.

d. A statement indicating whether or not all plan approvals and orders relating to all facilities identified in subpars. b. and c. are being complied with.

2. The need for an environmental impact statement under s. 289.25, Stats., including the following information:

a. A summary of the project, such as the purpose, history, background, relevant local, state and federal permits or approvals and zoning changes.

b. A description of the proposed physical changes, including:

1) Changes in terrestrial resources, such as soil placement necessary to reach the proposed sub-base grades, construction of access roads, surface water drainage features and sedimentation controls.

2) Changes in aquatic resources, such as potential impacts to streams, wetlands, lakes and flowages under existing conditions as well as that anticipated during active operations and after closure.

3) Buildings, treatment units, roads and other structures to be constructed in conjunction with the facility.

4) Emissions and discharges such as dust, odors, gases, leachate, and surface water runoff associated with facility preparation, construction, operation, and closure.

5) Other changes anticipated with facility development.

6) Maps, plans and other descriptive material such as a facility development plan to clarify the information provided.

c. A description of the existing environment that may be affected, including:

1) The physical environment such as the regional and local topography, geology, surface water drainage features, hydrogeologic conditions, air and wetlands as well as an evaluation of groundwater quality data and overall performance of any existing solid or hazardous waste units.

2) The dominant aquatic and terrestrial plant and animal species and habitats found in the area.

3) Land use, dominant features and zoning in the area.

4) Social and economic conditions such as any ethnic or cultural groups.

5) Other special resources such as archaeological, historical, state natural areas and prime agricultural lands.

d. A discussion of the probable adverse and beneficial impacts including primary, indirect and secondary impacts including:

1) The physical impacts associated with facility design, construction and operation.

2) The biological impacts including destruction and creation of habitat, alteration of the physical environment and any impacts to endangered or threatened species.

3) The impacts on land use.

4) The social and economic impacts to local residents and cultural groups and the communities and industries served by the facility.

5) Other special resources such as archaeological, historical, state natural areas and prime agricultural lands.

6) Probable adverse impacts that cannot be avoided such as groundwater and surface water impacts, modifications of topography, any loss of agricultural or forest land, displacement of wildlife and adverse aesthetic impacts for people in and around the facility.

e. Identify, describe and discuss feasible alternatives including taking no action, enlargement, reduction or modification of the project; other facilities, locations or methods to the proposed action and their impacts. Particular attention shall be given to alternatives which might avoid some or all adverse environmental impacts, including proposed and existing hazardous waste treatment, storage or disposal, recycling and incineration facilities that may serve to handle the waste expected to be disposed of at the proposed facility, taking into account the economics of waste collection, transportation and disposal.

3. The need for the proposed facility or expansion as required under s. 289.28, Stats.

(3) ADDITIONAL INFORMATION REQUIREMENTS. The following additional information regarding protection of groundwater is required from owners or operators of hazardous waste facilities containing a regulated unit except as provided in s. NR 664.0090(2):

(a) A summary of the ground-water monitoring data obtained during the interim license period under ss. NR 665.0090 to 665.0094, where applicable.

(b) Identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, including groundwater flow direction and rate, and the basis for the identification (i.e., the information obtained from hydrogeologic investigations of the facility area).

(c) On the topographic map required under sub. (2)(s), a delineation of the waste management area, the property boundary, the point of compliance as defined under s. NR 664.0095, the proposed location of groundwater monitoring wells as required under s. NR 664.0097, and, to the extent possible, the information required in par. (b).

(d) A description of any plume of contamination that has entered the groundwater from a regulated unit at the time that the application was submitted that does all of the following:

1. Delineates the extent of the plume on the topographic map required under sub. (2)(s).

2. Identifies the concentration of each ch. NR 664, Appendix IX, constituent throughout the plume or identifies the maximum concentrations of each Appendix IX constituent in the plume.

(e) Detailed plans and an engineering report describing the proposed groundwater monitoring program to be implemented to meet s. NR 664.0097.

(f) If the presence of hazardous constituents has not been detected in the groundwater at the time of the license application, the owner or operator shall submit sufficient information, supporting data and analyses to establish a detection monitoring program which meets s. NR 664.0098. This submission shall address all of the following items specified under s. NR 664.0098:

1. A proposed list of indicator parameters, waste constituents or reaction products that can provide a reliable indication of the presence of hazardous constituents in the groundwater.

2. A proposed groundwater monitoring system.

3. Background values for each proposed monitoring parameter or constituent, or procedures to calculate the values.

4. A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating groundwater monitoring data.

(g) If the presence of hazardous constituents has been detected in the groundwater at the point of compliance at the time of the license application, the owner or operator shall submit sufficient information, supporting data and analyses to establish a compliance monitoring program which meets s. NR 664.0099. Except as provided in s. NR 664.0098(7)(e), the owner or operator shall also submit an engineering feasibility plan for a corrective action program necessary to meet s. NR 664.0100, unless the owner or operator obtains written authorization in advance from the department to submit a proposed license schedule for submittal of such a plan. To demonstrate compliance with s. NR 664.0099, the owner or operator shall address all of the following items:

1. A description of the wastes previously handled at the facility.

2. A characterization of the contaminated groundwater, including concentrations of hazardous constituents.

3. A list of hazardous constituents for which compliance monitoring will be undertaken according to ss. NR 664.0097 and 664.0099.

4. Proposed concentration limits for each hazardous constituent, based on the criteria set forth in s. NR 664.0094(1), including a justification for establishing any alternate concentration limits.

5. Detailed plans and an engineering report describing the proposed groundwater monitoring system, according to s. NR 664.0097.

6. A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating groundwater monitoring data.

(h) If hazardous constituents have been measured in the groundwater which exceed the concentration limits established under s. NR 664.0094, Table 1, or if groundwater monitoring conducted at the time of the license application under s. NR 665.0090 to 665.0094 at the waste boundary indicates the presence of hazardous constituents from the facility in groundwater over background concentrations, the owner or operator shall submit sufficient information, supporting data and analyses to establish a corrective action program which meets s. NR 664.0100. However, an owner or operator is not required to submit information to establish a corrective action program if the owner or operator demonstrates to the department that alternate concentration limits will protect human health and the environment after considering the criteria listed in s. NR 664.0094(2). An owner or operator who is not required to establish a corrective action program for this reason shall instead submit sufficient information to establish a compliance monitoring program which meets s. NR 664.0099 and par. (f). To demonstrate compliance with s. NR 664.0100, the owner or operator shall address, at a minimum, all of the following items:

1. A characterization of the contaminated groundwater, including concentrations of hazardous constituents.

2. The concentration limit for each hazardous constituent found in the groundwater as set forth in s. NR 664.0094.

3. Detailed plans and an engineering report describing the corrective action to be taken.

4. A description of how the groundwater monitoring program will demonstrate the adequacy of the corrective action.

5. The license may contain a schedule for submittal of the information required in subds. 3. and 4. provided the owner or operator obtains written authorization from the department prior to submittal of the complete license application.

(4) INFORMATION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS. (a) An owner or operator shall submit all of the following information for each solid waste management unit at a facility:

1. The location of the unit on the topographic map required under sub. (2)(s).

2. Designation of type of unit.

3. General dimensions and structural description (supply any available drawings).

4. When the unit was operated.

5. Specification of all wastes that have been managed at the unit, to the extent available.

(b) The owner or operator of any facility containing one or more solid waste management units shall submit all available information pertaining to any release of hazardous wastes or hazardous constituents from the unit or units.

(c) The owner or operator shall conduct and provide the results of sampling and analysis of groundwater, landsurface and subsurface strata, surface water or air, which may include the installation of wells, where the department ascertains it is necessary to complete a RCRA Facility Assessment that will determine if a more complete investigation is necessary.

NR 670.015 Specific feasibility and plan of operation report information requirements for containers. Except as otherwise provided in s. NR 664.0170, owners or operators of facilities that store containers of hazardous waste shall provide all of the following additional information:

(1) A description of the containment system to demonstrate compliance with s. NR 664.0175. Show at least the following:

(a) Basic design parameters, dimensions and materials of construction.

(b) How the design promotes drainage or how containers are kept from contact with standing liquids in the containment system.

(c) Capacity of the containment system relative to the number and volume of containers to be stored.

(d) Provisions for preventing or managing run-on.

(e) How accumulated liquids can be analyzed and removed to prevent overflow.

(2) For storage areas that store containers holding wastes that do not contain free liquids, a demonstration of compliance with s. NR 664.0175(3), including all of the following:

(a) Test procedures and results or other documentation or information to show that the wastes do not contain free liquids.

(b) A description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids.

(3) Sketches, drawings or data demonstrating compliance with s. NR 664.0176 (location of buffer zone and containers holding ignitable or reactive wastes) and s. NR 664.0177(3) (location of incompatible wastes), where applicable.

(4) Where incompatible wastes are stored or otherwise managed in containers, a description of the procedures used to ensure compliance with ss. NR 664.0177(1) and (2), and 664.0017(2) and (3).

(5) Information on air emission control equipment as required in s. NR 670.027.

NR 670.016 Specific feasibility and plan of operation report information requirements for tank systems. Except as otherwise provided in s. NR 664.0190, owners and operators of facilities that use tanks to store or treat hazardous waste shall provide all of the following additional information:

(1) A written assessment that is reviewed and certified by an independent, qualified, registered professional engineer as to the structural integrity and suitability for handling hazardous waste of each tank system, as required under ss. NR 664.0191 and 664.0192.

(2) Dimensions and capacity of each tank.

(3) Description of feed systems, safety cutoff, bypass systems and pressure controls (e.g., vents).

(4) A diagram of piping, instrumentation and process flow for each tank system.

(5) A description of materials and equipment used to provide external corrosion protection, as required under s. NR 664.0192(1)(c)2.

(6) For new tank systems, a detailed description of how the tank systems will be installed in compliance with s. NR 664.0192(2), (3), (4) and (5).

(7) Detailed plans and description of how the secondary containment system for each tank system is or will be designed, constructed and operated to meet s. NR 664.0193(1), (2), (3), (4), (5) and (6).

(8) Any of the following for tank systems for which an alternative to the requirements of s. NR 664.0193 is sought (as provided by s. NR 664.0193(7)):

(a) Detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous waste or hazardous constituents into the groundwater or surface water during the life of the facility.

(b) A detailed assessment of the substantial present or potential hazards posed to human health or the environment should a release enter the environment.

(9) Description of controls and practices to prevent spills and overflows, as required under s. NR 664.0194(2).

(10) For tank systems in which ignitable, reactive or incompatible wastes are to be stored or treated, a description of how operating procedures and tank system and facility design will achieve compliance with ss. NR 664.0198 and 664.0199.

(11) Information on air emission control equipment as required in s. NR 670.027.

NR 670.017 Specific feasibility and plan of operation report information requirements for surface impoundments. Except as otherwise provided in s. NR 664.0001, owners and operators of facilities that store, treat or dispose of hazardous waste in surface impoundments shall provide all of the following additional information:

(1) A list of the hazardous wastes placed or to be placed in each surface impoundment.

(2) Detailed plans and an engineering report describing how the surface impoundment is designed and is or will be constructed, operated and maintained to meet ss. NR 664.0019, 664.0221, 664.0222 and 664.0223, addressing all of the following items:

(a) The liner system (except for an existing portion of a surface impoundment). If an exemption from the requirement for a liner is sought as provided by s. NR 664.0221(2), submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time.

(b) The double liner and leak (leachate) detection, collection and removal system, if the surface impoundment shall meet s. NR 664.0221(3). If an exemption from the requirements for double liners and a leak detection, collection, and removal system or alternative design is sought as provided by s. NR 664.0221(4), (5) or (6), submit appropriate information.

(c) If the leak detection system is located in a saturated zone, submit detailed plans and an engineering report explaining the leak detection system design and operation, and the location of the saturated zone in relation to the leak detection system.

(d) The construction quality assurance (CQA) plan if required under s. NR 664.0019.

(e) Proposed action leakage rate, with rationale, if required under s. NR 664.0222, and response action plan, if required under s. NR 664.0223.

(f) Prevention of overtopping.

(g) Structural integrity of dikes.

(3) A description of how each surface impoundment, including the double liner system, leak detection system, cover system and appurtenances for control of overtopping, will be inspected in order to meet s. NR 664.0226(1), (2) and (4). This information shall be included in the inspection plan submitted under s. NR 670.014(2)(e).

(4) A certification by a qualified engineer which attests to the structural integrity of each dike, as required under s. NR 664.0226(3). For new units, the owner or operator shall submit a statement by a qualified engineer that the engineer will provide such a certification upon completion of construction according to the plans and specifications.

(5) A description of the procedure to be used for removing a surface impoundment from service, as required under s. NR 664.0227(2) and (3). This information shall be included in the contingency plan submitted under s. NR 670.014(2)(g).

(6) A description of how hazardous waste residues and contaminated materials will be removed from the unit at closure, as required under s. NR 664.0228(1)(a). For any wastes not to be removed from the unit upon closure, the owner or operator shall submit detailed plans and an engineering report describing how s. NR 664.0228(1)(b) and (2) will be complied with. This information shall be included in the closure plan and, where applicable, the long-term care plan submitted under s. NR 670.014(2)(m).

(7) If ignitable or reactive wastes are to be placed in a surface impoundment, an explanation of how s. NR 664.0229 will be complied with.

(8) If incompatible wastes, or incompatible wastes and materials will be placed in a surface impoundment, an explanation of how s. NR 664.0230 will be complied with.

(9). A waste management plan for hazardous waste numbers F020, F021, F022, F023, F026 and F027 describing how the surface impoundment is or will be designed, constructed, operated and maintained to meet s. NR 664.0231. This submission shall address all of the following items specified in s. NR 664.0231:

(a) The volume, physical and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere.

(b) The attenuative properties of underlying and surrounding soils or other materials.

(c) The mobilizing properties of other materials co-disposed with these wastes.

(d) The effectiveness of additional treatment, design or monitoring techniques.

(10) Information on air emission control equipment as required in s. NR 670.027.

NR 670.018 Specific feasibility and plan of operation report information requirements for waste piles. Except as otherwise provided in s. NR 664.0001, owners and operators of facilities that store or treat hazardous waste in waste piles shall provide all of the following additional information:

(1) A list of hazardous wastes placed or to be placed in each waste pile.

(2) If an exemption is sought to s. NR 664.0251 and subch. F of ch. NR 664 as provided by s. NR 664.0250(3) or 664.0090, an explanation of how the standards of s. NR 664.0250(3) will be complied with or detailed plans and an engineering report describing how s. NR 664.0090(2)(b) will be met.

(3) Detailed plans and an engineering report describing how the waste pile is designed and is or will be constructed, operated and maintained to meet ss. NR 664.0019, 664.0251, 664.0252 and 664.0253, addressing all of the following items:

(a)1. The liner system (except for an existing portion of a waste pile), if the waste pile shall meet s. NR 664.0251(1). If an exemption from the requirement for a liner is sought as provided by s. NR 664.0251(2), submit detailed plans, and engineering and hydrogeological reports, as appropriate, describing alternate designs and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time.

2. The double liner and leak (leachate) detection, collection and removal system, if the waste pile shall meet s. NR 664.0251(3). If an exemption from the requirements for double liners and a leak detection, collection and removal system or alternative design is sought as provided by s. NR 664.0251(4), (5) or (6), submit appropriate information.

3. If the leak detection system is located in a saturated zone, submit detailed plans and an engineering report explaining the leak detection system design and operation, and the location of the saturated zone in relation to the leak detection system.

4. The construction quality assurance (CQA) plan if required under s. NR 664.0019.

5. Proposed action leakage rate, with rationale, if required under s. NR 664.0252, and response action plan, if required under s. NR 664.0253.

(b) Control of run-on.

(c) Control of run-off.

(d) Management of collection and holding units associated with run-on and run-off control systems.

(e) Control of wind dispersal of particulate matter, where applicable.

(4) A description of how each waste pile, including the double liner system, leachate collection and removal system, leak detection system, cover system and appurtenances for control of run-on and run-off, will be inspected in order to meet s. NR 664.0254(1), (2) and (3). This information shall be included in the inspection plan submitted under s. NR 670.014(2)(e).

(5) If treatment is carried out on or in the pile, details of the process and equipment used, and the nature and quality of the residuals.

(6) If ignitable or reactive wastes are to be placed in a waste pile, an explanation of how s. NR 664.0256 will be complied with.

(7) If incompatible wastes, or incompatible wastes and materials will be place in a waste pile, an explanation of how s. NR 664.0257 will be complied with.

(8) A description of how hazardous waste residues and contaminated materials will be removed from the waste pile at closure, as required under s. NR 664.0258(1). For any waste not to be removed from the waste pile upon closure, the owner or operator shall submit detailed plans and an engineering report describing how s. NR 664.0310(1) and (2) will be complied with. This information shall be included in the closure plan and, where applicable, the long-term care plan submitted under s. NR 670.014(2)(m).

(9) A waste management plan for hazardous waste numbers F020, F021, F022, F023, F026 and F027 describing how a waste pile that is not enclosed (as defined in s. NR 664.0250(3)) is or will be designed,

constructed, operated and maintained to meet s. NR 664.0259. This submission shall address all of the following items specified in s. NR 664.0259:

(a) The volume, physical and chemical characteristics of the wastes to be disposed in the waste pile, including their potential to migrate through soil or to volatilize or escape into the atmosphere.

(b) The attenuative properties of underlying and surrounding soils or other materials.

(c) The mobilizing properties of other materials co-disposed with these wastes.

(d) The effectiveness of additional treatment, design or monitoring techniques.

NR 670.019 Specific feasibility and plan of operation report information requirements for incinerators. Except as ss. NR 664.0340 and 670.019(5) provide otherwise, owners and operators of facilities that incinerate hazardous waste shall fulfill sub. (1), (2) or (3).

(1) When seeking an exemption under s. NR 664.0340(2) or (3) (ignitable, corrosive or reactive wastes only), one of the following must be provided:

(a) Documentation that the waste is listed as a hazardous waste in subch. D of ch. NR 661, solely because it is ignitable (hazard code I) or corrosive (hazard code C) or both.

(b) Documentation that the waste is listed as a hazardous waste in subch. D of ch. NR 661, solely because it is reactive (hazard code R) for characteristics other than those listed in s. NR 661.23(1)(d) and (e), and will not be burned when other hazardous wastes are present in the combustion zone.

(c) Documentation that the waste is a hazardous waste solely because it possesses the characteristic of ignitability, corrosivity or both, as determined by the tests for characteristics of hazardous waste under subch. C of ch. NR 661.

(d) Documentation that the waste is a hazardous waste solely because it possesses the reactivity characteristics listed in s. NR 661.23(1)(a), (b), (c), (f), (g) or (h), and that it will not be burned when other hazardous wastes are present in the combustion zone.

(2) Submit a trial burn plan or the results of a trial burn, including all required determinations, according to s. NR 670.062.

(3) In lieu of a trial burn, the applicant may submit all of the following information:

(a) An analysis of each waste or mixture of wastes to be burned including all of the following:

1. Heat value of the waste in the form and composition in which it will be burned.

2. Viscosity (if applicable), or description of physical form of the waste.

3. An identification of any hazardous organic constituents listed in ch. NR 661, Appendix VIII, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in ch. NR 661, Appendix VIII, which would reasonably not be expected to be found in the waste. Identify the constituents excluded from analysis and state the basis for their exclusion. The waste analysis shall rely on the analytical techniques in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA SW-846, incorporated by reference in s. NR 660.11, or their equivalent.

4. An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA SW-846, incorporated by reference in s. NR 660.11.

5. A quantification of those hazardous constituents in the waste which may be designated as POHC's based on data submitted from other trial or operational burns which demonstrate compliance with the performance standards in s. NR 664.0343.

(b) A detailed engineering description of the incinerator, including all of the following:

1. Manufacturer's name and model number of incinerator.

2. Type of incinerator.

3. Linear dimension of incinerator unit including cross sectional area of combustion chamber.

4. Description of auxiliary fuel system (type/feed).

5. Capacity of prime mover.

6. Description of automatic waste feed cutoff systems.

7. Stack gas monitoring and pollution control monitoring system.

8. Nozzle and burner design.

9. Construction materials.

10. Location and description of temperature, pressure and flow indicating devices and control devices.

(c) A description and analysis of the waste to be burned compared with the waste for which data from operational or trial burns are provided to support the contention that a trial burn is not needed. The data shall include those items listed in par. (a). This analysis shall specify the POHCs which the applicant has identified in the waste for which a license is sought, and any differences from the POHCs in the waste for which burn data are provided.

(d) The design and operating conditions of the incinerator unit to be used, compared with that for which comparative burn data are available.

(e) A description of the results submitted from any previously conducted trial burns including all of the following:

1. Sampling and analysis techniques used to calculate performance standards in s. NR 664.0343.

2. Methods and results of monitoring temperatures, waste feed rates, carbon monoxide and an appropriate indicator of combustion gas velocity (including a statement concerning the precision and accuracy of this measurement).

(f) The expected incinerator operation information to demonstrate compliance with ss. NR 664.0343 and 664.0345 including all of the following:

1. Expected carbon monoxide (CO) level in the stack exhaust gas.

2. Waste feed rate.

3. Combustion zone temperature.

4. Indication of combustion gas velocity.

5. Expected stack gas volume, flow rate and temperature.

6. Computed residence time for waste in the combustion zone.

7. Expected hydrochloric acid removal efficiency.

8. Expected fugitive emissions and their control procedures.

9. Proposed waste feed cut-off limits based on the identified significant operating parameters.

(g) Supplemental information as the department finds necessary to achieve the purposes of this subsection.

(h) Waste analysis data, including that submitted in sub. (3)(a), sufficient to allow the department to specify in the license those principal organic hazardous constituents (license POHCs) for which destruction and removal efficiencies will be required.

(4) The department shall approve a license application without a trial burn if the department finds that all of the following apply:

(a) The wastes are sufficiently similar.

(b) The incinerator units are sufficiently similar, and the data from other trial burns are adequate to specify (under s. NR 664.0345) operating conditions that will ensure that the performance standards in s. NR 664.0343 will be met by the incinerator.

(5) When an owner or operator demonstrates compliance with the air emission standards and limitations in 40 CFR part 63, subpart EEE (i.e., by conducting a comprehensive performance test and submitting a notification of compliance under 40 CFR 63.1207(j) and 63.1210(b) documenting compliance with 40 CFR part 63, subpart EEE), the requirements of this section do not apply, except those provisions the department determines are necessary to ensure compliance with s. NR 664.0345(1) and s. NR 664.0345(3) if the owner or operator elects to comply with s. NR 670.235(1)(a)1. to minimize emissions of toxic compounds from startup, shutdown and malfunction events. Nevertheless, the department may apply the rules in this section, on a case-by-case basis, for purposes of information collection according to s. NR 670.010(11) and s. NR 670.032(2)(b).

NR 670.021 Specific feasibility and plan of operation report information requirements for landfills. Except as otherwise provided in s. NR 664.0001, owners and operators of facilities that dispose of hazardous waste in landfills shall provide all of the following additional information:

(1) A list of the hazardous wastes placed or to be placed in each landfill or landfill cell.

(2) Detailed plans and an engineering report describing how the landfill is designed and is or will be constructed, operated and maintained to meet ss. NR 664.0019, 664.0301, 664.0302 and 664.0303, addressing all of the following items:

(a)1. The liner system (except for an existing portion of a landfill), if the landfill shall meet s. NR 664.0301(1). If an exemption from the requirement for a liner is sought as provided by s. NR 664.0301(2), submit detailed plans, and engineering and hydrogeological reports, as appropriate, describing alternate designs and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time.

2. The double liner and leak (leachate) detection, collection and removal system, if the landfill shall meet s. NR 664.0301(3). If an exemption from the requirements for double liners and a leak detection, collection and removal system or alternative design is sought as provided by s. NR 664.0301(4), (5) or (6), submit appropriate information.

3. If the leak detection system is located in a saturated zone, submit detailed plans and an engineering report explaining the leak detection system design and operation, and the location of the saturated zone in relation to the leak detection system.

4. The construction quality assurance (CQA) plan if required under s. NR 664.0019.

5. Proposed action leakage rate, with rationale, if required under s. NR 664.0302, and response action plan, if required under s. NR 664.0303.

(b) Control of run-on.

(c) Control of run-off.

(d) Management of collection and holding facilities associated with run-on and run-off control systems.

(e) Control of wind dispersal of particulate matter, where applicable.

(3) A description of how each landfill, including the double liner system, leachate collection and removal system, leak detection system, cover system and appurtenances for control of run-on and run-off, will be inspected in order to meet s. NR 664.0303(1), (2) and (3). This information shall be included in the inspection plan submitted under s. NR 670.014(2)(e).

(4) A description of how each landfill, including the liner and cover systems, will be inspected in order to meet s. NR 664.0303(1) and (2). This information shall be included in the inspection plan submitted under s. NR 670.014(2)(e).

(5) Detailed plans and an engineering report describing the final cover which will be applied to each landfill or landfill cell at closure according to s. NR 664.0310(1), and a description of how each landfill will be maintained and monitored after closure according to s. NR 664.0310(2). This information shall be included in the closure and long-term care plans submitted under s. NR 670.014(2)(m).

(6) If ignitable or reactive wastes will be landfilled, an explanation of how the standards of s. NR 664.0312 will be complied with.

(7) If incompatible wastes, or incompatible wastes and materials will be landfilled, an explanation of how s. NR 664.0313 will be complied with.

(8) If bulk or non-containerized liquid waste or wastes containing free liquids is to be landfilled prior to May 8, 1985, an explanation of how s. NR 664.0314(1) will be complied with.

(9) If containers of hazardous waste are to be landfilled, an explanation of how s. NR 664.0315 or 664.0316, as applicable, will be complied with.

(10) A waste management plan for hazardous waste numbers F020, F021, F022, F023, F026 and F027 describing how a landfill is or will be designed, constructed, operated and maintained to meet s. NR 664.0317. This submission shall address all of the following items specified in s. NR 664.0317:

(a) The volume, physical and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere.

(b) The attenuative properties of underlying and surrounding soils or other materials.

(c) The mobilizing properties of other materials co-disposed with these wastes.

(d) The effectiveness of additional treatment, design or monitoring techniques.

NR 670.022 Specific feasibility and plan of operation report information requirements for boilers and industrial furnaces burning hazardous waste. When an owner or operator of a cement or lightweight aggregate kiln demonstrates compliance with the air emission standards and limitations in 40 CFR part 63, subpart EEE (i.e., by conducting a comprehensive performance test and submitting a notification of compliance under 40 CFR 63.1207(j) and 63.1210(b) documenting compliance with 40 CFR part 63, subpart EEE), the requirements of this section do not apply, except those provisions the department determines are necessary to ensure compliance with ss. NR 666.102(5)(a) and 666.102(5)(b)3. if the owner or operator elects to comply with s. NR 670.235(1)(a)1. to minimize emissions of toxic compounds from startup, shutdown and malfunction events. Nevertheless, the department may apply the provisions of this section, on a case-by-case basis, for purposes of information collection according to ss. NR 670.010(11) and 670.032(2)(b).

(1) TRIAL BURNS (a) *General.* Except as provided below, owners and operators that are subject to the standards to control organic emissions provided by s. NR 666.104, standards to control particulate matter provided by s. NR 666.105, standards to control metals emissions provided by s. NR 666.106, or standards to control hydrogen chloride or chlorine gas emissions provided by s. NR 666.107 shall conduct a trial burn to demonstrate conformance with those standards and shall submit a trial burn plan or the results of a trial burn, including all required determinations, according to s. NR 670.066.

1. A trial burn to demonstrate conformance with a particular emission standard may be waived under ss. NR 666.104 to 666.107 and pars. (b) to (e).

2. The owner or operator may submit data in lieu of a trial burn, as prescribed in par. (f).

(b) *Waiver of trial burn for DRE* 1. 'Boilers operated under special operating requirements.' When seeking to be licensed under ss. NR 666.104(1)(d) and 666.110 that automatically waive the DRE trial burn, the owner or operator of a boiler shall submit documentation that the boiler operates under the special operating requirements provided by s. NR 666.110.

2. 'Boilers and industrial furnaces burning low risk waste.' When seeking to be licensed under the provisions for low risk waste provided by ss. NR 666.104(1)(e) and s. NR 666.109(1) that waive the DRE trial burn, the owner or operator shall submit all of the following:

a. Documentation that the device is operated in conformance with s. NR 666.109(1)(a).

b. Results of analyses of each waste to be burned, documenting the concentrations of nonmetal compounds listed in ch. NR 661, Appendix VIII, except for those constituents that would reasonably not be expected to be in the waste. Identify the constituents excluded from analysis and explain the basis for their exclusion. The analysis shall rely on the analytical techniques in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA SW-846, incorporated by reference in s. NR 660.11.

c. Documentation of hazardous waste firing rates and calculations of reasonable, worst-case emission rates of each constituent identified in subd. 2.b. using procedures provided by s. NR 666.109(1)(b)2.

d. Results of emissions dispersion modeling for emissions identified in subd. 2.c. using modeling procedures prescribed by s. NR 666.106(8). The department will review the emission modeling conducted by the applicant to determine conformance with these procedures. The department will either approve the modeling or determine that alternate or supplementary modeling is appropriate.

e. Documentation that the maximum annual average ground level concentration of each constituent identified in subd. 2.b. quantified in conformance with sub. 2.d. does not exceed the allowable ambient

level established in ch. NR 666, Appendix IV or V. The acceptable ambient concentration for emitted constituents for which a specific reference air concentration has not been established in Appendix IV or risk specific dose has not been established in Appendix V is 0.1 micrograms per cubic meter, as noted in the footnote to Appendix IV.

(c) *Waiver of trial burn for metals.* When seeking to be licensed under the Tier I (or adjusted Tier I) metals feed rate screening limits provided by s. NR 666.106(2) and (5) that control metals emissions without requiring a trial burn, the owner or operator shall submit all of the following:

1. Documentation of the feed rate of hazardous waste, other fuels and industrial furnace feed stocks.

2. Documentation of the concentration of each metal controlled by s. NR 666.106(2) or (5) in the hazardous waste, other fuels and industrial furnace feedstocks, and calculations of the total feed rate of each metal.

3. Documentation of how the applicant will ensure that the Tier I feed rate screening limits provided by s. NR 666.106(2) or (5) will not be exceeded during the averaging period provided by that subsection.

4. Documentation to support the determination of the terrain-adjusted effective stack height, good engineering practice stack height, terrain type and land use as provided by s. 666.106(2)(c) to (e).

5. Documentation of compliance with s. NR 666.106(2)(f), if applicable, for facilities with multiple stacks.

6. Documentation that the facility does not fail the criteria provided by s. NR 666.106(2)(g) for eligibility to comply with the screening limits.

7. Proposed sampling and metals analysis plan for the hazardous waste, other fuels and industrial furnace feed stocks.

(d) *Waiver of trial burn for particulate matter.* When seeking to be licensed under the low risk waste provisions of s. NR 666.109(2) which waives the particulate standard (and trial burn to demonstrate conformance with the particulate standard), applicants shall submit documentation supporting conformance with subs. (1)(b)2. and (1)(c).

(e) *Waiver of trial burn for HCl and Cl_2.* When seeking to be licensed under the Tier I (or adjusted Tier I) feed rate screening limits for total chloride and chlorine provided by s. NR 666.107(2)(a) and (5) that control emissions of hydrogen chloride (HCl) and chlorine gas (Cl_2) without requiring a trial burn, the owner or operator shall submit all of the following:

1. Documentation of the feed rate of hazardous waste, other fuels and industrial furnace feed stocks.

2. Documentation of the levels of total chloride and chlorine in the hazardous waste, other fuels and industrial furnace feedstocks, and calculations of the total feed rate of total chloride and chlorine.

3. Documentation of how the applicant will ensure that the Tier I (or adjusted Tier I) feed rate screening limits provided by s. NR 666.107(2)(a) or (5) will not be exceeded during the averaging period provided by that paragraph or subsection.

4. Documentation to support the determination of the terrain-adjusted effective stack height, good engineering practice stack height, terrain type and land use as provided by s. NR 666.107(2)(c).

5. Documentation of compliance with s. NR 666.107(2)(d), if applicable, for facilities with multiple stacks.

6. Documentation that the facility does not fail the criteria provided by s. NR 666.107(2)(c) for eligibility to comply with the screening limits.

7. Proposed sampling and analysis plan for total chloride and chlorine for the hazardous waste, other fuels and industrial furnace feedstocks.

(f) *Data in lieu of trial burn.* The owner or operator may seek an exemption from the trial burn requirements to demonstrate conformance with ss. NR 666.104 to 666.107 and 670.066 by providing the information required by s. NR 670.066 from previous compliance testing of the device in conformance with s. NR 666.103, or from compliance testing or trial or operational burns of similar boilers or industrial furnaces burning similar hazardous wastes under similar conditions. If data from a similar device is used to support a trial burn waiver, the design and operating information required by s. NR

670.066 shall be provided for both the similar device and the device to which the data is to be applied, and a comparison of the design and operating information shall be provided. The department shall approve a license application without a trial burn if the department finds that the hazardous wastes are sufficiently similar, the devices are sufficiently similar, the operating conditions are sufficiently similar and the data from other compliance tests, trial burns or operational burns are adequate to specify (under s. NR 666.102) operating conditions that will ensure conformance with s. NR 666.102(3). In addition, all of the following information shall be submitted:

1. For a waiver from any trial burn:

a. A description and analysis of the hazardous waste to be burned compared with the hazardous waste for which data from compliance testing, or operational or trial burns are provided to support the contention that a trial burn is not needed.

b. The design and operating conditions of the boiler or industrial furnace to be used, compared with that for which comparative burn data are available.

c. Supplemental information as the department finds necessary to achieve the purposes of this paragraph.

2. For a waiver of the DRE trial burn, the basis for selection of POHCs used in the other trial or operational burns which demonstrate compliance with the DRE performance standard in s. NR 666.104(1). This analysis shall specify the constituents in ch. NR 661, Appendix VIII, that the applicant has identified in the hazardous waste for which a license is sought, and any differences from the POHCs in the hazardous waste for which burn data are provided.

(2) ALTERNATIVE HC LIMIT FOR INDUSTRIAL FURNACES WITH ORGANIC MATTER IN RAW MATERIALS. Owners and operators of industrial furnaces requesting an alternative HC limit under s. NR 666.104(6) shall submit all of the following information at a minimum:

(a) Documentation that the furnace is designed and operated to minimize HC emissions from fuels and raw materials.

(b) Documentation of the proposed baseline flue gas HC (and CO) concentration, including data on HC (and CO) levels during tests when the facility produced normal products under normal operating conditions from normal raw materials while burning normal fuels and when not burning hazardous waste.

(c) Test burn protocol to confirm the baseline HC (and CO) level including information on the type and flow rate of all feedstreams, point of introduction of all feedstreams, total organic carbon content (or other appropriate measure of organic content) of all nonfuel feedstreams, and operating conditions that affect combustion of fuels and destruction of hydrocarbon emissions from nonfuel sources.

(d) The trial burn plan shall do all of the following:

1. Demonstrate that flue gas HC (and CO) concentrations when burning hazardous waste do not exceed the baseline HC (and CO) level.

2. Identify the types and concentrations of organic compounds listed in ch. NR 661, Appendix VIII, that are emitted when burning hazardous waste in conformance with procedures prescribed by the department.

(e) Implementation plan to monitor over time changes in the operation of the facility that could reduce the baseline HC level and procedures to periodically confirm the baseline HC level.

(f) Other information as the department finds necessary to achieve the purposes of this subsection.

(3) ALTERNATIVE METALS IMPLEMENTATION APPROACH. When seeking to be licensed under an alternative metals implementation approach under s. NR 666.106(6), the owner or operator shall submit documentation specifying how the approach ensures compliance with the metals emissions standards of s. NR 666.106(3) or (4) and how the approach can be effectively implemented and monitored. Further, the owner or operator shall provide other information that the department finds necessary to achieve the purposes of this subsection.

(4) AUTOMATIC WASTE FEED CUTOFF SYSTEM. Owners and operators shall submit information describing the automatic waste feed cutoff system, including any pre-alarm systems that may be used.

(5) DIRECT TRANSFER. Owners and operators that use direct transfer operations to feed hazardous waste from transport vehicles (containers, as defined in s. NR 666.111) directly to the boiler or industrial furnace shall submit information supporting conformance with the standards for direct transfer provided by s. NR 666.111.

(6) RESIDUES. Owners and operators that claim that their residues are excluded from regulation under s. NR 666.112 shall submit information adequate to demonstrate conformance with that section.

NR 670.023 Specific feasibility and plan of operation report information requirements for miscellaneous units. Except as otherwise provided in s. NR 664.0600, owners and operators of facilities that treat, store or dispose of hazardous waste in miscellaneous units shall provide all of the following additional information:

(1) A detailed description of the unit being used or proposed for use, including all of the following:

(a) Physical characteristics, materials of construction and dimensions of the unit.

(b) Detailed plans and engineering reports describing how the unit will be located, designed, constructed, operated, maintained, monitored, inspected and closed to comply with ss. NR 664.0601 and 664.0602.

(c) For disposal units, a detailed description of the plans to comply with the long-term care requirements of s. NR 664.0603.

(2) Detailed hydrologic, geologic and meteorologic assessments and land-use maps for the region surrounding the site that address and ensure compliance of the unit with each factor in the environmental performance standards of s. NR 664.0601. If the applicant can demonstrate that the applicant does not violate the environmental performance standards of s. NR 664.0601 and the department agrees with the demonstration, preliminary hydrologic, geologic and meteorologic assessments will suffice.

(3) Information on the potential pathways of exposure of humans or environmental receptors to hazardous waste or hazardous constituents and on the potential magnitude and nature of exposures.

(4) For any treatment unit, a report on a demonstration of the effectiveness of the treatment based on laboratory or field data.

(5) Any additional information determined by the department to be necessary for evaluation of compliance of the unit with the environmental performance standards of s. NR 664.0601.

NR 670.024 Specific feasibility and plan of operation report information requirements for process vents. Except as otherwise provided in s. NR 664.0001, owners and operators of facilities that have process vents to which subch. AA of ch. NR 664 applies shall provide all of the following additional information:

(1) For facilities that cannot install a closed-vent system and control device to comply with subch. AA of ch. NR 664 on the effective date that the facility becomes subject to subch. AA of ch. NR 664 or 665, an implementation schedule as specified in s. NR 664.1033(1)(b).

(2) Documentation of compliance with the process vent standards in s. NR 664.1032, including all of the following:

(a) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan).

(b) Information and data supporting estimates of vent emissions and emission reduction achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, estimates of vent emissions and emission reductions shall be made using operating parameter values (e.g., temperatures, flow rates or concentrations) that represent the conditions that exist when the waste management unit is operating at the highest load or capacity level reasonably expected to occur.

(c) Information and data used to determine whether or not a process vent is subject to s. NR 664.1032.

(3) Where an owner or operator applies for permission to use a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser or carbon adsorption system to comply with s. NR 664.1032, and chooses to use test data to determine the organic removal efficiency or the total organic compound concentration achieved by the control device, a performance test plan as specified in s. NR 664.1035(2)(c).

(4) Documentation of compliance with s. NR 664.1033, including all of the following:

(a) A list of all information references and sources used in preparing the documentation.

(b) Records, including the dates, of each compliance test required by s. NR 664.1033(11).

(c) A design analysis, specifications, drawings, schematics and piping and instrumentation diagrams based on the appropriate sections of APTI Course 415: Control of Gaseous Emissions, incorporated by reference in s. NR 660.11, or other engineering texts acceptable to the department that present basic control device design information. The design analysis shall address the vent stream characteristics and control device operation parameters as specified in s. NR 664.1035(2)(d).

(d) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(e) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 weight % or greater unless the total organic emission limits of s. NR 664.1032(1) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight %.

NR 670.025 Specific feasibility and plan of operation report information requirements for equipment. Except as otherwise provided in s. NR 664.0001, owners and operators of facilities that have equipment to which subch. BB of ch. NR 664 applies shall provide all of the following additional information:

(1) For each piece of equipment to which subch. BB of ch. NR 664 applies, provide all of the following:

(a) Equipment identification number and hazardous waste management unit identification.

(b) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).

(c) Type of equipment (e.g., a pump or pipeline valve).

(d) Percent by weight total organics in the hazardous waste stream at the equipment.

(e) Hazardous waste state at the equipment (e.g., gas, vapor or liquid).

(f) Method of compliance with the standard (e.g., monthly leak detection and repair or equipped with dual mechanical seals).

(2) For facilities that cannot install a closed-vent system and control device to comply with subch. BB of ch. NR 664 on the effective date that the facility becomes subject to subch. BB of ch. NR 664 or 665, an implementation schedule as specified in s. NR 664.1033(1)(b).

(3) Where an owner or operator applies for permission to use a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser or carbon adsorption system and chooses to use test data to determine the organic removal efficiency or the total organic compound concentration achieved by the control device, a performance test plan as specified in s. NR 664.1035(2)(c).

(4) Documentation that demonstrates compliance with the equipment standards in ss. NR 664.1052 to 664.1059. This documentation shall contain the records required under s. NR 664.1064. The department may request further documentation before deciding if compliance has been demonstrated.

(5) Documentation to demonstrate compliance with s. NR 664.1060 shall include all of the following information:

(a) A list of all information references and sources used in preparing the documentation.

(b) Records, including the dates, of each compliance test required by s. NR 664.1033(10).

(c) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of ATPI Course 415: Control of Gaseous Emissions, incorporated by reference in s. NR 660.11, or other engineering texts acceptable to the department that present basic control device design information. The design analysis shall address the vent stream characteristics and control device operation parameters as specified in s. NR 664.1035(2)(d)3.

(d) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur.

(e) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 weight % or greater.

NR 670.026 Specific feasibility and plan of operation report information requirements for drip pads. Except as otherwise provided by s. NR 664.0001, owners and operators of hazardous waste treatment, storage or disposal facilities that collect, store or treat hazardous waste on drip pads shall provide all of the following additional information:

(1) A list of hazardous wastes placed or to be placed on each drip pad.

(2) If an exemption is sought to subch. F of ch. NR 664, as provided by s. NR 664.0090, detailed plans and an engineering report describing how s. NR 664.0090(2)(b) will be met.

(3) Detailed plans and an engineering report describing how the drip pad is or will be designed, constructed, operated and maintained to meet s. NR 664.0573, including the as-built drawings and specifications. This submission shall address all of the following items as specified in s. NR 664.0571:

(a) The design characteristics of the drip pad.

(b) The liner system.

(c) The leakage detection system, including the leak detection system and how it is designed to detect the failure of the drip pad or the presence of any releases of hazardous waste or accumulated liquid at the earliest practicable time.

(d) Practices designed to maintain drip pads.

(e) The associated collection system.

(f) Control of run-on to the drip pad.

(g) Control of run-off from the drip pad.

(h) The interval at which drippage and other materials will be removed from the associated collection system and a statement demonstrating that the interval will be sufficient to prevent overflow onto the drip pad.

(i) Procedures for cleaning the drip pad at least once every 7 days to ensure the removal of any accumulated residues of waste or other materials, including but not limited to rinsing, washing with detergents or other appropriate solvents, or steam cleaning and provisions for documenting the date, time and cleaning procedure used each time the pad is cleaned.

(j) Operating practices and procedures that will be followed to ensure that tracking of hazardous waste or waste constituents off the drip pad due to activities by personnel or equipment is minimized.

(k) Procedures for ensuring that, after removal from the treatment vessel, treated wood from pressure and non-pressure processes is held on the drip pad until drippage has ceased, including recordkeeping practices.

(L) Provisions for ensuring that collection and holding units associated with the run-on and run-off control systems are emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system.

(m) If treatment is carried out on the drip pad, details of the process equipment used, and the nature and quality of the residuals.

(n) A description of how each drip pad, including appurtenances for control of run-on and run-off, will be inspected in order to meet s. NR 664.0573. This information shall be included in the inspection plan submitted under s. NR 670.014(2)(e).

(o) A certification signed by an independent qualified, registered professional engineer, stating that the drip pad design meets subs. (1) to (6) of s. NR 664.0573.

(p) A description of how hazardous waste residues and contaminated materials will be removed from the drip pad at closure, as required under s. NR 664.0575(1). For any waste not to be removed from the drip pad upon closure, the owner or operator shall submit detailed plans and an engineering report describing how s. NR 664.0310(1) and (2) will be complied with. This information shall be included in the closure plan and, where applicable, the long-term care plan submitted under s. NR 670.014(2)(m).

NR 670.027 Specific feasibility and plan of operation report information requirements for air emission controls for tanks, surface impoundments and containers. (1) Except as otherwise provided in s. NR 664.0001, owners and operators of tanks, surface impoundments or containers that use air emission controls according to subch. CC of ch. NR 664 shall provide all of the following additional information:

(a) Documentation for each floating roof cover installed on a tank subject to s. NR 664.1084(4)(a) or (b) that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the applicable design specifications as listed in s. NR 664.1084(5)(a) or (6)(a).

(b) Identification of each container area subject to subch. CC of ch. NR 664 and certification by the owner or operator that the requirements of this subchapter are met.

(c) Documentation for each enclosure used to control air pollutant emissions from tanks or containers according to s. NR 664.1084(4)(e) or 664.1086(5)(a)2. that includes records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in ”Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure” under 40 CFR 52.741, appendix B.

(d) Documentation for each floating membrane cover installed on a surface impoundment according to s. NR 664.1085(3) that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the specifications listed in s. NR 664.1085(3)(a).

(e) Documentation for each closed-vent system and control device installed according to s. NR 664.1087 that includes design and performance information as specified in s. NR 670.024(3) and (4).

(f) An emission monitoring plan for both Method 21 in 40 CFR part 60, appendix A, incorporated by reference in s. NR 660.11, and control device monitoring methods. This plan shall include the following information: monitoring points, monitoring methods for control devices, monitoring frequency, procedures for documenting exceedances and procedures for mitigating noncompliances.

(g) When an owner or operator of a facility subject to subch. CC of ch. NR 665 cannot comply with subch. CC of ch. NR 664 by the date of license issuance, the schedule of implementation required under s. NR 665.1082.

NR 670.028 Information requirements for long-term care licenses. For long-term care licenses, the owner or operator shall submit only the information specified in ss. NR 670.014(2)(a), (d) to (f), (k), (m), (n), (p) and (s), (3) and (4), unless the department determines that additional information from s. NR 670.014, 670.016, 670.017, 670.018 or 670.021 is necessary. The owner or operator shall submit the same information when an alternative authority is used in lieu of a long-term care license as provided in s. NR 670.001(3)(g).

NR 670.029 License denial. The department may, pursuant to the procedures in s. NR 670.043(2) and subch. L, deny the license application either in its entirety or as to the active life of a hazardous waste management facility or unit only.

Subchapter C —License Conditions

NR 670.030 Conditions applicable to all operating licenses. The following conditions apply to all hazardous waste licenses, and shall be incorporated into the operating license either expressly or by reference. If incorporated by reference, a specific citation to this chapter shall be given in the license.

(1) DUTY TO COMPLY. The licensee shall comply with all conditions of the operating license, except that the licensee need not comply with the conditions of the operating license to the extent and for the duration the noncompliance is authorized in an emergency license under s. NR 670.061. Any license noncompliance, except under the terms of an emergency license, constitutes a violation of ch. 291, Stats., and chs. NR 660 to 673 and is grounds for enforcement action; for license revocation, suspension, or modification; or for denial of a license reissuance application.

(2) DUTY TO REAPPLY. If the licensee wishes to continue an activity regulated by an operating license after the expiration date of the operating license, the licensee shall apply for and obtain a new operating license.

(3) NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE. It is not a defense for a licensee in an enforcement action that it would have been necessary to halt or reduce the licensed activity in order to maintain compliance with the conditions of the license.

(4) LICENSE NONCOMPLIANCE. In the event of noncompliance with the license, the licensee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

(5) PROPER OPERATION AND MAINTENANCE. The licensee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the licensee to achieve compliance with the conditions of the license. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the license.

(6) LICENSE ACTIONS. A license may be modified, suspended, or revoked. The filing of a request by the licensee for a license modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any license condition.

(7) PROPERTY RIGHTS. The license does not convey any property rights of any sort, or any exclusive privilege.

(8) DUTY TO PROVIDE INFORMATION. The licensee shall furnish to the department, within a reasonable time, any relevant information which the department may request to determine whether cause exists for modifying, revoking or suspending the license, or to determine compliance with the license. The licensee shall also furnish to the department, upon request, copies of records required to be kept by the license.

(9) INSPECTION AND ENTRY. The licensee shall allow any employee, officer or authorized representative of the department, with notice provided no later than upon arrival, to do all of the following:

(a) Enter the licensee's premises where a regulated facility or activity is located or conducted, or where records are kept.

(b) Have access to and copy, at reasonable times, any records relating to hazardous waste.

(c) Inspect any facilities, vehicles, equipment (including monitoring and control equipment), practices or operations and any hazardous waste facility construction project.

(d) Monitor or sample, in compliance with s. 291.91(2), Stats., any substances or parameters at any location where a regulated facility or activity is located or conducted.

(10) MONITORING AND RECORDS. (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) The licensee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this license, the certification required by s. NR 664.0073(2)(i), and records of all data used to complete the application for this license, for a period of at least 3 years from the date of the sample, measurement, report, certification or application. This period may be extended by request of the department at any time. The licensee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities for the long-term care period as well.

(c) Records for monitoring information shall include all of the following:

1. The date, exact place and time of sampling or measurements.
2. The individuals who performed the sampling or measurements.
3. The dates analyses were performed.
4. The individuals who performed the analyses.
5. The analytical techniques or methods used.
6. The results of these analyses.

(11) SIGNATORY REQUIREMENTS. All applications, reports or information submitted to the department shall be signed and certified (see s. NR 670.011).

(12) REPORTING REQUIREMENTS. (a) *Planned changes.* The owner or operator shall give notice to the department as soon as possible of any planned physical alterations or additions to the licensed facility.

(b) *Anticipated noncompliance*. The owner or operator shall give advance notice to the department of any planned changes in the licensed facility or activity which may result in noncompliance with license requirements. For a new facility, the owner or operator may not treat, store or dispose of hazardous waste; and for a facility being modified, the owner or operator may not treat, store or dispose of hazardous waste in the modified portion of the facility except as provided in s. NR 670.042, until the owner or operator has submitted to the department by certified mail or hand delivery a letter signed by the owner or operator and a registered professional engineer stating that the facility has been constructed or modified in compliance with the approved feasibility and plan of operation report and one of the following:

1. The department has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the approved feasibility and plan of operation report.
2. Within 15 days of the date of submission of the letter in this paragraph, the owner or operator has not received notice from the department of the department's intent to inspect, prior inspection is waived and the department shall proceed with issuing the operating license.

(c) *Transfers*. This license is not transferable to any person except after notice to the department. The department may require modification or revocation and reissuance of the license to change the name of the licensee and incorporate other requirements as may be necessary under s. 289.6, Stats, and s. NR 670.040.

(d) *Monitoring reports*. Monitoring results shall be reported at the intervals specified elsewhere in this license.

(e) *Compliance schedules*. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this license shall be submitted no later than 14 days following each schedule date.

(f) *Twenty four hour reporting*. 1. The licensee shall orally report any noncompliance which may endanger health or the environment within 24 hours from the time the licensee becomes aware of the circumstances, including all of the following:

a. Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.

b. Any information of a release or discharge of hazardous waste or of a fire or explosion from the HWM facility, which could threaten the environment or human health outside the facility.

2. The description of the occurrence and its cause shall include all of the following:

a. Name, address and telephone number of the owner or operator.

b. Name, address and telephone number of the facility.

c. Date, time and type of incident.

d. Name and quantity of materials involved.

e. The extent of injuries, if any.

f. An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable.

g. Estimated quantity and disposition of recovered material that resulted from the incident.

3. A written submission shall also be provided to the department within 5 days of the time the licensee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance. The department may waive the 5 day written notice requirement in favor of a written report within 15 days.

Note: A person responsible for the discharge of a hazardous substance must comply with the applicable requirements of s. 292.11, Stats. and ch. NR 706 which includes giving notice to division of emergency management at (800) 943-0003.

(g) M*anifest discrepancy report*. If a significant discrepancy in a manifest is discovered, the licensee shall attempt to reconcile the discrepancy. If not resolved within 15 days, the licensee shall submit a letter report, including a copy of the manifest, to the department (see s. NR 664.0072).

(h) *Unmanifested waste report*. An unmanifested waste report shall be submitted to the department within 15 days of receipt of unmanifested waste (see s. NR 664.0076).

(i) *Annual report*. An annual report shall be submitted covering facility activities during each calendar year (see s. NR 664.0075).

(j) *Other noncompliance*. The licensee shall report all instances of noncompliance not reported under pars. (d), (e) and (f), at the time monitoring reports are submitted. The reports shall contain the information listed in par. (f).

(k) *Other information*. Where the licensee becomes aware that it failed to submit any relevant facts in the license application, or submitted incorrect information in the license application or in any report to the department, it shall promptly submit the facts or information.

(13) *Information repository.* The department may require the licensee to establish and maintain an information repository at any time, based on the factors set forth in s. NR 670.433(2). The information repository will be governed by the provisions in s. NR 670.433(3) to (6).

NR 670.031 Requirements for recording and reporting of monitoring results. All licenses shall specify the following:

(1) Requirements concerning the proper use, maintenance and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate).

(2) Required monitoring including type, intervals and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring.

(3) Applicable reporting requirements based upon the impact of the regulated activity and as specified in chs. NR 664 and 666.

NR 670.032 Establishing license conditions. (1) In addition to conditions required in all licenses (s. NR 670.030), the department shall establish conditions, as required on a case-by-case basis, in licenses under ss. NR 670.050 (duration of licenses), 670.033(1) (schedules of compliance)and 670.031 (monitoring).

(2)(a) Each license shall include conditions necessary to achieve compliance with ch. 291, Stats., and chs. NR 660 to 673, including each of the applicable requirements specified in chs. NR 664, 666 and 668. In satisfying this provision, the department may incorporate applicable requirements of chs. NR 664, 666 and 668 directly into the license or establish other license conditions that are based on these chapters.

(b) Each license issued under s. 291.25, Stats., shall contain terms and conditions as the department determines necessary to protect human health and the environment.

(3) An applicable requirement is a statutory or regulatory requirement which takes effect prior to final administrative disposition of a license. An applicable requirement is also any requirement which takes effect prior to the modification or revocation and reissuance of a license, to the extent allowed in s. NR 670.041.

(4) New or reissued licenses, and to the extent allowed under s. NR 670.041, modified or revoked and reissued licenses, shall incorporate each of the applicable requirements referenced in this section and in s. NR 670.031.

NR 670.033 Schedules of compliance. (1) SCHEDULES OF COMPLIANCE. The license may, when appropriate, specify a schedule of compliance leading to compliance with ch. 291, Stats., and chs. NR 660 to 673.

(a) *Time for compliance.* Any schedules of compliance under this section shall require compliance as soon as possible.

(b) *Interim dates.* Except as provided in subd. 2., if a license establishes a schedule of compliance which exceeds one year from the date of license issuance, the schedule shall set forth interim requirements and the dates for their achievement.

1. The time between interim dates may not exceed one year.

2. If the time necessary for completion of any interim requirement is more than one year and is not readily divisible into stages for completion, the license shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

(c) *Reporting*. The license shall be written to require that no later than 14 days following each interim date and the final date of compliance, the licensee shall notify the department in writing, of its compliance or noncompliance with the interim or final requirements.

(2) ALTERNATIVE SCHEDULES OF COMPLIANCE. A license applicant or licensee may cease conducting regulated activities (by receiving a terminal volume of hazardous waste and, for treatment and storage HWM facilities, closing pursuant to applicable requirements; and, for disposal HWM facilities, closing and conducting long-term care pursuant to applicable requirements) rather than continue to operate and meet license requirements as follows:

(a) If the licensee decides to cease conducting regulated activities at a given time within the term of a license which has already been issued:

1. The license may be modified to contain a new or additional schedule leading to timely cessation of activities, or

2. The licensee shall cease conducting licensed activities before noncompliance with any interim or final compliance schedule requirement already specified in the license.

(b) If the decision to cease conducting regulated activities is made before issuance of a license whose term will include the revocation date, the license shall contain a schedule leading to revocation which will ensure timely compliance with applicable requirements.

(c) If the licensee is undecided whether to cease conducting regulated activities, the department may issue or modify a license to contain 2 schedules as follows:

1. Both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities no later than a date which ensures sufficient time to comply with applicable requirements in a timely manner if the decision is to continue conducting regulated activities.

2. One schedule shall lead to timely compliance with applicable requirements.

3. The second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements.

4. Each license containing 2 schedules shall include a requirement that after the licensee has made a final decision under subd. 1. it shall follow the schedule leading to compliance if the decision is to continue conducting regulated activities, and follow the schedule leading to revocation if the decision is to cease conducting regulated activities.

(d) The applicant's or licensee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the department, such as resolution of the board of directors of a corporation.

Subchapter D —Changes to Licenses

NR 670.040 Transfer of licenses. (1) A license may be transferred by the licensee to a new owner or operator only if the license has been modified or revoked and reissued (under s. NR 670.040(2) or 670.041(2)(b)) to identify the new licensee and incorporate other requirements as may be necessary under s. 289.46, Stats., and chs. NR 660 to 673.

(2) Changes in the ownership or operational control of a facility may be made as a Class 1 modification with prior written approval of the department according to s. NR 670.042. The new owner or operator shall submit a revised license application no later than 90 days prior to the scheduled change. A written agreement containing a specific date for transfer of license responsibility between the current and new licensees shall also be submitted to the department. When a transfer of ownership or operational control occurs, the old owner or operator shall comply with subch. H of ch. NR 664 (Financial Requirements) until notified by the department that the new owner or operator has demonstrated that the owner or operator is complying with that subchapter. The new owner or operator shall demonstrate compliance with subch. H requirements within 6 months of the date of the change of ownership or operational control of the facility. Upon demonstration to the department by the new owner or operator of compliance with subch. H, the department shall notify the old owner or operator that the owner or operator no longer needs to comply with subch. H as of the date of demonstration.

NR 670.041 Modification or revocation and reissuance of licenses. When the department receives any information (for example, inspects the facility, receives information submitted by the licensee as required in the license (see s. NR 670.030), receives a request for revocation and reissuance under s. NR 670.405 or conducts a review of the license file), the department may determine whether one or more of the causes listed in subs. (1) and (2) for modification, or revocation and reissuance or both exist. If cause exists, the department may modify or revoke and reissue the license accordingly, subject to the limitations of sub. (3), and may request an updated application if necessary. When a license is modified, only the conditions subject to modification are reopened. If a license is revoked and reissued, the entire license is reopened and subject to revision and the license is reissued for a new term. (See s. NR 670.405(3)(b).) If cause does not exist under this section or s. 289.30(8) Stats., the department may not modify or revoke and reissue the license, except on request of the licensee. If a license modification is requested by the licensee, the department shall approve or deny the request according to the procedures of s. NR 670.042. Otherwise, a preliminary determination of the feasibility and plan of operation report shall be prepared and other procedures in ss. NR 670.401 to 670.433 followed.

(1) CAUSES FOR MODIFICATION. The following are causes for modification, but not revocation and reissuance, of licenses; the following may be causes for revocation and reissuance, as well as modification, when the licensee requests or agrees.

(a) *Alterations.* There are material and substantial alterations or additions to the licensed facility or activity which occurred after license issuance which justify the application of license conditions that are different or absent in the existing license.

(b) *Information.* The department has received information. Licenses may be modified during their terms for this cause only if the information was not available at the time of license issuance (other than revised rules, guidance or test methods) and would have justified the application of different license conditions at the time of issuance.

(c) *New statutory requirements or rules.* The standards or rules on which the license was based have been changed by statute, through promulgation of new or amended standards or rules, or by judicial decision after the license was issued.

(d) *Compliance schedules.* The department determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood or materials shortage or other events over which the licensee has little or no control and for which there is no reasonably available remedy.

(e) Notwithstanding any other provision in this section, when a license for a land disposal facility is reviewed by the department under s. NR 670.050(4), the department shall modify the license as necessary to assure that the facility continues to comply with the currently applicable requirements in chs. NR 660 to 666 and 670.

(2) CAUSES FOR MODIFICATION OR REVOCATION AND REISSUANCE. All of the following are causes to modify or, alternatively, revoke and reissue a license:

(a) Cause exists for revocation under s. NR 670.043, and the department determines that modification or revocation and reissuance is appropriate.

(b) The department has received notification (as required in the license, see s. NR 670.030(12)(c)) of a proposed transfer of the license.

(3) FACILITY SITING. Suitability of the facility location will not be considered at the time of license modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environmental exists which was unknown at the time of license issuance.

NR 670.042 License modification at the request of the licensee. (1) CLASS 1 MODIFICATIONS. (a) Except as provided in subd. 2., the licensee may put into effect class 1 modifications listed in Appendix I if all of the following conditions are met:

1. The licensee shall notify the department concerning the modification by certified mail or other means that establish proof of delivery within 7 calendar days after the change is put into effect. This notice shall specify the changes being made to license conditions or supporting documents referenced by the license and shall explain why they are necessary. Along with the notice, the licensee shall provide the applicable information required by ss. NR 670.013 to 670.029 and 670.062.

2. The licensee shall send a notice of the modification to all persons on the facility mailing list, maintained by the department, and the appropriate units of state and local government, as specified in s. NR 670.410(3)(a)9. This notification shall be made within 90 calendar days after the change is put into effect. For the class I modifications that require prior department approval, the notification shall be made within 90 calendar days after the department approves the request.

3. Any person may request the department to review, and the department may for cause reject, any class 1 modification. The department shall inform the licensee by certified mail that a class 1 modification has been rejected, explaining the reasons for the rejection. If a class 1 modification has been rejected, the licensee shall comply with the original license conditions.

(b) Class 1 license modifications identified in Appendix I by a footnote may be made only with the prior written approval of the department.

(c) For a class 1 license modification, the licensee may elect to follow the procedures in sub. (2) for class 2 modifications instead of the class 1 procedures. The licensee shall inform the department of this decision in the notice required in sub. (2)(a).

(2) CLASS 2 MODIFICATIONS. (a) For class 2 modifications, listed in Appendix I, the licensee shall submit a modification request to the department that does all of the following:

1. Describes the exact change to be made to the license conditions and supporting documents referenced by the license.

2. Identifies that the modification is a class 2 modification.

3. Explains why the modification is needed.

4. Provides the applicable information required by ss. NR 670.013 to 670.029 and 670.062.

(b) The licensee shall send a notice of the modification request to all persons on the facility mailing list maintained by the department and to the appropriate units of state and local government as specified in s. NR 670.410(3)(a)9. and shall publish this notice in a major local newspaper of general circulation. This notice shall be mailed and published within 7 days before or after the date of submission of the modification request, and the licensee shall provide to the department evidence of the mailing and publication. The notice shall include all of the following:

1. Announcement of a 45-day comment period, according to par. (e), and the name and address of a department contact to whom comments shall be sent.

2. Announcement of the date, time and place for a public meeting held according to par. (d).

3. Name and telephone number of the licensee's contact person.

4. Name and telephone number of a department-designated contact person.

5. Location where copies of the modification request and any supporting documents can be viewed and copied.

6. The following statement: "The licensee's compliance history during the life of the license being modified is available from the department contact person."

(c) The licensee shall place a copy of the license modification request and supporting documents in a location accessible to the public in the vicinity of the licensed facility.

(d) The licensee shall hold a public meeting no earlier than 15 days after the publication of the notice required in par. (b) and no later than 15 days before the close of the 45-day comment period. The meeting shall be held to the extent practicable in the vicinity of the licensed facility.

(e) The public shall be provided 45 days to comment on the modification request. The comment period will begin on the date the licensee publishes the notice in the local newspaper. Comments shall be submitted to the department contact identified in the public notice.

(f) 1. No later than 90 days after receipt of the notification request, the department shall do one of the following:

a. Approve the modification request, with or without changes, and modify the license accordingly.

b. Deny the request.

c. Determine that the modification request shall follow the procedures in sub. (3) for class 3 modifications for either of the following reasons:

1) There is significant public concern about the proposed modification.

2) The complex nature of the change requires the more extensive procedures of class 3.

d. Approve the request, with or without changes, as a temporary authorization having a term of up to 180 days.

3. If the department approves or denies the modification request during the term of the temporary authorization provided for in subd. 1., this action cancels the temporary authorization.

6. In making a decision to approve or deny a modification request, including a decision to issue a temporary authorization or to reclassify a modification as a class 3, the department shall consider all written comments submitted to the department during the public comment period and shall respond in writing to all significant comments in the department's decision.

(g) The department may deny or change the terms of a class 2 license modification request under subds. 1. to 3. for any of the following reasons:

1. The modification request is incomplete.

2. The requested modification does not comply with ch. NR 664 or other applicable requirements.

3. The conditions of the modification fail to protect human health and the environment.

(h) The licensee may perform any construction associated with a class 2 license modification request beginning 60 days after the submission of the request unless the department establishes a later date for commencing construction and informs the licensee in writing before day 60.

(3) CLASS 3 MODIFICATIONS. (a) For class 3 modifications listed in Appendix I, the licensee shall submit a modification request to the department that does all of the following:

1. Describes the exact change to be made to the license conditions and supporting documents referenced by the license.

2. Identifies that the modification is a class 3 modification.

3. Explains why the modification is needed.

4. Provides the applicable information required by ss. NR 670.007, 670.013 to 670.029, 670.062 and 670.066.

(b) The licensee shall send a notice of the modification request to all persons on the facility mailing list maintained by the department and to the appropriate units of state and local government as specified in s. NR 670.410(3)(a)9. and shall publish this notice in a major local newspaper of general circulation. This notice shall be mailed and published within 7 days before or after the date of submission of the modification request, and the licensee shall provide to the department evidence of the mailing and publication. The notice shall include all of the following:

1. Announcement of a 45-day comment period, and a name and address of a department contact to whom comments shall be sent.

2. Announcement of the date, time and place for a public meeting on the modification request, according to par. (d).

3. Name and telephone number of the licensee's contact person.

4. Name and telephone number of a department contact person.

5. Location where copies of the modification request and any supporting documents can be viewed and copied.

6. The following statement: "The licensee's compliance history during the life of the license being modified is available from the department contact person."

(c) The licensee shall place a copy of the license modification request and supporting documents in a location accessible to the public in the vicinity of the licensed facility.

(d) The licensee shall hold a public meeting no earlier than 15 days after the publication of the notice required in par. (b) and no later than 15 days before the close of the 45-day comment period. The meeting shall be held to the extent practicable in the vicinity of the licensed facility.

(e) The public shall be provided at least 45 days to comment on the modification request. The comment period will begin on the date the licensee publishes the notice in the local newspaper. Comments shall be submitted to the department contact identified in the notice.

(f) After the conclusion of the 45-day comment period, the department shall grant or deny the license modification request according to the license modification procedures of this chapter. In addition, the department shall consider and respond to all significant written comments received during the 45-day comment period.

(4) OTHER MODIFICATIONS. (a) In the case of modifications not explicitly listed in Appendix I, the licensee may submit a class 3 modification request to the department, or the licensee may request a determination by the department that the modification shall be reviewed and approved as a class 1 or class 2 modification. If the licensee requests that the modification be classified as a class 1 or 2 modification, the licensee shall provide the department with the necessary information to support the requested classification.

(b) The department shall make the determination described in par. (a) as promptly as practicable. In determining the appropriate class for a specific modification, the department shall consider the similarity of the modification to other modifications codified in Appendix I and all of the following criteria:

1. Class 1 modifications apply to minor changes that keep the license current with routine changes to the facility or its operation. These changes do not substantially alter the license conditions or reduce the capacity of the facility to protect human health or the environment. In the case of class 1 modifications, the department may require prior approval.

2. Class 2 modifications apply to changes that are necessary to enable a licensee to respond, in a timely manner, to all of the following:

a. Common variations in the types and quantities of the wastes managed under the facility license.

b. Technological advancements.

c. Changes necessary to comply with new rules, where these changes can be implemented without substantially changing design specifications or management practices in the license.

3. Class 3 modifications substantially alter the facility or its operation.

(5) TEMPORARY AUTHORIZATIONS. (a) Upon request of the licensee, the department may, without prior public notice and comment, grant the licensee a temporary authorization according to this subsection. Temporary authorizations shall have a term of not more than 180 days.

(b)1. The licensee may request a temporary authorization for:

a. Any class 2 modification meeting the criteria in par. (c)2.

b. Any class 3 modification that meets the criteria in par. (c)2.a. or b.; or that meets the criteria in pars. (c)2.c. to e. and provides improved management or treatment of a hazardous waste already listed in the facility license.

2. The temporary authorization request shall include all of the following:

a. A description of the activities to be conducted under the temporary authorization.

b. An explanation of why the temporary authorization is necessary.

c. Sufficient information to ensure compliance with ch. NR 664 standards.

3. The licensee shall send a notice about the temporary authorization request to all persons on the facility mailing list maintained by the department and to appropriate units of state and local governments as specified in s. NR 670.410(3)(a)9. This notification shall be made within 7 days of submission of the authorization request.

(c) The department shall approve or deny the temporary authorization as quickly as practical. To issue a temporary authorization, the department shall find:

1. The authorized activities are in compliance with the standards of ch. NR 664.

2. The temporary authorization is necessary to achieve one of the following objectives before action is likely to be taken on a modification request:

a. To facilitate timely implementation of closure or corrective action activities.

b. To allow treatment or storage in tanks or containers, or in containment buildings according to ch. NR 668.

c. To prevent disruption of ongoing waste management activities.

d. To enable the licensee to respond to sudden changes in the types or quantities of the wastes managed under the facility license.

e. To facilitate other changes to protect human health and the environment.

(d) A temporary authorization may be reissued for one additional term of up to 180 days if the licensee has requested a class 2 or 3 license modification for the activity covered in the temporary authorization, and

1. The reissued temporary authorization constitutes the department's decision on a class 2 license modification according to sub. (2)(f)1.d.

2. The department determines that the reissued temporary authorization involving a class 3 license modification request is warranted to allow the authorized activities to continue while the modification procedures of sub. (3) are conducted.

(6) PUBLIC NOTICE AND APPEALS OF LICENSE MODIFICATION DECISIONS. (a) The department shall notify persons on the facility mailing list and appropriate units of state and local government within 10 days of any decision under this section to grant or deny a class 2 or 3 license modification request.

(b) The department's decision to grant or deny a class 2 or 3 license modification request under this section may be appealed under the license appeal procedures of ss. 227.52 and 227.53, Stats. Department determinations under this chapter are made as part of the process for approving a feasibility and plan of operation report or license under subch. III of ch. 289, Stats., or ch. 291, Stats, and are therefore exempt from s. 227.42(1), Stats.

(7) NEWLY REGULATED WASTES AND UNITS. (a) The licensee is authorized to continue to manage wastes listed or identified as hazardous under ch. NR 661, or to continue to manage hazardous waste in units newly regulated as hazardous waste management units, if all of the following apply:

1. The unit was in existence as a hazardous waste facility with respect to the newly listed or characterized waste or newly regulated waste management unit on the effective date of the final rule listing or identifying the waste, or regulating the unit.

2. The licensee submits a class 1 modification request on or before the date on which the waste or unit becomes subject to the new requirements.

3. The licensee is in compliance with the applicable standards of chs. NR 665 and 666.

4. The licensee also submits a complete class 2 or 3 modification request within 180 days of the effective date of the rule listing or identifying the waste, or subjecting the unit to ch. 291, Stats., and chs. NR 660 to 673 management standards.

5. In the case of land disposal units, the licensee certifies that each unit is in compliance with ch. NR 665 for groundwater monitoring and financial responsibility on the date 12 months after the effective date of the rule identifying or listing the waste as hazardous, or regulating the unit as a hazardous waste management unit. If the owner or operator fails to certify compliance with all these requirements, the owner or operator will lose authority to operate under this section.

(8) MILITARY HAZARDOUS WASTE MUNITIONS TREATMENT AND DISPOSAL. The licensee is authorized to continue to accept waste military munitions notwithstanding any license conditions barring the licensee from accepting off-site wastes, if all of the following apply:

(a) The facility was in existence as a hazardous waste facility, and the facility was already permitted to handle the waste military munitions, on the date when the waste military munitions became subject to hazardous waste regulatory requirements.

(b) On or before the date when the waste military munitions become subject to hazardous waste regulatory requirements, the licensee submits a class 1 modification request to remove or amend the license provision restricting the receipt of off-site waste munitions.

(c) The licensee submits a complete class 2 modification request within 180 days of the date when the waste military munitions became subject to hazardous waste regulatory requirements.

(9) LICENSE MODIFICATION LIST. The department shall maintain a list of all approved license modifications and shall publish a notice once a year in a statewide newspaper that an updated list is available for review.

(10) COMBUSTION FACILITY CHANGES TO MEET 40 CFR PART 63 MACT STANDARDS. The following procedures apply to hazardous waste combustion facility license modifications requested under section L(9) of Appendix I.

(a) Facility owners or operators shall have complied with the notification of intent to comply (NIC) requirements of 40 CFR 63.1210 that were in effect prior to October 11, 2000, (see 40 CFR part 63, revised as of July 1, 2000) in order to request a license modification under this section.

NR 670.043 Revocation, suspension or denial of licenses. (1) Any of the following are causes for denying, suspending, or revoking a license, or for denying a license application:

(a) Noncompliance by the applicant or licensee with any condition of the license or any applicable provisions of chs. NR 660 to NR 679 or ch. 291, Stats.

(b) The applicant or licensee's failure in the license application or during the license issuance process to disclose fully all relevant facts, or the applicant or licensee's misrepresentation of any relevant facts at any time.

(c) A determination that the licensed activity endangers human health or the environment and can only be regulated to acceptable levels by license denial, suspension or revocation.

(d) Failure to pay fees under ss. 291.05(7) and 291.33, Stats.

(2) The department shall follow the procedures in s. 291.87 Stats., in revoking, suspending or denying any license under this section.

Subchapter E —Expiration and Continuation of Licenses

NR 670.050 Duration of licenses. (1) Operating licenses shall be effective for a fixed term of no more than 10 years, but are subject to annual renewal during that term.

(2) Except as provided in s. NR 670.051, the term of an operating license may not be extended by modification beyond the maximum duration specified in this section.

(3) The department may issue any operating license for a duration that is less than the full allowable term under this section.

(4) Each operating license for a land disposal facility shall be reviewed by the department 5 years after the date of license issuance or reissuance and shall be modified as necessary, as provided in s. NR 670.041.

NR 670.051 Continuation of expiring operating licenses. (1) The conditions of an expired operating license continue in force until the department takes final action on a complete application if:

(a) The licensee has submitted a timely application under s. NR 670.014 and the applicable sections of ss. NR 670.015 to NR 670.029 which is a complete application for a new license under NR 670.010(3).

(b) The department through no fault of the licensee, does not issue a new operating license with an effective date under s. NR 670.415 on or before the expiration date of the previous license, for example, when issuance is impracticable due to time or resource constraints.

(2) Operating licenses continued under this section remain fully effective and enforceable.

(3) When the licensee is not in compliance with the conditions of the expiring or expired operating license, the department may choose to do any of the following:

(a) Initiate enforcement action based upon the operating license which has been continued.

(b) Issue a preliminary determination to deny the new operating license under s. NR 670.406. If the new operating license is denied, the owner or operator shall cease the activities authorized by the continued license or be subject to enforcement action for operating without a license.

(c) Issue a new operating license under subch. L with appropriate conditions.

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Subchapter F —Special Forms of Licenses

NR 670.061 Emergency licenses. (1) Notwithstanding any other provision of this chapter, in the event the department finds an imminent and substantial endangerment to human health or the environment the department may issue a temporary emergency license to either of the following:

(a) A non-licensed facility to allow treatment, storage or disposal of hazardous waste.

(b) A licensed facility to allow treatment, storage or disposal of a hazardous waste not covered by an effective license.

(2) This emergency license:

(a) May be oral or written. If oral, it shall be followed in 5 days by a written emergency license.

(b) May not exceed 90 days in duration.

(c) Shall clearly specify the hazardous wastes to be received, and the manner and location of their treatment, storage or disposal.

(d) May be revoked by the department at any time without process if the department determines that revocation is appropriate to protect human health and the environment.

(e) Shall be accompanied by a public notice published under s. NR 670.410 including all of the following:

1. Name and address of the office granting the emergency authorization.
2. Name and location of the licensed HWM facility.
3. A brief description of the wastes involved.
4. A brief description of the action authorized and reasons for authorizing it.
5. Duration of the emergency license.

(f) Shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of this chapter and chs. NR 664 and 666.

NR 670.062 Hazardous waste incinerator licenses. When an owner or operator demonstrates compliance with the air emission standards and limitations in 40 CFR part 63, subpart EEE (i.e., by conducting a comprehensive performance test and submitting a notification of compliance under 40 CFR 63.1207(j) and 63.1210(b) documenting compliance with 40 CFR part 63, subpart EEE), the requirements of this section do not apply, except those provisions the department determines are necessary to ensure compliance with ss. NR 664.0345(1) and 664.0345(3) if the owner or operator elects to comply with s. NR 670.235(1)(a)1. to minimize emissions of toxic compounds from startup, shutdown and malfunction events. The department may apply the provisions of this section, on a case-by-case basis, for purposes of information collection according to ss. NR 670.010(11) and 670.032(2)(b).

(1) For the purposes of determining operational readiness following completion of physical construction, the department shall establish license conditions, including but not limited to allowable waste feeds and operating conditions, in the license to a new hazardous waste incinerator. These license conditions will be effective for the minimum time required to bring the incinerator to a point of operational readiness to conduct a trial burn, not to exceed 720 hours operating time for treatment of hazardous waste. The department may extend the duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The license may be modified to reflect the extension according to s. NR 670.042.

(a) Applicants shall submit a statement, with the feasibility and plan of operation report, which suggests the conditions necessary to operate in compliance with the performance standards of s. NR 664.0343 during this period. This statement shall include, at a minimum, restrictions on waste constituents, waste feed rates and the operating parameters identified in s. NR 664.0345.

(b) The department will review this statement and any other relevant information submitted with the feasibility and plan of operation report and specify requirements for this period sufficient to meet the performance standards of s. NR 664.0343 based on the department's engineering judgment.

(2) For the purposes of determining feasibility of compliance with the performance standards of s. NR 664.0343 and of determining adequate operating conditions under s. NR 664.0345, the department shall establish conditions in the license for a new hazardous waste incinerator to be effective during the trial burn.

(a) Applicants shall propose a trial burn plan, prepared under par. (b) with a feasibility and plan of operation report.

(b) The trial burn plan shall include all of the following information:

1. An analysis of each waste or mixture of wastes to be burned which includes all of the following:

a. Heat value of the waste in the form and composition in which it will be burned.

b. Viscosity (if applicable), or description of the physical form of the waste.

c. An identification of any hazardous organic constituents listed in Appendix VIII of ch. NR 661, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in Appendix VIII of ch. NR 661which would reasonably not be expected to be found in the waste. Identify the constituents excluded from analysis and state the basis for the exclusion. The waste analysis shall rely on the analytical techniques in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11, or other equivalent.

d. An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods in ”Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11, or their equivalent.

2. A detailed engineering description of the incinerator for which the license is sought including all of the following:

a. Manufacturer’s name and model number of incinerator (if available).

b. Type of incinerator.

c. Linear dimensions of the incinerator unit including the cross sectional area of combustion chamber.

d. Description of the auxiliary fuel system (type and feed).

e. Capacity of prime mover.

f. Description of automatic waste feed cut-off systems.

g. Stack gas monitoring and pollution control equipment.

h. Nozzle and burner design.

i. Construction materials.

j. Location and description of temperature, pressure and flow indicating and control devices.

3. A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

4. A detailed test schedule for each waste for which the trial burn is planned including dates, duration, quantity of waste to be burned, and other factors relevant to the department’s decision under par. (e).

5. A detailed test protocol, including, for each waste identified, the ranges of temperature, waste feed rate, combustion gas velocity, use of auxiliary fuel, and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator.

6. A description of, and planned operating conditions for, any emission control equipment which will be used.

7. Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction.

8. Other information as the department reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this subsection and the criteria in par. (e).

(c) The department, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this subsection.

(d) Based on the waste analysis data in the trial burn plan, the department will specify as trial principal organic hazardous constituents (POHCs), those constituents for which destruction and removal efficiencies shall be calculated during the trial burn. These trial POHCs will be specified by the department based on the department’s estimate of the difficulty of incineration of the constituents identified in the waste analysis, their concentration or mass in the waste feed, and, for wastes listed in subch. D of ch. NR 661, the hazardous waste organic constituent or constituents identified in ch. NR 661, Appendix VII as the basis for listing.

(e) The department shall approve a trial burn plan if the department finds that all of the following apply:

1. The trial burn is likely to determine whether the incinerator performance standard required by s. NR 664.0343 can be met.

2. The trial burn itself will not present an imminent hazard to human health or the environment.

3. The trial burn will help the department to determine operating requirements to be specified under s. NR 664.0345.

4. The information sought in subds. 1. and 2. cannot reasonably be developed through other means.

(f) The department shall send a notice to all persons on the facility mailing list as set forth in s. NR 670.410(3)(a)9. and to the appropriate units of state and local government as set forth in s. NR 670.410(3)(a)10. announcing the scheduled commencement and completion dates for the trial burn. The applicant may not commence the trial burn until after the department has issued the notice.

1. This notice shall be mailed within a reasonable time period before the scheduled trial burn. An additional notice is not required if the trial burn is delayed due to circumstances beyond the control of the facility or the department.

2. This notice shall contain all of the following:

a. The name and telephone number of the applicant's contact person.

b. The name and telephone number of the department's contact office.

c. The location where the approved trial burn plan and any supporting documents can be reviewed and copied.

d. An expected time period for commencement and completion of the trial burn.

(g) During each approved trial burn, or as soon after the burn as is practicable, the applicant shall make all of the following determinations:

1. A quantitative analysis of the trial POHCs in the waste feed to the incinerator.

2. A quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial POHCs, oxygen (O_2) and hydrogen chloride (HCl).

3. A quantitative analysis of the scrubber water (if any), ash residues and other residues, for the purpose of estimating the fate of the trial POHCs.

4. A computation of destruction and removal efficiency (DRE), according to the DRE formula specified in s. NR 664.0343(1).

5. If the HCl emission rate exceeds 1.8 kilograms of HCl per hour (4 pounds per hour), a computation of HCl removal efficiency according to s. NR 664.0343(2).

6. A computation of particulate emissions, according to s. NR 664.0343(3).

7. An identification of sources of fugitive emissions and their means of control.

8. A measurement of average, maximum, and minimum temperatures and combustion gas velocity.

9. A continuous measurement of carbon monoxide (CO) in the exhaust gas.

10. Other information as the department may specify as necessary to ensure that the trial burn will determine compliance with the performance standards in s. NR 664.0343 and to establish the operating conditions required by s. NR 664.0345 as necessary to meet that performance standard.

(h) The applicant shall submit to the department a certification that the trial burn has been carried out according to the approved trial burn plan, and shall submit the results of all the determinations required in par. (f). This submission shall be made within 90 days of completion of the trial burn, or later if approved by the department.

(i) All data collected during any trial burn shall be submitted to the department following the completion of the trial burn.

(j) All submissions required by this subsection shall be certified on behalf of the applicant by the signature of a person authorized to sign a license application or a report under s. NR 670.011.

(k) Based on the results of the trial burn, the department shall set the operating requirements in the final license according to s. NR 664.0345. The license modification shall proceed according to s. NR 670.042.

(3) For the purposes of allowing operation of a new hazardous waste incinerator following completion of the trial burn and prior to final modification of the license conditions to reflect the trial burn results, the department may establish license conditions, including but not limited to allowable waste feeds and operating conditions sufficient to meet s. NR 664.0345, in the license to a new hazardous waste incinerator. These license conditions will be effective for the minimum time required to complete sample analysis, data computation and submission of the trial burn results by the applicant, and modification of the facility license by the department.

(a) Applicants shall submit a statement, with the feasibility and plan of operation report, which identifies the conditions necessary to operate in compliance with the performance standards of s. NR 664.0343, during this period. This statement shall include, at a minimum, restrictions on waste constituents, waste feed rates and the operating parameters in s. NR 664.0345.

(b) The department will review this statement and any other relevant information submitted with the feasibility and plan of operation report and specify those requirements for this period most likely to meet the performance standards of s. NR 664.0343 based on the department's engineering judgment.

(4) For the purpose of determining feasibility of compliance with the performance standards of s. NR 664.0343 and of determining adequate operating conditions under s. NR 664.0345, the applicant for a license for an existing hazardous waste incinerator shall prepare and submit a trial burn plan and perform a trial burn according to s. NR 670.019(2) and subs. (2)(b) to (e) and (2)(g) to (j) or, instead, submit other information as specified in s. NR 670.019(3). The department shall announce the department's intention to approve the trial burn plan according to the timing and distribution requirements of sub. (2)(f). The contents of the notice shall include: the name and telephone number of a contact person at the facility; the name and telephone number of a contact office at the department; the location where the trial burn plan and any supporting documents can be reviewed and copied; and a schedule of the activities that are required prior to license issuance, including the anticipated time schedule for agency approval of the plan and the time period during which the trial burn would be conducted. Applicants submitting information under s. NR 670.019 are exempt from compliance with s. NR 664.0343 and 664.0345 and, therefore, are exempt from the requirement to conduct a trial burn. Applicants who submit trial burn plans and receive approval before submission of a license application shall complete the trial burn and submit the results, specified in sub. (2)(g), with the feasibility and plan of operation report. If completion of this process conflicts with the date set for submission of the feasibility and plan of operation report, the applicant shall contact the department to establish a later date for submission of the feasibility and plan of operation report or the trial burn results. Trial burn results shall be submitted prior to issuance of the license. When the applicant submits a trial burn plan with the feasibility and plan of operation report, the department will specify a time period prior to license issuance in which the trial burn shall be conducted and the results submitted.

(a) Provide for the construction of these facilities as necessary, and for operation of the facility for not longer than one year unless renewed as provided in sub. (4).

(b) Provide for the receipt and treatment by the facility of only those types and quantities of hazardous waste which the department deems necessary for purposes of determining the efficacy and performance capabilities of the technology or process and the effects of the technology or process on human health and the environment.

(c) Include the requirements that the department deems necessary to protect human health and the environment, including, but not limited to, requirements regarding monitoring, operation, financial responsibility, closure, and remedial action, and requirements as the department deems necessary regarding testing and providing of information to the department with respect to the operation of the facility.

(2) For the purpose of expediting review and issuance of licenses under this section, the department may, consistent with the protection of human health and the environment, modify or waive license

application and license issuance requirements in ch. NR 670 except that there may be no modification or waiver of rules regarding financial responsibility, including insurance, of procedures regarding public participation or of local approval and negotiation and arbitration.

(3) The department may order an immediate termination of all operations at the facility at any time the department determines that termination is necessary to protect human health and the environment.

(4) Any license issued under this section may be renewed not more than 3 times. Each renewal shall be for a period of not more than one year.

NR 670.066 Licenses for boilers and industrial furnaces burning hazardous waste. When an owner or operator of a cement or lightweight aggregate kiln demonstrates compliance with the air emission standards and limitations in 40 CFR part 63, subpart EEE (i.e., by conducting a comprehensive performance test and submitting a notification of compliance under 40 CFR 63.1207(j) and 63.1210(b) documenting compliance with all applicable requirements of 40 CFR part 63, subpart EEE), the requirements of this section do not apply, except those provisions the department determines are necessary to ensure compliance with ss. NR 666.102(5)(a) and 666.102(5)(b)3. if the owner or operator elects to comply with s. NR 670.235(1)(a)1. to minimize emissions of toxic compounds from startup, shutdown and malfunction events. The department may apply the provisions of this section, on a case-by-case basis, for purposes of information collection according to ss. NR 670.010(11) and 670.032(2)(b).

(1) GENERAL. Owners and operators of new boilers and industrial furnaces, those not operating under the interim license standards of s. NR 666.103, are subject to subs. (2) to (6). Boilers and industrial furnaces operating under the interim license standards of s. NR 666.103 are subject to sub. (7).

(2) LICENSE OPERATING PERIODS FOR NEW BOILERS AND INDUSTRIAL FURNACES. A license for a new boiler or industrial furnace shall specify appropriate conditions for the following operating periods:

(a) *Pretrial burn period.* For the period beginning with initial introduction of hazardous waste and ending with initiation of the trial burn, and only for the minimum time required to bring the boiler or industrial furnace to a point of operational readiness to conduct a trial burn, not to exceed 720 hours operating time when burning hazardous waste, the department shall establish in the pretrial burn period of the license conditions, including but not limited to, allowable hazardous waste feed rates and operating conditions. The department may extend the duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The license may be modified to reflect the extension according to s. NR 670.042.

1. Applicants shall submit a statement, with the feasibility and plan of operation report, that suggests the conditions necessary to operate in compliance with the standards of ss. NR 666.104 to 666.107 during this period. This statement shall include, at a minimum, restrictions on the applicable operating requirements identified in s. NR 666.102(5).

2. The department will review this statement and any other relevant information submitted with the feasibility and plan of operation report and specify requirements for this period sufficient to meet the performance standards of ss. NR 666.104 to 666.107 based on the department's engineering judgment.

(b) *Trial burn period.* For the duration of the trial burn, the department shall establish conditions in the license for the purposes of determining feasibility of compliance with the performance standards of ss. NR 666.104 to 666.107 and determining adequate operating conditions under s. NR 666.102(5). Applicants shall propose a trial burn plan, prepared under sub. (3), to be submitted with the feasibility and plan of operation report.

(c) *Post-trial burn period.* 1. For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility license by the department to reflect the trial burn results, the department will establish the operating requirements most likely to ensure compliance with the performance standards of ss. NR 666.104 to 666.107 based on the department's engineering judgment.

2. Applicants shall submit a statement, with the feasibility and plan of operation report, that identifies the conditions necessary to operate during this period in compliance with the performance standards of ss. NR 666.104 to 666.107. This statement shall include, at a minimum, restrictions on the operating requirements provided by s. NR 666.102(5).

3. The department will review this statement and any other relevant information submitted with the feasibility and plan of operation report and specify requirements for this period sufficient to meet the performance standards of ss. NR 666.104 to 666.107 based on the department's engineering judgment.

(d) *Final license period.* For the final period of operation, the department will develop operating requirements in conformance with s. NR 666.102(5) that reflect conditions in the trial burn plan and are likely to ensure compliance with the performance standards of ss. NR 666.104 to 666.107. Based on the trial burn results, the department shall make any necessary modifications to the operating requirements to ensure compliance with the performance standards. The license modification shall proceed according to s. NR 670.042.

(3) REQUIREMENTS FOR TRIAL BURN PLANS. The trial burn plan shall include the following information. The department, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this subsection:

(a) An analysis of each feed stream, including hazardous waste, other fuels and industrial furnace feed stocks, as fired, that includes all of the following:

1. Heating value, levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, thallium, total chlorine or chloride and ash.

2. Viscosity or description of the physical form of the feed stream.

(b) An analysis of each hazardous waste, as fired, including all of the following:

1. An identification of any hazardous organic constituents listed in ch. NR 661, Appendix VIII that are present in the feed stream, except that the applicant need not analyze for constituents listed in Appendix VIII that would reasonably not be expected to be found in the hazardous waste. Include an identification of the constituents excluded from analysis and an explanation of the basis for this exclusion. Conduct the waste analysis according to the analytical techniques in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA SW-846, incorporated by reference in s. NR 660.11, or their equivalent.

2. An approximate quantification of the hazardous constituents identified in the hazardous waste, within the precision produced by the analytical methods in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA SW-846, incorporated by reference in s. NR 660.11, or other equivalent.

3. A description of blending procedures, if applicable, prior to firing the hazardous waste, including a detailed analysis of the hazardous waste prior to blending, an analysis of the material with which the hazardous waste is blended, and blending ratios.

(c) A detailed engineering description of the boiler or industrial furnace, including all of the following:

1. Manufacturer's name and model number of the boiler or industrial furnace.

2. Type of boiler or industrial furnace.

3. Maximum design capacity in appropriate units.

4. Description of the feed system for the hazardous waste, and, as appropriate, other fuels and industrial furnace feedstocks.

5. Capacity of hazardous waste feed system.

6. Description of automatic hazardous waste feed cutoff systems.

7. Description of any air pollution control system.

8. Description of stack gas monitoring and any pollution control monitoring systems.

(d) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(e) A detailed test schedule for each hazardous waste for which the trial burn is planned, including dates, duration, quantity of hazardous waste to be burned and other factors relevant to the department's decision under sub. (2)(b).

(f) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feed rate, and, as appropriate, the feed rates of other fuels and industrial furnace feedstocks, and any other relevant parameters that may affect the ability of the boiler or industrial furnace to meet the performance standards in ss. NR 666.104 to 666.107.

(g) A description of, and planned operating conditions for, any emission control equipment that will be used.

(h) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction.

(i) Other information as the department reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this paragraph and the criteria in sub. (2)(b).

(4) TRIAL BURN PROCEDURES. (a) A trial burn shall be conducted to demonstrate conformance with the standards of ss. NR 666.104 to 666.107 under an approved trial burn plan.

(b) The department shall approve a trial burn plan if the department finds that all of the following apply:

1. The trial burn is likely to determine whether the boiler or industrial furnace can meet the performance standards of ss. NR 666.104 to 666.107.

2. The trial burn itself will not present an imminent hazard to human health and the environment.

3. The trial burn will help the department to determine operating requirements to be specified under s. NR 666.102(5).

4. The information sought in the trial burn cannot reasonably be developed through other means.

(c) The department shall send a notice to all persons on the facility mailing list as set forth in s. NR 670.410(3)(a)9. and to the appropriate units of state and local government as set forth in s. NR 670.410(3)(a)10. announcing the scheduled commencement and completion dates for the trial burn. The applicant may not commence the trial burn until after the department has issued the notice.

1. This notice shall be mailed within a reasonable time period before the trial burn. An additional notice is not required if the trial burn is delayed due to circumstances beyond the control of the facility or the department.

2. This notice shall contain all of the following:

a. The name and telephone number of applicant's contact person.

b. The name and telephone number of the department.

c. The location where the approved trial burn plan and any supporting documents can be reviewed and copied.

d. An expected time period for commencement and completion of the trial burn.

(d) The applicant shall submit to the department a certification that the trial burn has been carried out according to the approved trial burn plan, and shall submit the results of all the determinations required in sub. (3). This submission shall be made within 90 days of completion of the trial burn, or later if approved by the department.

(e) All data collected during any trial burn shall be submitted to the department following completion of the trial burn.

(f) All submissions required by this paragraph shall be certified on behalf of the applicant by the signature of a person authorized to sign a license application or a report under s. NR 670.011.

(5) SPECIAL PROCEDURES FOR DRE TRIAL BURNS. When a DRE trial burn is required under s. NR 666.104(1), the department will specify, based on the hazardous waste analysis data and other information

in the trial burn plan, as trial principal organic hazardous constituents (POHCs) those compounds for which destruction and removal efficiencies shall be calculated during the trial burn. These trial POHCs will be specified by the department based on information including the department's estimate of the difficulty of destroying the constituents identified in the hazardous waste analysis, their concentrations or mass in the hazardous waste feed, and, for hazardous waste containing or derived from wastes listed in subch. D of ch. NR 661, the hazardous waste organic constituents identified in ch. NR 661, Appendix VII as the basis for listing.

(6) DETERMINATIONS BASED ON TRIAL BURN. During each approved trial burn, or as soon after the burn as is practicable, the applicant shall make all of the following determinations:

(a) A quantitative analysis of the levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, thallium, chlorine or chloride, and silver, in the feed streams, hazardous waste, other fuels and industrial furnace feedstocks.

(b) When a DRE trial burn is required under s. NR 666.104(1), all of the following are required:

1. A quantitative analysis of the trial POHCs in the hazardous waste feed.

2. A quantitative analysis of the stack gas for the concentration and mass emissions of the trial POHCs.

3. A computation of destruction and removal efficiency (DRE), according to the DRE formula specified in s. NR 666.104(1).

(c) When a trial burn for chlorinated dioxins and furans is required under s. NR 666.104(5), a quantitative analysis of the stack gas for the concentration and mass emission rate of the 2,3,7,8-chlorinated tetra-octa congeners of chlorinated dibenzo-p-dioxins and furans, and a computation showing conformance with the emission standard.

(d) When a trial burn for particulate matter, metals or HCl/Cl_2 is required under s. NR 666.105, NR 666.106(3) or (4), or NR 666.107(2)(b) or (3), a quantitative analysis of the stack gas for the concentrations and mass emissions of particulate matter, metals, or hydrogen chloride (HCl) and chlorine (Cl_2), and computations showing conformance with the applicable emission performance standards.

(e) When a trial burn for DRE, metals, or HCl/Cl_2 is required under s. NR 666.104(1), NR 666.106(3) or (4), or NR 666.107(2)(b) or (3), a quantitative analysis of the scrubber water, if any, ash residues, other residues and products for the purpose of estimating the fate of the trial POHCs, metals and chlorine or chloride.

(f) An identification of sources of fugitive emissions and their means of control.

(g) A continuous measurement of carbon monoxide (CO), oxygen, and where required, hydrocarbons (HC), in the stack gas.

(h) Other information as the department may specify as necessary to ensure that the trial burn will determine compliance with the performance standards in ss. NR 666.104 to 666.107 and to establish the operating conditions required by s. NR 666.102(5) as necessary to meet those performance standards.

(7) INTERIM LICENSED BOILERS AND INDUSTRIAL FURNACES. For the purpose of determining feasibility of compliance with the performance standards of ss. NR 666.104 to 666.107 and of determining adequate operating conditions under s. NR 666.103, applicants owning or operating existing boilers or industrial furnaces operated under the interim license standards of s. NR 666.103 shall either prepare and submit a trial burn plan and perform a trial burn according to this section or submit other information as specified in s. NR 670.022(1)(f). The department shall announce the department's intention to approve of the trial burn plan according to the timing and distribution requirements of sub. (4)(c). The contents of the notice shall include: the name and telephone number of a contact person at the facility; the name and telephone number of the department; the location where the trial burn plan and any supporting documents can be reviewed and copied; and a schedule of the activities that are required prior to license issuance, including the anticipated time schedule for department approval of the plan and the time periods during which the trial burn would be conducted. Applicants who submit a trial burn plan and receive approval before submission of the feasibility and plan of operation report shall complete the trial

burn and submit the results specified in sub. (6) with the feasibility and plan of operation report. If completion of this process conflicts with the date set for submission of the feasibility and plan of operation report, the applicant shall contact the department to establish a later date for submission of the feasibility and plan of operation report or the trial burn results. If the applicant submits a trial burn plan with the feasibility and plan of operation report, the trial burn shall be conducted and the results submitted within a time period prior to license issuance to be specified by the department.

NR 670.068 Remediation Variances. Remediation variances are special forms of licenses that are issued under subch. H.

Subchapter G —Interim Licenses

NR 670.070 Qualifying for an interim license. (1) Any person who owns or operates an existing HWM facility or a facility in existence on the effective date of a statute or rule that renders the facility subject to the requirement to have an operating license shall apply for an interim license and comply with:

The requirements of s. NR 660.07 pertaining to notification of hazardous waste activity.

Note: Some existing facilities may not be required to file a notification under s. NR 660.07. These facilities may qualify for an interim license by meeting sub. (1)(b).

(b) The requirements of ss. NR 670.010 and NR 670.011 pertaining to the submission of the part A application.

(2) If the department has reason to believe upon examination of a part A application that it fails to meet s. NR 670.013, the department shall notify the owner or operator in writing of the apparent deficiency. The notice shall specify the grounds for the department's belief that the application is deficient. The owner or operator shall have 30 days from receipt to respond to such a notification and to explain or cure the alleged deficiency in the owner or operator's part A application. If, after the notification and opportunity for response, the department determines that the application is deficient it may take appropriate enforcement action.

(3) If the department fails to make a decision within 90 days of receiving a complete Part A application, the department shall refund the interim license review fee paid by the applicant.

(4) Subsection (1) does not apply to any facility which has been previously denied an operating license or if authority to operate the facility under ch. 291, Stats., has been previously revoked.

NR 670.071 Operation during an interim license period. (1) During the interim license period the facility may not do any of the following:

(a) Treat, store or dispose of hazardous waste not specified in part A of the license application.

(b) Employ processes not specified in part A of the license application.

(c) Exceed the design capacities specified in part A of the license application.

(2) During the interim license period, owners or operators shall comply with the interim license standards in ch. NR 665.

NR 670.072 Modifications to an interim license. (1) Except as provided in sub. (2), the owner or operator of an interim licensed facility may make the following modifications at the facility:

(a) Treatment, storage or disposal of new hazardous wastes not previously identified in part A of the license application which are newly listed or identified wastes, including the addition of the units used to treat, store or dispose of the hazardous wastes on the effective date of the listing or identification if the owner or operator submits a revised part A license application and obtains an interim license modification prior to the treatment, storage or disposal of these wastes.

(b) Increases in the design capacity of processes used at the facility if the owner or operator submits a revised part A license application prior to such a change, along with a justification explaining the need for the change, and the department approves the changes for either of the following:

1.There is a lack of available treatment, storage or disposal capacity at other hazardous waste management facilities.

2. The change is necessary to comply with a federal or state requirement.

(c) Changes in the processes for the treatment, storage or disposal of hazardous waste or addition of processes if the owner or operator submits a revised part A license application prior to such change, along with a justification explaining the need for the change, and the department approves the change for either of the following:

1. The change is necessary to prevent a threat to human health and the environment because of an emergency situation.

2. The change is necessary to comply with a federal or state requirement.

(d) Changes in the ownership or operational control of a facility if the new owner or operator submits a revised part A application no later than 90 days prior to the scheduled change. When a transfer of operational control of a facility occurs, the old owner or operator shall comply with subch. H of ch. NR 665, financial requirements, until the new owner or operator has demonstrated to the department that the new owner or operator is complying with that subchapter. The new owner or operator shall demonstrate compliance with subch. H within 6 months of the date of the change in ownership or operational control of the facility. Upon demonstration to the department by the new owner or operator of compliance with subch. H, the department shall notify the old owner or operator in writing that the old owner or operator no longer needs to comply with subch. H as of the date of demonstration. All other interim license duties are transferred effective immediately upon the date of the change in ownership or operational control of the facility.

(e) Changes made according to an interim status or interim license corrective action order issued by EPA under 42 USC 6928(h) or other federal authority, by the department under s. 291.37, Stats., or by a court in a judicial action brought by EPA or by the department. Changes under this paragraph are limited to the treatment, storage or disposal of solid waste from releases that originate within the boundary of the facility.

(f) Addition of newly regulated units for the treatment, storage or disposal of hazardous waste if the owner or operator submits a revised part A application on or before the date on which the unit becomes subject to the new requirements and obtain an interim license modification prior to operating these units.

(2) Except as specifically allowed under this subsection, modifications listed under sub. (1) may not be made if they amount to reconstruction of the hazardous waste management facility. Reconstruction occurs when the capital investment in the changes to the facility exceeds 50 % of the capital cost of a comparable entirely new hazardous waste management facility. If all other requirements are met, the following modifications may be made even if they amount to a reconstruction:

(a) Modifications made solely for the purposes of complying with s. NR 665.0193 for tanks and ancillary equipment.

(b) If necessary to comply with federal or state requirements, modifications to an existing unit, modifications solely involving tanks or containers or addition of replacement surface impoundments that satisfy the standards of ch. 291, Stats., and chs. NR 660 to 679.

(c) Modifications that are necessary to allow owners or operators to continue handling newly listed or identified hazardous wastes that have been treated, stored or disposed of at the facility prior to the effective date of the rule establishing the new listing or identification.

(d) Modifications during closure of a facility or of a unit within a facility made according to an approved closure plan.

(e) Modifications necessary to comply with an interim status or interim license corrective action order issued by EPA under 42 USC 6928(h) or other federal authority, by the department under s. 291.37,

Stats., or by a court in a judicial proceeding brought by EPA or the department, if the modifications are limited to the treatment, storage or disposal of solid waste from releases that originate within the boundary of the facility.

(f) Modifications to treat or store, in tanks, containers or containment buildings, hazardous wastes subject to land disposal restrictions imposed by ch. NR 668, if the changes are made solely for the purpose of complying with ch. NR 668.

(g) Addition of newly regulated units under sub. (1)(f).

(h) Modifications necessary to comply with standards under 40 CFR part 63, subpart EEE— national emission standards for hazardous air pollutants from hazardous waste combustors.

NR 670.073 Termination of an interim license. An interim license terminates when any of the following occurs:

(1) Final administrative disposition of an operating license application.

(2) Revocation of the interim license as provided in s. NR 670.010(5)(e) or 670.043.

(3) For owners or operators of each land disposal facility which has been granted an interim license prior to November 8, 1984, on November 8, 1985, unless all of the following apply:

(a) The owner or operator submits a feasibility and plan of operation report for a license for the facility prior to that date.

(b) The owner or operator certifies that the facility is in compliance with all applicable groundwater monitoring and financial responsibility requirements.

(4) For owners or operators of each land disposal facility which is in existence on the effective date of a statute or rule that renders the facility subject to the requirement to have an operating license and which is granted an interim license, 12 months after the date on which the facility first becomes subject to the license requirement unless the owner or operator of the facility does all of the following:

(a) Submits a feasibility and plan of operation report for an operating license for the facility before the date 12 months after the date on which the facility first becomes subject to the license requirement.

(b) Certifies that the facility is in compliance with all applicable groundwater monitoring and financial responsibility requirements.

(5) For owners or operators of any land disposal unit that is granted authority to operate under s. NR 670.072(1)(a), (b) or (c), on the date 12 months after the effective date of the requirement, unless the owner or operator certifies that the unit is in compliance with all applicable groundwater monitoring and financial responsibility requirements.

(6) For owners and operators of each incinerator facility which was granted an interim license prior to November 8, 1984, the interim license terminates on November 8, 1989, unless the owner or operator of the facility submitted a feasibility and plan of operation report for an operating license for an incinerator facility by November 8, 1986.

(7) For owners or operators of any facility (other than a land disposal or an incinerator facility) which was granted an interim license prior to November 8, 1984, the interim license terminates on November 8, 1992, unless the owner or operator of the facility submitted a feasibility and plan of operation report for an operating license for the facility by November 8, 1988.

Subchapter H Remediation Variances

NR 670.079 Remediation Variances. (1) APPLICABILITY. The department may issue a remediation variance from the requirements of s. 291.25, Stats., if the application for, or compliance with the terms or conditions of a license required under chs. NR 660 to 670 would cause undue or unreasonable hardship to any person and the remediation variance would not result in undue harm to human health or the environment. For purposes of hazardous waste remediation, issuance of a treatment or storage license under this chapter would constitute an undue or unreasonable hardship.

(2) LIMITATIONS. A remediation variance under this section:

(a) Shall be issued in written form.

(b) May not exceed 5 years in duration.

(c) May be renewed or extended only after opportunity for a public hearing on each remediation variance renewal or extension.

(d) May be revoked by the department at any time if the department determines that the revocation is appropriate to protect human health or the environment.

(e) May require that the person to whom a remediation variance is issued comply with any appropriate requirements of chs. NR 660 to 679, and chs. NR 700 to 750, as a condition of issuance, in order to protect human health or the environment.

(3) PUBLIC PARTICIPATION. The department may not approve a remediation variance unless the applicant provides proof of public notice of the proposed project. Unless another person is approved by the department to carry out the public participation process, the responsible party shall issue a class I public notice that provides for a minimum 30 day comment period. A copy of the public notice along with a list of newspapers which carried the notice shall be included as part of the remediation variance application. If the responsible party or the department determine that additional public participation is necessary the provisions in s. NR 714.07(6) shall be followed. The department shall respond to the comments received. The class I public notice shall include all of the following information:

(a) A description of the type, volume and characteristics of the contamination.

(b) The proposed response actions to be implemented to contain, reduce, or eliminate the threat of the contamination.

(c) The phone number and addresses of persons to contact for more information.

(d) The locations and times where interested parties can review the proposed response action.

(e) The department's contact person and information on how to submit comments, including the address of the contact person and the deadline for receipt of comments.

(4) FINAL DETERMINATION. The department shall make a final written determination on the remediation variance request within 65 business days. The department may require the applicant to provide additional information to document compliance with chs. NR 660 to 679. The final determination may require construction inspection and fees under Appendix II.

Note: The applicant is encouraged to contact the department early for assistance in planning the content of a complete application.

Note: For purposes of implementing this section, the department has determined that it would be an undue or unreasonable hardship to apply for, and wait for issuance of a hazardous waste treatment or storage license under s. 291.25, Stats., for the treatment or storage of remediation waste as part of the clean up a contaminated site. For example, in order to clean up a contaminated site, it may be necessary to treat excavated soil that is hazardous. In this situation it may be an undue or unreasonable hardship to delay the cleanup of the contamination while awaiting the issuance of a hazardous waste treatment license. The remediation variance approval issued by the department will include operating requirements necessary to protect public health and the environment during site remediation.

Subchapter I —Integration with Maximum Achievable Control Technology (MACT) Standards

NR 670.235 Options for incinerators and cement and lightweight aggregate kilns to minimize emissions from startup, shutdown, and malfunction events. (1) FACILITIES WITH EXISTING LICENSES (a) *Revisions to license conditions after documenting compliance with MACT*. The owner or operator of a licensed incinerator, cement kiln, or lightweight aggregate kiln may request that the department address license conditions that minimize emissions from startup, shutdown and malfunction events under any of the following options when requesting removal of license conditions that are no longer applicable according to ss. NR 664.0340(2) and 666.100(2):

1.'Retain relevant license conditions.' Under this option, the department will do all of the following:

a. Retain license conditions that address releases during startup, shutdown and malfunction events, including releases from emergency safety vents, as these events are defined in the facility's startup, shutdown and malfunction plan required under 40 CFR 63.1206(c)(2).

b. Limit applicability of those license conditions only to when the facility is operating under its startup, shutdown and malfunction plan.

2.'Revise relevant license conditions.' a. Under this option, the department will do all of the following:

1) Identify a subset of relevant existing license requirements or develop alternative license requirements that ensure emissions of toxic compounds are minimized from startup, shutdown and malfunction events, including releases from emergency safety vents, based on review of information including the source's startup, shutdown and malfunction plan, design and operating history.

2) Retain or add these license requirements to the license to apply only when the facility is operating under its startup, shutdown and malfunction plan.

b.1) The owner or operator shall notify the department in writing of changes to the startup, shutdown and malfunction plan or changes to the design of the source that may significantly increase emissions of toxic compounds from startup, shutdown or malfunction events, including releases from emergency safety vents. The owner or operator shall notify the department of the changes within 5 days of making the changes. The owner or operator shall identify in the notification recommended revisions to license conditions necessary as a result of the changes to ensure that emissions of toxic compounds are minimized during these events.

2) The department may revise license conditions as a result of these changes to ensure that emissions of toxic compounds are minimized during startup, shutdown, or malfunction events, including releases from emergency safety vents either:

a) Upon operating license reissuance, or, if warranted,

b) By modifying the license under s. NR 670.041(1) or NR 670.042.

3. 'Remove license conditions.' Under this option, all of the following shall be met:

a. The owner or operator shall document that the startup, shutdown and malfunction plan required under 40 CFR 63.1206(c)(2) has been approved by the department under 40 CFR 63.1206(c)(2)(ii)(B)

b. The department will remove license conditions that are no longer applicable according to ss. NR 664.0340(2) and 666.100(2).

(b) The owner or operator of an incinerator, cement kiln or lightweight aggregate kiln that has conducted a comprehensive performance test and submitted to the department a notification of compliance documenting compliance with the standards of 40 CFR part 63, subpart EEE may request in the application to reissue the license for the combustion unit that the owner or operator control emissions from startup, shutdown and malfunction events under any of the following options:

1. 'Option A' a. Under this option, the department will do all of the following:

1) Include, in the license, conditions that ensure compliance with ss. NR 664.0345(1) and 664.0345(3) or ss. NR 666.102(5)(a) and 666.102(5)(b)3. to minimize emissions of toxic compounds from startup, shutdown and malfunction events, including releases from emergency safety vents.

2) Specify that these license requirements apply only when the facility is operating under its startup, shutdown, and malfunction plan

2. 'Option B' a. Under this option, the department will do all of the following:

1) Include, in the license, conditions that ensure emissions of toxic compounds are minimized from startup, shutdown and malfunction events, including releases from emergency safety vents, based on review of information including the source's startup, shutdown and malfunction plan, design and operating history.

2) Specify that these license requirements apply only when the facility is operating under its startup, shutdown and malfunction plan.

b. 1) The owner or operator shall notify the department in writing of changes to the startup, shutdown and malfunction plan or changes to the design of the source that may significantly increase emissions of toxic compounds from startup, shutdown or malfunction events, including releases from emergency safety vents. The owner or operator shall notify the department of the changes within 5 days of making the changes. The owner or operator shall identify in the notification recommended revisions to license conditions necessary as a result of the changes to ensure that emissions of toxic compounds are minimized during these events.

2) The department may revise license conditions as a result of these changes to ensure that emissions of toxic compounds are minimized during startup, shutdown or malfunction events, including releases from emergency safety vents either:

a) Upon license renewal, or, if warranted,

b) By modifying the license under ss. NR 670.041(1) or 670.042.

3. CAA option.' Under this option, all of the following shall be met:

a. The owner or operator shall document that the startup, shutdown and malfunction plan required under 40 CFR 63.1206(c)(2) has been approved by the department under 40 CFR 63.1206(c)(2)(ii)(B).

b. The department will omit from the license conditions that are not applicable under ss. NR 664.0340(2) and 666.100(2).

(2) INTERIM LICENSED FACILITIES (a) *Interim license operations*. In compliance with ss. NR 665.0340 and 666.100(2), the owner or operator of an incinerator, cement kiln or lightweight aggregate kiln that is operating under the interim license standards of ch. NR 665 or 666 may control emissions of toxic compounds during startup, shutdown and malfunction events under any of the following options after conducting a comprehensive performance test and submitting to the department a notification of compliance documenting compliance with the standards of 40 CFR part 63, subpart EEE:

1.'RCRA option' Under this option, the owner or operator continues to comply with the interim license emission standards and operating requirements of ch. NR 665 or 666 relevant to control of emissions from startup, shutdown and malfunction events. Those standards and requirements apply only during startup, shutdown and malfunction events.

2. 'CAA option.' Under this option, the owner or operator is exempt from the interim license standards of ch. NR 665 or 666 relevant to control of emissions of toxic compounds during startup, shutdown and malfunction events upon submission of written notification and documentation to the department that the startup, shutdown and malfunction plan required under 40 CFR 63.1206(c)(2) has been approved by the department under 40 CFR 63.1206(c)(2)(ii)(B).

(b) *Operations under a subsequent operating license*. When an owner or operator of an incinerator, cement kiln or lightweight aggregate kiln that is operating under the interim license standards of ch. NR 665 or 666 submits an operating license application, the owner or operator may request that the department control emissions from startup, shutdown and malfunction events under any of the options provided by sub. (1)(b)1., 2. or 3.

Subchapter L —General Decisionmaking Procedures

NR 670.401 Purpose and scope. This subchapter and subch. M contain department procedures for issuing, modifying, revoking and reissuing or denying licenses.

Note: To coordinate decisionmaking when a permit will be issued by EPA and an operating license will be issued by the department, this chapter allows applications to be jointly processed, joint comment periods and hearings to be held, and a final permit and license to be issued on a cooperative basis whenever EPA and the department agree to take these steps in general or in individual cases.

NR 670.403 License application procedures. (1)(a) Any person required to have a license under s. NR 670.001 shall complete, sign and submit a license application to the department.

(b) The department may not begin reviewing the license application until the applicant has fully complied with the requirements in ss. NR 670.007, 670.010 and 670.013.

(c) License applications shall comply with the signature and certification requirements of s. NR 670.011.

(3) The department shall review for completeness every license application. Each license application submitted by the owner or operator of a HWM facility consisting of both the Part A and the feasibility and plan of operation report, shall be reviewed for completeness within 60 days of receipt. Upon completing the review, the department shall notify the applicant in writing whether the license application is complete. If the license application is incomplete, the department shall list the information necessary to make the license application complete. When the license application is for an existing HWM facility, the department shall specify in the notice of incompleteness a date for submitting the necessary submitted material. Requests for additional information will not render a license application incomplete.

(4) If an applicant fails or refuses to correct deficiencies in the license application, the license application may be denied and appropriate enforcement actions may be taken under ch. 291, Stats.

(5) If the department decides that a site visit is necessary for any reason in conjunction with the review of a license application, the department shall notify the applicant and a date shall be scheduled.

NR 670.404 Consolidation of EPA permit and department license processing. (1)(a) Whenever a facility or activity requires a department license and EPA permit, processing of the license and permit applications for the license and permit may be consolidated. The first step in consolidation is to prepare the preliminary determination of the license application and draft permit at the same time.

(b) Whenever a preliminary determination of the license application and the draft permit are prepared at the same time, the statements of basis, required under 40 CFR 124.7 for EPA issued permits only, or fact sheets, required under s. NR 670.408, public comment periods, s. NR 670.410, and any public hearings, s. NR 670.412, on the preliminary determination and permit may also be consolidated. The operating license and permit may be issued together. They need not be issued together if in the judgment of the EPA or department, joint processing would result in unreasonable delay in the issuance of the permit or operating license.

(3) Processing of the permit and license applications under sub. (1) may be consolidated by doing all of the following:

(b) The EPA and the department may agree to consolidate the draft permit and preliminary determination whenever a facility or activity requires both a permit and an operating license.

(c) Permit and license applicants may recommend whether or not the processing of their applications shall be consolidated.

NR 670.405 Modification, revocation and reissuance, or revocation or denial of licenses.

(1) Licenses may be modified, revoked and reissued, or revoked or denied either at the request of any interested person, including the licensee, or upon the department's initiative. However, licenses may only be modified, revoked and reissued, or revoked or denied for the reasons specified in ss. NR 670.010(5)(e), 670.041, 670.043 and s. 291.87(1m), Stats. All requests shall be in writing and shall contain facts or reasons supporting the request.

(2) If the department decides the request is not justified, the department shall send the requester a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or revocation or denial are not subject to public notice, comment, or hearings.

(3) (a) If the department tentatively decides to modify or revoke and reissue a license under s. NR 670.041 or 670.042(3), the department shall prepare a preliminary determination under s. NR 670.406 incorporating the proposed changes. The department may request additional information and, in the case of a modified license, may require the submission of an updated license application. In the case of revoked and reissued licenses, the department shall require the submission of a new license application.

(b) In a license modification under this section, only those conditions to be modified shall be reopened when a new preliminary determination is prepared. All other aspects of the existing license shall remain in effect for the duration of the unmodified license. When a license is revoked and reissued under this section, the entire license is reopened just as if the license had expired and was being reissued. During any revocation and reissuance proceeding the licensee shall comply with all conditions of the existing license until a new final license is reissued.

(c) ”Classes 1 and 2 modifications” as defined in s. NR 670.042(1) and (2) are not subject to this section.

(4) If the department tentatively decides to revoke or deny a license under s. NR 670.043 where the licensee objects, the department shall issue a notice of intent to revoke or deny.

Note: Procedures for revocation, suspension or denial of a license are found in s. 291.87, Stats.

(5) All preliminary determinations, including notices of intent to revoke or deny, prepared under this section shall be based on the administrative record as defined in s. NR 670.409.

NR 670.406 Preliminary determination of license applications. (1) Before issuing a preliminary determination, the department shall complete the environmental review process under ch. NR 150. Once the department determines that a license application is complete, the department shall issue a preliminary determination to approve or deny the application.

(4) The preliminary determination shall contain all of the following information:

(a) All conditions under ss. NR 670.030 and 670.032.

(b) All compliance schedules under s. NR 670.033.

(c) All monitoring requirements under s. NR 670.031.

(d) Standards for treatment, storage or disposal and other license conditions under s. NR 670.030.

(e) The environmental impact statement if required.

(f) A preliminary determination of need for the facility under s. 289.28, Stats.

NR 670.408 Fact sheet. (1) A fact sheet shall be prepared for every preliminary determination. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the preliminary determination. The department shall send this fact sheet to the applicant and, on request, to any other person.

(2) The fact sheet shall include all of the following, when applicable:

(a) A brief description of the type of facility or activity which is the subject of the preliminary determination.

(b) The type and quantity of wastes which are proposed to be or are being treated, stored or disposed of.

(d) A brief summary of the basis for the preliminary determination conditions including references to applicable statutory or regulatory provisions and appropriate supporting references to the administrative record required by s. NR 670.409.

(e) Reasons why any requested alternatives to required standards do or do not appear justified.

(f) A description of the procedures for reaching a final decision on the preliminary determination including all of the following:

1. The beginning and ending dates of the comment period under s. NR 670.410 and the address where comments will be received.

2. Procedures for requesting a hearing and the nature of that hearing.

3. Any other procedures by which the public may participate in the final decision.

(g) Name and telephone number of a person to contact for additional information.

NR 670.409 Administrative record. (1) The provisions of a preliminary determination prepared by the department under s. NR 670.406 shall be based on the administrative record which consists of the following:

(a) The application and any supporting data furnished by the applicant.

(b) Fact sheets required under s. NR 670.408 and all documents cited in the fact sheets.

(c) The preliminary environmental assessment or environmental impact statement (EIS) if required by s. 1.11, Stats.

(d) Other documents contained in the supporting file for the preliminary determination.

(e) Any other information considered by the department.

(2) The department shall base final license decisions under s. NR 670.415 on the administrative record which consists of the following:

(a) The administrative record for the preliminary determination in sub. (1).

(b) The public notices.

(c) All comments and written materials received during the public comment period provided under s. NR 670.410.

(d) The response to comments required by s. NR 670.417 and any new material placed in the record under that section.

(e) Other documents contained in the supporting file for the license.

(f) Any other information considered by the department.

(3) If a contested case hearing under s. 289.27, Stats., is held, the department's final determination shall also consider all comments received during the written comment periods and at any informational hearings, and shall consider the department's responses to comments**.**

(4) Material readily available at the department, or published materials which are generally available and which are included in the administrative record under this section need not be physically included in the same file as the rest of the record as long as it is specifically referred to in the fact sheet or in the response to comments.

NR 670.410 Public notice and public comment period. (1) SCOPE. (a) The department shall give public notice that any of the following actions have occurred:

The department has completed the environmental review process under ch. NR 150.

A license application has been determined to be complete under s. NR 670.403(3).

3. A preliminary determination has been issued to approve or deny the license application under s. NR 670.406.

4. A hearing has been scheduled under s. NR 670.412.

(b) No public notice is required when a request for license modification, revocation and reissuance, or revocation or denial is denied under s. NR 670.405(2). Written notice of that denial shall be given to the requester and to the licensee.

(c) Public notices may describe more than one license or license actions.

(2) TIMING. (a) Public notice of the preliminary determination required under sub. (1) shall allow at least 45 days for public comment.

(b) If a hearing is to be held under ss. 289.26 or 289.27, Stats., public notice of the hearing shall be given at least 30 days before the hearing.

(3) METHODS. Public notice of activities described in sub. (1)(a) shall be given by the following methods:

(a) By mailing a copy of a notice to the following persons (any persons otherwise entitled to receive notice under this paragraph may waive their rights to receive notice for any classes and categories of licenses).

1. The applicant.

2. The EPA region 5 administrator if EPA is required to issue a permit for the same facility or activity.

3. Federal and state agencies with jurisdiction over wildlife resources, the advisory council on historic preservation and state historic preservation officers, including any affected Indian tribes.

9. Persons on a mailing list developed by:

a. Including those who request in writing to be on the list.

b. Soliciting persons for ”area lists” from participants in past license proceedings in that area.

c. Notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in publications such as state funded newsletters, environmental bulletins or state law journals. The department may update the mailing list from time to time by requesting written indication of continued interest from those listed. The department may delete from the list the name of any person who fails to respond to such a request.

10. To the clerk of any unit of local government having jurisdiction over the area where the facility is proposed to be located.

11. To each state agency having any authority under state law with respect to the construction or operation of the facility.

12. The main public library in each affected municipality.

(b) For preliminary determinations, the department shall publish a class 1 notice according to ss. 985.04, 985.05 and 985.06, Stats., and broadcast over local radio stations.

(4) CONTENTS. (a) *All public notices.* All public notices issued under this chapter shall contain the following minimum information:

1. Name and address of the office processing the license action for which notice is being given.

2. Name and address of the licensee or license applicant and, if different, of the facility or activity regulated by the license.

4. Name, address and telephone number of a person from whom interested persons may obtain further information, including copies of the preliminary determination, fact sheet, and the license application.

5. A brief description of the comment procedures required by ss. NR 670.411 and 670.412 and the time and place of any hearing that will be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final license decision.

6. The location of the administrative record, the times at which the record will be open for public inspection, and a statement that all data submitted by the applicant is available as part of the administrative record.

10. Any additional information considered necessary or proper.

(b) *Public notices for hearings.* In addition to the general public notice described in par. (a), the public notice of a hearing under s. NR 670.412 shall contain the information required under s. NR 2.06(1) and (2).

(5) In addition to the general public notice described in sub. (4)(a), all persons identified in sub. (3)(a)1. to 3., shall be mailed a copy of the fact sheet and the preliminary determination.

Note: Section 289.24(4), Stats, requires the applicant to distribute copies of the license application to the persons specified under s. 289.32, Stats., immediately after receiving notice of the department’s determination that the license application is complete.

NR 670.411 Public comments and requests for public hearings. During the public comment period provided under s. NR 670.410, any interested person may submit written comments on the preliminary determination and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in s. NR 670.417.

NR 670.412 Public hearings. (1) (a) The department may hold a public hearing whenever the department finds, on the basis of requests, a significant degree of public interest in the preliminary determination.

(b) The department may also hold a public hearing at the department's discretion, whenever, for instance, such a hearing might clarify one or more issues involved in the preliminary determination or operating license decision.

(c) The department may hold a public informational hearing whenever the department receives written notice of opposition to a preliminary determination and a request for a hearing within 45 days of public notice under s. NR 670.410(2)(a), and whenever possible the department shall schedule a hearing under this section at a location convenient to the nearest population center to the proposed facility.

(d) Public notice of the hearing shall be given as specified in s. NR 670.410.

(e) Department determinations under this chapter are made as part of the process for approving a feasibility and plan of operation report or license under subch. III of ch. 289, Stats., or ch. 291, Stats., and are therefore exempt from s. 227.42 (1), Stats.

NR 670.415 Issuance of the operating license. (1) Within 60 days after the close of the public comment period under s. NR 670.410 on a preliminary determination, the department shall issue a final determination. The department shall notify the applicant and each person who has submitted written comments or requested notice of the final determination. For the purposes of this section, a final determination means a final decision to issue, deny, modify, revoke or reissue, or revoke a license.

(2) The department shall publish a notice of the intent to issue an operating license. The department may not publish the notice of intent to issue an operating license until the department receives and accepts the following documentation:

(a) For newly constructed surface impoundments, landfills or waste piles, the construction quality assurance certification required in s. NR 664.0019.

(b) For newly constructed treatment or storage facilities, the written construction certification statement required in s. NR 664.0025.

(3) If the department fails to issue the operating license within 30 days of publishing the notice of intent required in sub.(2), the department shall refund the operating license review fee paid by the applicant.

NR 670.417 Response to comments. (1) At the time that any final license decision is issued under s. NR 670.415, the department shall issue a response to comments. This response shall include both of the following:

(a) Specify which provisions, if any, of the preliminary determination have been changed in the final license decision, and the reasons for the change.

(b) Briefly describe and respond to all significant comments on the preliminary determination raised during the public comment period, or during any hearing.

(3) The response to comments shall be available to the public.

NR 670.427 Annual renewal of the operating license. (1) The owner or operator of a treatment, storage or disposal facility who has been issued an operating license shall:

(a) Renew the operating license annually by submitting a license renewal form to the department by the date specified on the renewal application form.

(b) Submit the fee specified in Appendix II by the date specified on the environmental fee statement.

(2) The owner or operator of a treatment, storage or disposal facility who fails to renew the license according to sub. (1) shall pay a late processing fee of $200 in addition to the license fee.

(3) If the department fails to issue the annual operating license within 65 business days after the complete license renewal form is received by the department, the department shall refund fees paid by the applicant for the annual renewal of the operating license.

Note: The department will mail the annual license renewal form and environmental fee statement to the owners or operators of treatment, storage or disposal facilities with effective operating licenses.

Note: The license application is complete when the environmental fee and license application renewal form are received by the department.

Subchapter M —Specific Decisionmaking Procedures

NR 670.431 Pre-application public meeting and notice. (1) This section applies to all owners or operators submitting feasibility and plan of operation reports for initial operating licenses for hazardous waste management facilities. This section also applies to owners or operators submitting feasibility and plan of operation reports for reissuance of licenses for those facilities, where the submittal is proposing a significant change in facility operations. For the purposes of this section, a ”significant change” is any change that would qualify as a class 3 license modification under s. NR 670.042. This section does not apply to license applications submitted for the sole purpose of conducting long-term care activities or long-term care activities and corrective action at a facility.

(2) Prior to the submission of a feasibility and plan of operation report for a facility, the applicant shall hold at least one meeting with the public in order to solicit questions from the community and inform the community of proposed hazardous waste management activities. The applicant shall post a sign-in sheet or otherwise provide a voluntary opportunity for attendees to provide their names and addresses.

(3) The applicant shall submit a summary of the meeting, along with the list of attendees and their addresses developed under sub. (2), and copies of any written comments or materials submitted at the meeting, to the department as a part of the feasibility and plan of operation report, according to s. NR 670.014(2).

(4) The applicant shall provide public notice of the pre-application meeting at least 30 days prior to the meeting. The applicant shall maintain, and provide to the department upon request, documentation of the notice.

(a) The applicant shall provide public notice in all of the following forms:

1. ‘A newspaper advertisement.’ The applicant shall publish a notice, fulfilling the requirements in par. (b), in a newspaper of general circulation in the county or equivalent jurisdiction that hosts the proposed location of the facility. In addition, the applicant shall publish the notice in newspapers of general circulation in adjacent counties or equivalent jurisdictions, where the department determines that publication is necessary to inform the affected public. The notice shall be published as a display advertisement.

2. ‘A visible and accessible sign.’ The applicant shall post a notice on a clearly marked sign at or near the facility, fulfilling the requirements in par. (b). If the applicant places the sign on the facility property, then the sign shall be large enough to be readable from the nearest point where the public would pass by the site.

3. ‘A broadcast media announcement.’ The applicant shall broadcast a notice, fulfilling the requirements in par. (b), at least once on at least one local radio station or television station. The applicant may employ another medium with prior approval of the department.

4. ‘A notice to the department.’ The applicant shall send a copy of the newspaper notice to the department and to the appropriate units of local government, according to s. NR 670.410(3)(a)10.

(b) The notices required under par. (a) shall include all of the following:

1. The date, time and location of the meeting.

2. A brief description of the purpose of the meeting.

3. A brief description of the facility and proposed operations, including the address or a map (e.g., a sketched or copied street map) of the facility location.

4. A statement encouraging people to contact the facility at least 72 hours before the meeting if they need special access to participate in the meeting.

5. The name, address and telephone number of a contact person for the applicant.

NR 670.432 Public notice requirements at the application stage. (1) APPLICABILITY. This section applies to all owners or operators submitting feasibility and plan of operation reports for an operating license for a hazardous waste management facility. This section does not apply to license modifications or to license applications submitted for the sole purpose of conducting long-term care activities or long-term care activities and corrective action at a facility.

(2) NOTIFICATION AT APPLICATION SUBMITTAL.

(a) The department shall provide public notice as set forth in s. NR 670.410(3)(a)9., and notice to appropriate units of state and local government as set forth in s. NR 670.410(3)(a)10., that a feasibility and plan of operation report has been submitted to the department and is available for review.

(b) The notice shall be published within a reasonable period of time after the application is received by the department. The notice shall include all of the following:

1. The name and telephone number of the applicant's contact person.

2. The name and telephone number of the department's contact office, and a mailing address to which information, opinions and inquiries may be directed throughout the license review process.

3. An address to which people can write in order to be put on the facility mailing list.

4. The location where copies of the license application and any supporting documents can be viewed and copied.

5. A brief description of the facility and proposed operations, including the address or a map (e.g., a sketched or copied street map) of the facility location on the front page of the notice.

6. The date that the application was submitted.

(3) PUBLIC ACCESS TO APPLICATION. Concurrent with the notice required under sub.(2), the department shall place the license application and any supporting documents in a location accessible to the public in the vicinity of the facility or at the department's office.

NR 670.433 Information repository. (1) This section applies to all feasibility and plan of operation report submittals for licenses for hazardous waste management units.

(2) The department may assess the need, on a case-by-case basis, for an information repository. When assessing the need for an information repository, the department shall consider a variety of factors, including the level of public interest; the type of facility; the presence of an existing repository; and the proximity to the nearest copy of the administrative record. If the department determines, at any time after submittal of a license application, that there is a need for a repository, then the department shall notify the owner or operator of the facility that it shall establish and maintain an information repository. (See s. NR 670.030(13) for similar provisions relating to the information repository during the life of a license).

(3) The information repository shall contain all documents, reports, data and information deemed necessary by the department to fulfill the purposes for which the repository is established. The department shall have the discretion to limit the contents of the repository.

(4) The information repository shall be located and maintained at a site chosen by the owner or operator of the facility. If the department finds the site unsuitable for the purposes and persons for which it was established, due to problems with the location, hours of availability, access or other relevant considerations, then the department shall specify a more appropriate site.

(5) The department shall specify requirements for informing the public about the information repository. At a minimum, the department shall require the owner or operator of the facility to provide a written notice about the information repository to all individuals on the facility mailing list.

(6) The facility owner or operator shall be responsible for maintaining and updating the repository with appropriate information throughout a time period specified by the department. The department may close the repository at the department's discretion, based on the factors in sub. (2).

APPENDIX I

CLASSIFICATION OF LICENSE MODIFICATION

Modifications	Class

A. *General License Provisions*

1. Administrative and informational changes 1

2. Correction of typographical errors..... 1

3. Equipment replacement or upgrading with functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls)	1

4. Changes in the frequency of or procedures for monitoring, reporting, sampling or maintenance activities by the licensee:

a. To provide for more frequent monitoring, reporting, sampling or maintenance 1

b. Other changes 2

5. Schedule of compliance:

a. Changes in interim compliance dates, with prior approval of the department ..... [1]1

b. Extension of final compliance date 3

6. Changes in expiration date of license to allow earlier license termination, with prior approval of the department..... [1]1

7. Changes in ownership or operational control of a facility, provided the procedures of s. NR 670.040(2) are followed..... [1]1

8. Changes to remove license conditions that are no longer applicable (i.e., because the standards upon which they are based are no longer applicable to the facility) ..... [1]1

B. *General Facility Standards*

1. Changes to waste sampling or analysis methods: a. To conform with department guidance or rules	1

b. To incorporate changes associated with F039 (multi-source leachate) sampling or analysis methods

1

1

c. To incorporate changes associated with underlying hazardous constituents in ignitable or corrosive wastes

[1]1

2

d. Other changes

2

3

2. Changes to analytical quality assurance/control plan:

a. To conform with department guidance or rules

1

5

b. Other changes

2

6

3. Changes in procedures for maintaining the operating record

1

7

4. Changes in frequency or content of inspection schedules

2

8

5. Changes in the training plan:

a. That affect the type or decrease the amount of training given to employees

2

0

b. Other changes

1

1

6. Contingency plan:

a. Changes in emergency procedures (i.e., spill or release response procedures) 2

3

b. Replacement with functionally equivalent equipment, upgrade or relocate emergency equipment listed 1

c. Removal of equipment from emergency equipment list 2

5

d. Changes in name, address or phone number of coordinators or other persons or agencies identified in the plan

1

7. Construction quality assurance plan:

a. Changes that the CQA officer certifies in the operating record will provide equivalent or better certainty that the unit components meet the design specifications 1

b. Other changes

2

9

Note: When a license modification (such as introduction of a new unit) requires a change in facility plans or other general facility standards, that change shall be reviewed under the same procedures as the license modification.

C. *Groundwater Protection*

1

1. Changes to wells:

a. Changes in the number, location, depth or design of upgradient or downgradient wells of licensed groundwater monitoring system 2

3

b. Replacement of an existing well that has been damaged or rendered inoperable, without change to location, design or depth of the well 1

2. Changes in groundwater sampling or analysis procedures or monitoring schedule, with prior approval of the department

[1]1

5

3. Changes in statistical procedure for determining whether a statistically significant change in groundwater quality between upgradient and downgradient wells has occurred, with prior approval of the department

[1]1

4. Changes in point of compliance

[1]2

7

5. Changes in indicator parameters, hazardous constituents or concentration limits (including ACLs):

a. As specified in the groundwater protection standard

3

9

b. As specified in the detection monitoring program	2

6. Changes to a detection monitoring program as required by s. NR 664.0098(8), unless otherwise specified in this appendix

2

1

7. Compliance monitoring program:

a. Addition of compliance monitoring program as required by s. NR 664.0099 3

b. Changes to a compliance monitoring program as required by s. NR 664.0099(10), unless otherwise specified in this appendix 2

8. Corrective action program:

a. Addition of a corrective action program as required by ss. NR 664.0099(8)(b) and 664.0100 3

b. Changes to a corrective action program as required by s. NR 664.0100(8), unless otherwise specified in this appendix 2

D. *Closure*

1. Changes to the closure plan:

a. Changes in estimate of maximum extent of operations or maximum inventory of waste onsite at any time during the active life of the facility, with prior approval of the department

[1]1

0

b. Changes in the closure schedule for any unit, changes in the final closure schedule for the facility, or extension of the closure period, with prior approval of the department

[1]1

1

c. Changes in the expected year of final closure, where other license conditions are not changed, with prior approval of the department

[1]1

2

d. Changes in procedures for decontamination of facility equipment or structures, with prior approval of the department

[1]1

e. Changes in approved closure plan resulting from unexpected events occurring during partial or final closure, unless otherwise specified in this appendix 2

f. Extension of the closure period to allow a landfill, surface impoundment or land treatment unit to receive nonhazardous wastes after final receipt of hazardous wastes under s. NR 664.0113(4) and (5)

2

5

2. Creation of a new landfill unit as part of closure

3

6

3. Addition of the following new units to be used temporarily for closure activities:

a. Surface impoundments 3

b. Incinerators

3

9

c. Waste piles that do not comply with s. NR 664.0250(3)

3

0

d. Waste piles that comply with s. NR 664.0250(3)

2

1

e. Tanks or containers (other than specified below)	2

f. Tanks used for neutralization, dewatering, phase separation or component separation, with prior approval of the department..... [1]1

g. Staging piles 2

E. *Long-term care*

1. Changes in name, address or phone number of contact in long-term care plan 1

2. Extension of long-term care period

3. Reduction in the long-term care period

3

8

4. Changes to the expected year of final closure, where other license conditions are not changed

1

5. Changes in long-term plan necessitated by events occurring during the active life of the facility, including partial and final closure 2

0

F. *Containers*

1. Modification or addition of container units that increases the facility's container storage

capacity…….. 3

2. Treatment processes necessary to treat wastes that are restricted from land disposal to meet some or all of the applicable treatment standards with prior approval of the department. This modification may also involve addition of new waste codes or narrative descriptions of wastes. It is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027 and 028…….

[1]1

3. Modification of container units:

a. Modification of a container unit without increasing the capacity of the unit 2

5

b. Addition of a roof to a container unit without alteration of the containment system 1

4. Storage of different wastes in containers:

a. That require additional or different management practices from those authorized in the license

3

8

b. That do not require additional or different management practices from those authorized in the license

2

9

Note: See s. NR 670.042(7) for modification procedures to be used for the management of newly listed or identified wastes.

5. Storage or treatment of different wastes in containers:

a. That require addition of units or change in treatment process or management standards, if the wastes are restricted from land disposal and are to be treated to meet some or all of the applicable treatment standards. This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027 and 028)

1

2

b. That do not require the addition of units or a change in the treatment process or management standards, and if the units have previously received wastes of the same type (e.g., incinerator scrubber water). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027 and 028)..... [1]1

G. *Tanks*

1. Modification or addition of tank units or secondary containment systems that increase the facility's tank capacity……....

3

5

2. Addition of a new tank that will operate for more than 90 days using any of the following physical or chemical treatment technologies: neutralization, dewatering, phase separation or component separation 2

3. After prior approval of the department, addition of a new tank that will operate for up to 90 days using any of the following physical or chemical treatment technologies: neutralization, dewatering, phase separation or component separation

[1]1

4. Modification or addition of tank units or treatment processes necessary to treat wastes that are restricted from land disposal to meet some or all of the applicable treatment standards with prior approval of the department. This modification may also involve addition of new waste codes. It is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027 and 028) ..... [1]1

5. Modification of a tank unit or secondary containment system without increasing the capacity of the unit 2

6. Replacement of a tank with a tank that meets the same design standards and has a capacity within ±10% of the replaced tank provided	1

0

-- The capacity difference is no more than 1500 gallons,

-- The facility's licensed tank capacity is not increased, and

-- The replacement tank meets the same conditions in the license.

7. Modification of a tank management practice 2

8. Management of different wastes in tanks:

a. That require additional or different management practices, tank design, different fire protection specifications, or significantly different tank treatment process from that authorized in the license, except as provided in c. below..... 3

b. That do not require additional or different management practices, tank design, different fire protection specifications, or significantly different tank treatment process than authorized in the license, except as provided in d. 2

c. That require addition of units or change in treatment processes or management standards, if the wastes are restricted from land disposal and are to be treated to meet some or all of the applicable treatment standards. The modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027 and 028) ..... [1]1

d. That do not require the addition of units or a change in the treatment process or management standards, and if the units have previously received wastes of the same type (e.g., incinerator scrubber water). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027 and 028)..... 1

Note: See s. NR 670.042(7) for modification procedures to be used for the management of newly listed or identified wastes.

H. *Surface Impoundments*

1

1. Modification or addition of surface impoundment units that result in increasing the facility's surface impoundment storage or treatment capacity

3

2

2. Replacement of a surface impoundment unit

3

3. Modification of a surface impoundment unit without increasing the facility's surface impoundment storage or treatment capacity and without modifying the unit's liner, leak detection system or leachate collection system 2

4. Modification of a surface impoundment management practice 2

5

5. Treatment, storage or disposal of different wastes in surface impoundments:

a. That require additional or different management practices or different design of the liner or leak detection system than authorized in the license 3

b. That do not require additional or different management practices or different design of the liner or leak detection system than authorized in the license

2

c. That are wastes restricted from land disposal that meet the applicable treatment standards. This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027 and 028) 1

d. That are residues from wastewater treatment or incineration, if disposal occurs in a unit that meets the minimum technological requirements stated in 40 CFR 268.5(h)(2), and provided further that the surface impoundment has previously received wastes of the same type (for example, incinerator scrubber water). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027 and 028) 1

0

6. Modifications of unconstructed units to comply with ss. NR 664.0221(3), 664.0222, 664.0223 and 664.0226(4)

[1]1

1

7. Changes in response action plan:

a. Increase in action leakage rate 3

b. Change in a specific response reducing its frequency or effectiveness 3

c. Other changes

2

5

Note: See s. NR 670.042(7) for modification procedures to be used for the management of newly listed or identified wastes.

I. *Enclosed Waste Piles.* For all waste piles except those complying with s. NR 664.0250(3), modifications are treated the same as for a landfill. The following modifications are applicable only to waste piles complying with s. NR 664.0250(3).

1. Modification or addition of waste pile units that increase the facility's waste pile storage or treatment capacity…….. 3

2. Modification of waste pile unit without increasing the capacity of the unit 2

3. Replacement of a waste pile unit with another waste pile unit of the same design and capacity and meeting all waste pile conditions in the license 2

0

4. Modification of a waste pile management practice

2

1

5. Storage or treatment of different wastes in waste piles:

a. That require additional or different management practices or different design of the unit 3

b. That do not require additional or different management practices or different design of the unit

2

6. Conversion of an enclosed waste pile to a containment building unit 2

5

Note: See s. NR 670.042(7) for modification procedures to be used for the management of newly listed or identified wastes.

J. *Landfills and Unenclosed Waste Piles*

1. Modification or addition of landfill units that result in increasing the facility's disposal capacity 3

2. Replacement of a landfill

3. Addition or modification of a liner, leachate collection system, leachate detection system, run-off control or final cover system 3

4. Modification of a landfill unit without changing a liner, leachate collection system, leachate detection system, run-off control or final cover system 2

1

5. Modification of a landfill management practice

2

6. Landfill different wastes:

a. That require additional or different management practices, different design of the liner, leachate collection system or leachate detection system

3

4

b. That do not require additional or different management practices, different design of the liner, leachate collection system or leachate detection system 2

5

c. That are wastes restricted from land disposal that meet the applicable treatment standards and if the landfill unit meets the minimum technological requirements stated in 40 CFR 268.5(h)(2). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027 and 028)..... 1

d. That are residues from wastewater treatment or incineration, if disposal occurs in a landfill unit that meets the minimum technological requirements stated in 40 CFR 268.5(h)(2), and provided further that the landfill has previously received wastes of the same type (for example, incinerator ash). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027 and 028)..... 1

7. Modifications of unconstructed units to comply with ss. NR 664.0251(3), 664.0252, 664.0253, 664.0254(3), 664.0301(3), 664.0302, 664.0303(3) and 664.0304 [1]1

8. Changes in response action plan:

a. Increase in action leakage rate 3

0

b. Change in a specific response reducing its frequency or effectiveness 3

1

c. Other changes

2

Note: See s. NR 670.042(7) for modification procedures to be used for the management of newly listed or identified wastes.

L. *Incinerators, Boilers and Industrial Furnaces:*

1. Changes to increase any of the following limits authorized in the license: A thermal feed rate limit, a feedstream feed rate limit, a chlorine/chloride feed rate limit, a metal feed rate limit or an ash feed rate limit. The department will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means 3

2. Modification of an incinerator, boiler or industrial furnace unit by changing the internal size or geometry of the primary or secondary combustion units, by adding a primary or secondary combustion unit, by substantially changing the design of any component used to remove HCl/Cl_2, metals or particulate from the combustion gases, or by changing other features of the incinerator, boiler or industrial furnace that could affect its capability to meet the regulatory performance standards. The department will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means

3

3. Modification of an incinerator, boiler or industrial furnace unit in a manner that would not likely affect the capability of the unit to meet the regulatory performance standards but which would change the operating conditions or monitoring requirements specified in the license. The department may require a new trial burn to demonstrate compliance with the regulatory performance standards

2

4. Operating requirements:

a. Modification of the limits specified in the license for minimum or maximum combustion gas temperature, minimum combustion gas residence time, oxygen concentration in the secondary combustion chamber, flue gas carbon monoxide and hydrocarbon concentration, maximum temperature at the inlet to the particulate matter emission control system, or operating parameters for the air pollution control system. The department will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means

3

b. Modification of any stack gas emission limits specified in the license, or modification of any conditions in the license concerning emergency shutdown or automatic waste feed cutoff procedures or controls

3

0

c. Modification of any other operating condition or any inspection or recordkeeping requirement specified in the license

2

1

5. Burning different wastes:

a. If the waste contains a POHC that is more difficult to burn than authorized by the license or if burning of the waste requires compliance with different regulatory performance standards than specified in the license. The department will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means

3

b. If the waste does not contain a POHC that is more difficult to burn than authorized by the license and if burning of the waste does not require compliance with different regulatory performance standards than specified in the license 2

Note: See s. NR 670.042(7) for modification procedures to be used for the management of newly listed or identified wastes.

6. Shakedown and trial burn:

a. Modification of the trial burn plan or any of the license conditions applicable during the shakedown period for determining operational readiness after construction, the trial burn period, or the period immediately following the trial burn 2

b. Authorization of up to an additional 720 hours of waste burning during the shakedown period for determining operational readiness after construction, with the prior approval of the department

[1]1

c. Changes in the operating requirements set in the license for conducting a trial burn, provided the change is minor and has received the prior approval of the department

[1]1

d. Changes in the ranges of the operating requirements set in the license to reflect the results of the trial burn, provided the change is minor and has received the prior approval of the department

[1]1

0

7. Substitution of an alternative type of nonhazardous waste fuel that is not specified in the license 1

1

8. Technology changes needed to meet standards under 40 CFR part 63 (subpart EEE – National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors), provided the procedures of s. NR 670.042(9) are followed

[1]1

2

M. *Containment Buildings.*

1. Modification or addition of a containment building unit or secondary containment system that increases the capacity of the unit. 3

2. Modification of a containment building unit or secondary containment system without increasing the capacity of the unit	2

3. Replacement of a containment building with a containment building that meets the same design standards provided:

a. The unit capacity is not increased

1

7

b. The replacement containment building meets the same conditions in the license

4. Modification of a containment building management practice 2

5. Storage or treatment of different wastes in containment buildings:

a. That require additional or different management practices

b. That do not require additional or different management practices 2

N. *Corrective Action:*

1. Approval of a corrective action management unit pursuant to s. NR 664.0552 | 3

2. Approval of a temporary unit or time extension for a temporary unit pursuant to s. NR 664.0553

2

5

3. Approval of a staging pile or staging pile operating term extension pursuant to s. NR 664.0554	2

[1] Class 1 modifications requiring prior department approval.

Appendix II
Hazardous Waste Fee Table [1]

	Tanks	Waste Piles	Incinerators & Boilers and Industrial Furnaces	Containers & Miscellaneous Units	Landfills & Surface Impoundments
Document Review Fees[2]					
Review of Interim License Application (Part A)	$800	$800	$800	$800	$1,600
Review of Initial Site Report					$3,500
Review of Operating License Application (Part A and Feasibility and Plan of Operation Report)	$6,400	$6,400	$19,500	$4,000	$100,000
Review of Closure Plan for Unlicensed Facilities	$2,400	$3,200	$3,200	$1,600	$23,400
Review of Class 1 Modification	$400	$400	$400	$400	$800
Review of Class 2 Modification	$1,600	$2,400	$3,200	$1,600	$4,000
Review of Class 3 Modification	$6,400	$6,400	$19,500	$4,000	$100,000
Review of Corrective Action Plan[3]	$1,600	$1,600	$1,600	$1,600	$7,800
Review of Remediation Variance Request	$1,600	$1,600	$4,000	$1,600	$4,000
Review of Construction Quality Assurance (CQA) Documentation[4]		$1,200			$4,000
Review of Special License for Boilers and Industrial Furnaces Application			$4,000		
Review of Research, Development and Demonstration License Application[5]	$4,000	$4,000	$4,000	$4,000	$4,000[6]

	Tanks	Waste Piles	Incinerators & Boilers and Industrial Furnaces	Containers & Miscellaneous Units	Landfills & Surface Impoundments
License Fees[7]					
Interim License[8]	$6,400	$9,600	$12,500	$6,400	$80,000
Annual Renewal of Operating License[9]	$3,200	$4,800	$6,400	$3,200	$40,000
Long Term Care License[10]					$80,000
Other Fees					
Construction Quality Assurance (CQA) Inspection		$65/ hour			$65/hour
Manifest Fee	$6 per Manifest; Facilities will be billed annually based on the number of manifests filed.				
Annual Hazardous Waste Transportation License[9]	$400				

[1] All fees must be submitted in a form and to the address specified by the department.

[2] The plan review fees specified in Appendix II cover the department's review from initial submittal through approval or denial of the report or plan. This fee provides the applicant with the option of withdrawing or supplementing their submittal to revise or complete it two times prior to it being deemed complete. The applicant shall pay the Document Review Fee specified in Appendix II when a plan which has been withdrawn after having been determined to be complete is resubmitted or when a plan or report that has twice been declared incomplete is resubmitted.

[3] The applicant shall pay the plan review fee specified in Appendix II for each phase of corrective action. The phases are facility investigation, selection of alternatives, and remedial design and operation.

[4] This fee is only for the review of supporting documentation required by the department.

[5] Research, development and demonstration licenses are issued for up to one year; there is no additional fee for the renewals specified in NR 670.065(4).

[6] Research, development and demonstration licenses are available for surface impoundments but are not available for landfills.

[7] A facility must have a separate operating license for each hazardous waste management activity it conducts.

[8] The interim license fee is a one-time payment to cover the interim license period until a final determination on the issuance of an operating license is made by the department. The Class 2 modification fee should accompany the interim license modification submittal stated in NR 670.072.

[9] The annual license fee is for the time period from October 1 to September 30 of the following year.

[10] This is a one-time fee to cover the entire 40-year long-term care period. All facilities subject to this requirement must pay the one-time fee even if they previously obtained a long-term care license.

CHAPTER NR 673
UNIVERSAL WASTE MANAGEMENT STANDARDS

Subchapter A —General

NR 673.01 Scope.
NR 673.02 Applicability —batteries.
NR 673.03 Applicability —pesticides.
NR 673.04 Applicability —mercury thermostats.
NR 673.05 Applicability —lamps.
NR 673.08 Applicability —household and very small quantity generator waste.
NR 673.09 Definitions.

Subchapter B —Small Quantity Handlers

NR 673.10 Applicability.
NR 673.11 Prohibitions.
NR 673.12 Notification.
NR 673.13 Waste management.
NR 673.14 Labeling and marking.
NR 673.15 Accumulation time limits.
NR 673.16 Employee training.
NR 673.17 Response to releases.
NR 673.18 Off-site shipments.
NR 673.19 Tracking shipments.
NR 673.20 Exports.

Subchapter C —Large Quantity Handlers

NR 673.30 Applicability.
NR 673.31 Prohibitions.
NR 673.32 Notification.
NR 673.33 Waste management.
NR 673.34 Labeling and marking.
NR 673.35 Accumulation time limits.
NR 673.36 Employee training.
NR 673.37 Response to releases.
NR 673.38 Off-site shipments.
NR 673.39 Tracking shipments.
NR 673.40 Exports.

Subchapter D —Transporters

NR 673.50 Applicability.
NR 673.51 Prohibitions.
NR 673.52 Waste management.
NR 673.53 Storage time limits.
NR 673.54 Response to releases.
NR 673.55 Off-site shipments.
NR 673.56 Exports.

Subchapter E —Destination Facilities

NR 673.60 Applicability.
NR 673.61 Off-site shipments.
NR 673.62 Tracking shipments.

Subchapter F —Imports
NR 673.70 Imports.

Subchapter G —Petitions to Include Other Wastes under this Chapter
NR 673.80 General.
NR 673.81 Factors for petitions to include other wastes under this chapter.

Subchapter A —General

NR 673.01 Scope. (1) This chapter establishes requirements for managing all of the following:
(a) Batteries as described in s. NR 673.02.
(b) Pesticides as described in s. NR 673.03.
(c) Thermostats as described in s. NR 673.04.
(d) Lamps as described in s. NR 673.05.
(2) This chapter provides an alternative set of management standards in lieu of regulation under chs. NR 660 to 670.

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.02 Applicability —batteries. (1)** BATTERIES COVERED UNDER THIS CHAPTER. (a) The requirements of this chapter apply to persons managing batteries, as described in s. NR 673.09, except those listed in sub. (2).
(b) Spent lead-acid batteries which are not managed under subch. G of ch. NR 666, are subject to management under this chapter.
(2) BATTERIES NOT COVERED UNDER THIS CHAPTER. The requirements of this chapter do not apply to persons managing any of the following batteries:
(a) Spent lead-acid batteries that are managed under subch. G of ch. NR 666.
(b) Batteries, as described in s. NR 673.09, that are not yet wastes under ch. NR 661, including those that do not meet the criteria for waste generation in sub. (3).
(c) Batteries, as described in s. NR 673.09, that are not hazardous waste. A battery is a hazardous waste if it exhibits one or more of the characteristics identified in subch. C of ch. NR 661.
(3) GENERATION OF WASTE BATTERIES. (a) A used battery becomes a waste on the date it is discarded (e.g., when sent for reclamation).
(b) An unused battery becomes a waste on the date the handler decides to discard it.

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.03 Applicability —pesticides. (1)** PESTICIDES COVERED UNDER THIS CHAPTER. The requirements of this chapter apply to persons managing pesticides, as described in s. NR 673.09, meeting any of the following conditions, except those listed in sub. (2):
(a) Recalled pesticides that are any of the following:
1. Stocks of a suspended and canceled pesticide that are part of a voluntary or mandatory recall under 7 USC 136q(b), including, but not limited to those owned by the registrant responsible for conducting the recall.
2. Stocks of a suspended or canceled pesticide, or a pesticide that is not in compliance with 7 USC 136 to 136y, that are part of a voluntary recall by the registrant.

Note: Title 7 USC 136 to 136y is also known as the federal insecticide, fungicide and rodenticide act (FIFRA).

(b) Stocks of other unused pesticide products that are collected and managed as part of a waste pesticide collection program.

(2) PESTICIDES NOT COVERED UNDER THIS CHAPTER. The requirements of this chapter do not apply to persons managing any of the following pesticides:

(a) Recalled pesticides described in sub. (1)(a), and unused pesticide products described in sub. (1)(b), that are managed by farmers in compliance with s. NR 662.070.

Note: Section NR 662.070 addresses pesticides disposed of on the farmer's own farm in a manner consistent with the disposal instructions on the pesticide label, provided the container is triple rinsed in accordance with s. NR 661.07(2)(c).

(b) Pesticides not meeting the conditions set forth in sub. (1). These pesticides shall be managed in compliance with the hazardous waste rules in chs. NR 660 to 670.

(c) Pesticides that are not wastes under ch. NR 661, including those that do not meet the criteria for waste generation in sub. (3) or those that are not wastes as described in sub. (4).

(d) Pesticides that are not hazardous waste. A pesticide is a hazardous waste if it is listed in subch. D of ch. NR 661 or if it exhibits one or more of the characteristics identified in subch. C of ch. NR 661.

(3) WHEN A PESTICIDE BECOMES A WASTE. (a) A recalled pesticide described in sub. (1)(a) becomes a waste on the first date on which all of the following conditions apply:

1. The generator of the recalled pesticide agrees to participate in the recall.

2. The person conducting the recall decides to discard (e.g., burn the pesticide for energy recovery).

(b) An unused pesticide product described in sub. (1)(b) becomes a waste on the date the generator decides to discard it.

(4) PESTICIDES THAT ARE NOT WASTES. All of the following pesticides are not wastes:

(a) Recalled pesticides described in sub. (1)(a), provided that the person conducting the recall has done any of the following:

1. Has not made a decision to discard (e.g., burn for energy recovery) the pesticide. Until such a decision is made, the pesticide does not meet the definition of "solid waste" under s. NR 661.02. Thus, the pesticide is not a hazardous waste and is not subject to hazardous waste requirements, including this chapter. This pesticide remains subject to the requirements of 7 USC 136 to 136y.

2. Has made a decision to use a management option that, under s. NR 661.02, does not cause the pesticide to be a solid waste (i.e., the selected option is use (other than use constituting disposal) or reuse (other than burning for energy recovery), or reclamation). Such a pesticide is not a solid waste and therefore is not a hazardous waste, and is not subject to the hazardous waste requirements including this chapter. This pesticide, including a recalled pesticide that is exported to a foreign destination for use or reuse, remains subject to the requirements of7 USC 136 to 136y.

(b) Unused pesticide products described in sub. (1)(b), if the generator of the unused pesticide product has not decided to discard (e.g., burn for energy recovery) them. These pesticides remain subject to the requirements of 7 USC 136 to 136y.

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.04 Applicability —mercury thermostats. (1)** THERMOSTATS COVERED UNDER THIS CHAPTER. The requirements of this chapter apply to persons managing thermostats, as described in s. NR 673.09, except those listed in sub. (2).

(2) THERMOSTATS NOT COVERED UNDER THIS CHAPTER. The requirements of this chapter do not apply to persons managing any of the following thermostats:

(a) Thermostats that are not yet wastes under ch. NR 661. Subsection (3) describes when thermostats become wastes.

(b) Thermostats that are not hazardous waste. A thermostat is a hazardous waste if it exhibits one or more of the characteristics identified in subch. C of ch. NR 661.

(3) GENERATION OF WASTE THERMOSTATS. (a) A used thermostat becomes a waste on the date it is discarded (e.g., sent for reclamation).

(b) An unused thermostat becomes a waste on the date the handler decides to discard it.

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.05 Applicability —lamps. (1)** LAMPS COVERED UNDER THIS CHAPTER. The requirements of this chapter apply to persons managing lamps as described in s. NR 673.09, except those listed in sub. (2).

(2) LAMPS NOT COVERED UNDER THIS CHAPTER. The requirements of this chapter do not apply to persons managing any of the following lamps:

(a) Lamps that are not yet wastes under ch. NR 661 as provided in sub. (3).

(b) Lamps that are not hazardous waste. A lamp is a hazardous waste if it exhibits one or more of the characteristics identified in subch. C of ch. NR 661.

(3) GENERATION OF WASTE LAMPS. (a) A used lamp becomes a waste on the date it is discarded.

(b) An unused lamp becomes a waste on the date the handler decides to discard it.

(a) Household wastes that are exempt under s. NR 661.04(2)(a) and are also of the same type as the universal wastes defined at s. NR 673.09.

(b) Very small quantity generator wastes that are exempt under s. NR 662.220 and are also of the same type as the universal wastes defined at s. NR 673.09.

(2) Persons who commingle the wastes described in sub. (1)(a) and (b) together with universal waste regulated under this chapter shall manage the commingled waste under the requirements of this chapter.

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.09 Definitions.** In this chapter:

(1) ”Battery” means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode and an electrolyte, plus connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

(2) ”Destination facility” means a facility that treats, disposes of or recycles a particular category of universal waste, except those management activities described in ss. NR 673.13(1) and (3) and 673.33(1) and (3). A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

(3) ”FIFRA” means the federal insecticide, fungicide and rodenticide act (7 USC 136 to 136y).

(4) ”Generator” means any person, by site, whose act or process produces hazardous waste identified or listed in ch. NR 661 or whose act first causes a hazardous waste to become subject to regulation.

(5) ”Lamp”, also referred to as ”universal waste lamp”, means the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible and infra-red regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium and metal halide lamps.

(6) ”Large quantity handler of universal waste” means a universal waste handler (as defined in this section) who accumulates 5,000 kilograms (11,025 pounds) or more total of universal waste (batteries, pesticides, thermostats or lamps, calculated collectively) at any time. This designation as a large quantity handler of universal waste is retained through the end of the calendar year in which 5,000 kilograms (11,025 pounds) or more total of universal waste is accumulated.

(7) ”On-site” means the same or geographically contiguous property which may be divided by public or private right-of-way, provided that the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along the right of way. Non-contiguous

properties owned by the same person but connected by a right-of-way which that person controls and to which the public does not have access, are also considered on-site property.

(8) ”Pesticide” means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest, or intended for use as a plant regulator, defoliant or desiccant, other than any article that is one of the following:

(a) A new animal drug under 21 USC 321(v).

(b) An animal drug that has been determined by regulation of the secretary of the U.S. department of health and human services not to be a new animal drug.

(c) An animal feed under 21 USC 321(w) that bears or contains any substances described by par. (a) or (b).

Note: Title 21 USC 301 to 397 is also known as the federal food, drug and cosmetic act (FFDCA).

(9) ”Small quantity handler of universal waste” means a universal waste handler (as defined in this section) who does not accumulate 5,000 kilograms (11,025 pounds) or more total of universal waste (batteries, pesticides, thermostats or lamps, calculated collectively) at any time.

(10) ”Thermostat” means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of s. NR 673.13(3)(b) or 673.33(3)(b).

(11) ”Universal waste” means any of the following hazardous wastes that are subject to the universal waste requirements of this chapter:

(a) Batteries as described in s. NR 673.02.

(b) Pesticides as described in s. NR 673.03.

(c) Thermostats as described in s. NR 673.04.

(d) Lamps as described in s. NR 673.05.

(12) ”Universal waste handler”:

(a) Means any of the following:

1. A generator (as defined in this section) of universal waste.

2. The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste and sends universal waste to another universal waste handler, a destination facility or a foreign destination.

(b) Does not mean any of the following:

1. A person who treats (except under s. NR 673.13(1) or (3), or 673.33(1) or (3)), disposes of or recycles universal waste.

2. A person engaged in the off-site transportation of universal waste by air, rail, highway or water, including a universal waste transfer facility.

(13) ”Universal waste transfer facility” means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of universal waste are held during the normal course of transportation for 10 days or less.

(14) ”Universal waste transporter” means a person engaged in the off-site transportation of universal waste by air, rail, highway or water.

Subchapter B —Small Quantity Handlers

Nhttp://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**R 673.10 Applicability.** This subchapter applies to small quantity handlers of universal waste (as defined in s. NR 673.09).

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.11 Prohibitions.** A small quantity handler of universal waste is prohibited from doing any of the following:

(1) Disposing of universal waste.

(2) Diluting or treating universal waste, except by responding to releases as provided in s. NR 673.17, or by managing specific wastes as provided in s. NR 673.13.

NR 673.12 Notification. A small quantity handler of universal waste is not required to notify the department of universal waste handling activities.

NR 673.13 Waste management. (1) UNIVERSAL WASTE BATTERIES. A small quantity handler of universal waste shall manage universal waste batteries in all of the following ways that prevent releases of any universal waste or component of a universal waste to the environment:

(a) A small quantity handler of universal waste shall contain any universal waste battery that shows evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions in a container. The container shall be closed, structurally sound, compatible with the contents of the battery and shall lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(b) A small quantity handler of universal waste may conduct any of the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but shall be immediately closed after removal):

1. Sorting batteries by type.
2. Mixing battery types in one container.
3. Discharging batteries so as to remove the electric charge.
4. Regenerating used batteries.
5. Disassembling batteries or battery packs into individual batteries or cells.
6. Removing batteries from consumer products.
7. Removing electrolyte from batteries.

(c) A small quantity handler of universal waste who removes electrolyte from batteries, or who generates other solid waste (e.g., battery pack materials, discarded consumer products) as a result of the activities listed in par. (b), shall determine whether the electrolyte or other solid waste exhibits a characteristic of hazardous waste identified in subch. C of ch. NR 661.

1. If the electrolyte or other solid waste exhibits a characteristic of hazardous waste, it is subject to all applicable requirements of chs. NR 660 to 670. The handler is considered the generator of the hazardous electrolyte or other waste and is subject to ch. NR 662.

2. If the electrolyte or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with chs. 287 and 289, Stats., chs. NR 500 to 549 and applicable federal or local solid waste regulations.

(2) UNIVERSAL WASTE PESTICIDES. A small quantity handler of universal waste shall manage universal waste pesticides in a way that prevents releases of any universal waste or component of a universal waste to the environment. The universal waste pesticides shall be contained in one or more of the following:

(a) A container that remains closed, structurally sound, compatible with the pesticide and that lacks evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(b) A container that does not meet the requirements of par. (a), provided that the unacceptable container is overpacked in a container that does meet the requirements of par. (a).

(c) A tank that meets the requirements of subch. J of ch. NR 665, except for ss. NR 665.0197(3) and 665.0200.

(d) A transport vehicle or vessel that is closed, structurally sound, compatible with the pesticide and that lacks evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(3) UNIVERSAL WASTE THERMOSTATS. A small quantity handler of universal waste shall manage universal waste thermostats in all of the following ways that prevent releases of any universal waste or component of a universal waste to the environment:

(a) A small quantity handler of universal waste shall contain any universal waste thermostat that shows evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions in a container. The container shall be closed, structurally sound, compatible with the contents of the thermostat and shall lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(b) A small quantity handler of universal waste may remove mercury-containing ampules from universal waste thermostats provided the handler does all of the following:

1. Removes the ampules in a manner designed to prevent breakage of the ampules.

2. Removes ampules only over or in a containment device (e.g., tray or pan sufficient to collect and contain any mercury released from an ampule in case of breakage).

3. Ensures that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks from broken ampules, from the containment device to a container that meets the requirements of s. NR 662.034 or 662.192.

4. Immediately transfers any mercury resulting from spills or leaks from broken ampules from the containment device to a container that meets the requirements of s. NR 662.034 or 662.192.

5. Ensures that the area in which ampules are removed is well ventilated and monitored to ensure compliance with applicable exposure levels for mercury adopted under 29 USC 651 to 678 or s. 101.055, Stats.

Note: Title 29 USC 651 to 678 is also known as the federal occupational safety and health act (OSHA). Chapter Comm 32 implements s. 101.055, Stats.

6. Ensures that employees removing ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers.

7. Stores removed ampules in closed, non-leaking containers that are in good condition.

8. Packs removed ampules in the container with packing materials adequate to prevent breakage during storage, handling and transportation.

(c)1. A small quantity handler of universal waste who removes mercury-containing ampules from thermostats shall determine whether all of the following exhibit a characteristic of hazardous waste identified in subch. C of ch. NR 661:

a. Mercury or clean-up residues resulting from spills or leaks.

b. Other solid waste generated as a result of the removal of mercury-containing ampules (e.g., remaining thermostat units).

2. If the mercury, residues or other solid waste exhibits a characteristic of hazardous waste, it shall be managed in compliance with all applicable requirements of chs. NR 660 to 670. The handler is considered the generator of the mercury, residues or other waste and shall manage it subject to ch. NR 662.

3. If the mercury, residues or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with chs. 287 and 289, Stats., chs. NR 500 to 549 and applicable federal or local solid waste regulations.

(4) LAMPS. A small quantity handler of universal waste shall manage lamps in all of the following ways that prevent releases of any universal waste or component of a universal waste to the environment:

(a) A small quantity handler of universal waste shall contain any lamp in containers or packages that are structurally sound, adequate to prevent breakage and compatible with the contents of the lamps. The

containers and packages shall remain closed and shall lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(b) A small quantity handler of universal waste shall immediately clean up and place in a container any lamp that is broken and shall place in a container any lamp that shows evidence of breakage, leakage or damage that could cause the release of mercury or other hazardous constituents to the environment. Containers shall be closed, structurally sound, compatible with the contents of the lamps and shall lack evidence of leakage, spillage or damage that could cause leakage or releases of mercury or other hazardous constituents to the environment under reasonably foreseeable conditions.

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.14 Labeling and marking.** A small quantity handler of universal waste shall label or mark the universal waste to identify the type of universal waste as specified below:

(1) Universal waste batteries (i.e., each battery), or a container in which the batteries are contained, shall be labeled or marked clearly with the phrase ”Universal Waste—Batteries”, ”Waste Batteries” or ”Used Batteries”.

(2) A container (or multiple container package unit), tank or transport vehicle or vessel in which recalled universal waste pesticides as described in s. NR 673.03(1)(a) are contained shall be labeled or marked clearly with all of the following:

(a) The label that was on or accompanied the product as sold or distributed.

(b) The words ”Universal Waste—Pesticides” or “Waste-Pesticides”.

(3) A container, tank or transport vehicle or vessel in which unused pesticide products as described in s. NR 673.03(1)(b) are contained shall be labeled or marked clearly with all of the following:

(a)1. The label that was on the product when purchased, if still legible.

2. If using the labels described in subd. 1. is not feasible, the appropriate label as required under the U.S. department of transportation regulation 49 CFR part 172.

3. If using the labels described in subds. 1. and 2. is not feasible, another label prescribed or designated by the waste pesticide collection program administered or recognized by the state of Wisconsin.

(b) The words ”Universal Waste-Pesticides” or “Waste-Pesticides”.

(4) Universal waste thermostats (i.e., each thermostat), or a container in which the thermostats are contained, shall be labeled or marked clearly with the phrase ”Universal Waste—Mercury Thermostats”, ”Waste Mercury Thermostats” or ”Used Mercury Thermostats”.

(5) Each lamp or a container or package in which the lamps are contained shall be labeled or marked clearly with the phrase ”Universal Waste—Lamps”, ”Waste Lamps” or ”Used Lamps”.

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.15 Accumulation time limits. (1)** A small quantity handler of universal waste may accumulate universal waste for no longer than one year from the date the universal waste is generated, or received from another handler, unless the requirements of sub. (2) are met.

(2) A small quantity handler of universal waste may accumulate universal waste for longer than one year from the date the universal waste is generated, or received from another handler, if this activity is solely for the purpose of accumulation of quantities of universal waste as necessary to facilitate proper recovery, treatment or disposal. However, the handler bears the burden of proving that this activity is solely for the purpose of accumulation of quantities of universal waste as necessary to facilitate proper recovery, treatment or disposal.

(3) A small quantity handler of universal waste who accumulates universal waste shall be able to demonstrate the length of time that the universal waste has been accumulated from the date it becomes a waste or is received. The handler may make this demonstration by doing any of the following:

(a) Placing the universal waste in a container and marking or labeling the container with the earliest date that any universal waste in the container became a waste or was received.

(b) Marking or labeling each individual item of universal waste (e.g., each battery or thermostat) with the date it became a waste or was received.

(c) Maintaining an inventory system on-site that identifies the date each universal waste became a waste or was received.

(d) Maintaining an inventory system on-site that identifies the earliest date that any universal waste in a group of universal waste items or a group of containers of universal waste became a waste or was received.

(e) Placing the universal waste in a specific accumulation area and identifying the earliest date that any universal waste in the area became a waste or was received.

(f) Any other method which clearly demonstrates the length of time that the universal waste has been accumulated from the date it becomes a waste or is received.

NR 673.16 Employee training. A small quantity handler of universal waste shall inform all employees who handle or have responsibility for managing universal waste. The information shall describe proper handling and emergency procedures appropriate to the types of universal waste handled at the facility.

NR 673.17 Response to releases. (1) A small quantity handler of universal waste shall immediately contain all releases of universal wastes and other residues from universal wastes.

(2) A small quantity handler of universal waste shall determine whether any material resulting from the release is hazardous waste, and if so, shall manage the hazardous waste in compliance with all applicable requirements of chs. NR 660 to 670. The handler is considered the generator of the material resulting from the release, and shall manage it in compliance with ch. NR 662.

NR 673.18 Off-site shipments. (1) A small quantity handler of universal waste is prohibited from sending or taking universal waste to a place other than another universal waste handler, a destination facility or a foreign destination.

(2) If a small quantity handler of universal waste self-transports universal waste off-site, the handler becomes a universal waste transporter for those self-transportation activities and shall comply with the transporter requirements of subch. D while transporting the universal waste.

(3) If a universal waste being offered for off-site transportation meets the definition of hazardous materials under 49 CFR parts 171 to 180, a small quantity handler of universal waste shall package, label, mark and placard the shipment, and prepare the proper shipping papers in accordance with the applicable U.S. department of transportation regulations under 49 CFR parts 172 to 180.

(4) Prior to sending a shipment of universal waste to another universal waste handler, the originating handler shall ensure that the receiving handler agrees to receive the shipment.

(5) If a small quantity handler of universal waste sends a shipment of universal waste to another handler or to a destination facility and the shipment is rejected by the receiving handler or destination facility, the originating handler shall do one of the following:

(a) Receive the waste back when notified that the shipment has been rejected.

(b) Agree with the receiving handler on a destination facility to which the shipment will be sent.

(6) A small quantity handler of universal waste may reject a shipment containing universal waste, or a portion of a shipment containing universal waste, that the handler has received from another handler. If a handler rejects a shipment or a portion of a shipment, the handler shall contact the originating handler to

notify the originating handler of the rejection and to discuss reshipment of the load. The handler shall do one of the following:

(a) Send the shipment back to the originating handler.

(b) If agreed to by both the originating and receiving handler, send the shipment to a destination facility.

(7) If a small quantity handler of universal waste receives a shipment containing hazardous waste that is not a universal waste, the handler shall immediately notify the department of the illegal shipment, and provide the name, address and phone number of the originating shipper. The department will provide instructions for managing the hazardous waste.

(8) If a small quantity handler of universal waste receives a shipment of non-hazardous, non-universal waste, the handler may manage the waste in any way that is in compliance with chs. 287 and 289, Stats., chs. NR 500 to 549 and applicable federal or local solid waste regulations.

NR 673.19 Tracking shipments. A small quantity handler of universal waste is not required to keep records of shipments of universal waste.

NR 673.20 Exports. A small quantity handler of universal waste who sends universal waste to a foreign destination other than to those OECD countries specified in s. NR 662.058(1)(a) (in which case the handler is subject to the requirements of subch. H of ch. NR 662) shall do all of the following:

(1) Comply with the requirements applicable to a primary exporter in ss. NR 662.053, 662.056(1)(a) to (d), (f) and (2) and 662.057.

(2) Export the universal waste only upon consent of the receiving country and in conformance with the EPA acknowledgment of consent as defined in subch. E of ch. NR 662.

(3) Provide a copy of the EPA acknowledgment of consent for the shipment to the transporter transporting the shipment for export.

Subchapter C —Large Quantity Handlers

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.30 Applicability.** This subchapter applies to large quantity handlers of universal waste.

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.31 Prohibitions.** A large quantity handler of universal waste is prohibited from doing any of the following:

(1) Disposing of universal waste.

(2) Diluting or treating universal waste, except by responding to releases as provided in s. NR 673.37, or by managing specific wastes as provided in s. NR 673.33.

NR 673.32 Notification. (1)(a) Except as provided in pars. (b) and (c), a large quantity handler of universal waste shall have sent written notification of universal waste management to the department, and received an EPA identification number, before meeting or exceeding the 5,000 kilogram (11,025 pounds) storage limit.

(b) A large quantity handler of universal waste who has already notified the department of its hazardous waste management activities and has received an EPA identification number is not required to renotify under this section.

(c) A large quantity handler of universal waste who manages recalled universal waste pesticides as described in s. NR 673.03(1)(a) and who has sent notification to EPA as required by 40 CFR part 165 is not required to notify for those recalled universal waste pesticides under this section.

(2) This notification shall include all of the following:

(a) The universal waste handler's name and mailing address.

(b) The name and business telephone number of the person at the universal waste handler's site who should be contacted regarding universal waste management activities.

(c) The address or physical location of the universal waste management activities.

(d) A list of all the types of universal waste managed by the handler (e.g., batteries, pesticides, thermostats, lamps).

(e) A statement indicating that the handler is accumulating more than 5,000 kg (11,025 pounds) of universal waste at one time and the types of universal waste (e.g., batteries, pesticides, thermostats and lamps) the handler is accumulating above this quantity.

Note: See s. NR 660.07 for information on obtaining EPA form 8700-12.

NR 673.33 Waste management. (1) UNIVERSAL WASTE BATTERIES. A large quantity handler of universal waste shall manage universal waste batteries in all of the following ways that prevent releases of any universal waste or component of a universal waste to the environment:

(a) A large quantity handler of universal waste shall contain any universal waste battery that shows evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions in a container. The container shall be closed, structurally sound, compatible with the contents of the battery and shall lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(b) A large quantity handler of universal waste may conduct any of the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but shall be immediately closed after removal):

1. Sorting batteries by type.
2. Mixing battery types in one container.
3. Discharging batteries so as to remove the electric charge.
4. Regenerating used batteries.
5. Disassembling batteries or battery packs into individual batteries or cells.
6. Removing batteries from consumer products.
7. Removing electrolyte from batteries.

(c) A large quantity handler of universal waste who removes electrolyte from batteries, or who generates other solid waste (e.g., battery pack materials, discarded consumer products) as a result of the activities listed in par. (b), shall determine whether the electrolyte or other solid waste exhibits a characteristic of hazardous waste identified in subch. C of ch. NR 661.

1. If the electrolyte or other solid waste exhibits a characteristic of hazardous waste, it shall be managed in compliance with all applicable requirements of chs. NR 660 to 670. The handler is considered the generator of the hazardous electrolyte or other waste and is subject to ch. NR 662.

2. If the electrolyte or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with chs. 287 and 289, Stats., chs. NR 500 to 549 and applicable federal or local solid waste regulations.

(2) UNIVERSAL WASTE PESTICIDES. A large quantity handler of universal waste shall manage universal waste pesticides in a way that prevents releases of any universal waste or component of a universal waste to the environment. The universal waste pesticides shall be contained in one or more of the following:

(a) A container that remains closed, structurally sound, compatible with the pesticide and that lacks evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(b) A container that does not meet the requirements of par. (a), provided that the unacceptable container is overpacked in a container that does meet the requirements of par. (a).

(c) A tank that meets the requirements of subch. J of ch. NR 665, except for ss. NR 665.0197(3) and 665.0200.

(d) A transport vehicle or vessel that is closed, structurally sound, compatible with the pesticide and that lacks evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(3) UNIVERSAL WASTE THERMOSTATS. A large quantity handler of universal waste shall manage universal waste thermostats in all of the following ways that prevent releases of any universal waste or component of a universal waste to the environment:

(a) A large quantity handler of universal waste shall contain any universal waste thermostat that shows evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions in a container. The container shall be closed, structurally sound, compatible with the contents of the thermostat and shall lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(b) A large quantity handler of universal waste may remove mercury-containing ampules from universal waste thermostats provided the handler does all of the following:

1. Removes the ampules in a manner designed to prevent breakage of the ampules.

2. Removes ampules only over or in a containment device (e.g., tray or pan sufficient to contain any mercury released from an ampule in case of breakage).

3. Ensures that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks from broken ampules, from the containment device to a container that meets the requirements of s. NR 662.034 or 662.192.

4. Immediately transfers any mercury resulting from spills or leaks from broken ampules from the containment device to a container that meets the requirements of s. NR 662.034 or 662.192.

5. Ensures that the area in which ampules are removed is well ventilated and monitored to ensure compliance with applicable exposure levels for mercury adopted under 29 USC 651 to 678 or s. 101.055, Stats.

Note: Title 29 USC 651 to 678 is also known as the federal occupational safety and health act (OSHA). Chapter Comm 32 implements s. 101.055, Stats.

6. Ensures that employees removing ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers.

7. Stores removed ampules in closed, non-leaking containers that are in good condition.

8. Packs removed ampules in the container with packing materials adequate to prevent breakage during storage, handling and transportation.

(c)1. A large quantity handler of universal waste who removes mercury-containing ampules from thermostats shall determine whether all of the following exhibit a characteristic of hazardous waste identified in subch. C of ch. NR 661:

a. Mercury or clean-up residues resulting from spills or leaks.

b. Other solid waste generated as a result of the removal of mercury-containing ampules (e.g., remaining thermostat units).

2. If the mercury, residues or other solid waste exhibits a characteristic of hazardous waste, it shall be managed in compliance with all applicable requirements of chs. NR 660 to 670. The handler is considered the generator of the mercury, residues or other waste and is subject to ch. NR 662.

3. If the mercury, residues or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with chs. 287 and 289, Stats., chs. NR 500 to 549 and applicable federal or local solid waste regulations.

(4) LAMPS. A large quantity handler of universal waste shall manage lamps in all of the following ways that prevent releases of any universal waste or component of a universal waste to the environment:

(a) A large quantity handler of universal waste shall contain any lamp in containers or packages that are structurally sound, adequate to prevent breakage and compatible with the contents of the lamps. The containers and packages shall remain closed and shall lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(b) A large quantity handler of universal waste shall immediately clean up and place in a container any lamp that is broken and shall place in a container any lamp that shows evidence of breakage, leakage or damage that could cause the release of mercury or other hazardous constituents to the environment. Containers shall be closed, structurally sound, compatible with the contents of the lamps and shall lack evidence of leakage, spillage or damage that could cause leakage or releases of mercury or other hazardous constituents to the environment under reasonably foreseeable conditions.

NR 673.34 Labeling and marking. A large quantity handler of universal waste shall label or mark the universal waste to identify the type of universal waste as specified below:

(1) Universal waste batteries (i.e., each battery), or a container or tank in which the batteries are contained, shall be labeled or marked clearly with the phrase ”Universal Waste—Batteries”, ”Waste Batteries” or ”Used Batteries”.

(2) A container (or multiple container package unit), tank or transport vehicle or vessel in which recalled universal waste pesticides as described in s. NR 673.03(1)(a) are contained shall be labeled or marked clearly with all of the following:

(a) The label that was on or accompanied the product as sold or distributed.

(b) The words ”Universal Waste—Pesticides” or ”Waste—Pesticides”.

(3) A container, tank or transport vehicle or vessel in which unused pesticide products as described in s. NR 673.03(1)(b) are contained shall be labeled or marked clearly with all of the following:

(a)1. The label that was on the product when purchased, if still legible.

2. If using the labels described in subd. 1. is not feasible, the appropriate label as required under the U.S. department of transportation regulation 49 CFR part 172.

3. If using the labels described in subds. 1. and 2. is not feasible, another label prescribed or designated by the pesticide collection program.

(b) The words ”Universal Waste—Pesticides” or ”Waste—Pesticides”.

(4) Universal waste thermostats (i.e., each thermostat), or a container or tank in which the thermostats are contained, shall be labeled or marked clearly with the phrase ”Universal Waste—Mercury Thermostats”, ”Waste Mercury Thermostats” or ”Used Mercury Thermostats”.

(5) Each lamp or a container or package in which the lamps are contained shall be labeled or marked clearly with the phrase ”Universal Waste—Lamps”, ”Waste Lamps” or ”Used Lamps”.

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.35 Accumulation time limits. (1)** A large quantity handler of universal waste may accumulate universal waste for no longer than one year from the date the universal waste is generated, or received from another handler, unless the requirements of sub. (2) are met.

(2) A large quantity handler of universal waste may accumulate universal waste for longer than one year from the date the universal waste is generated, or received from another handler, if this activity is solely for the purpose of accumulation of quantities of universal waste as necessary to facilitate proper recovery, treatment or disposal. However, the handler bears the burden of proving that this activity was solely for the purpose of accumulation of quantities of universal waste as necessary to facilitate proper recovery, treatment or disposal.

(3) A large quantity handler of universal waste shall be able to demonstrate the length of time that the universal waste has been accumulated from the date it becomes a waste or is received. The handler may make this demonstration by doing any of the following:

(a) Placing the universal waste in a container and marking or labeling the container with the earliest date that any universal waste in the container became a waste or was received.

(b) Marking or labeling the individual item of universal waste (e.g., each battery or thermostat) with the date it became a waste or was received.

(c) Maintaining an inventory system on-site that identifies the date the universal waste being accumulated became a waste or was received.

(d) Maintaining an inventory system on-site that identifies the earliest date that any universal waste in a group of universal waste items or a group of containers of universal waste became a waste or was received.

(e) Placing the universal waste in a specific accumulation area and identifying the earliest date that any universal waste in the area became a waste or was received.

(f) Any other method which clearly demonstrates the length of time that the universal waste has been accumulated from the date it becomes a waste or is received.

NR 673.36 Employee training. A large quantity handler of universal waste shall ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relative to their responsibilities during normal facility operations and emergencies.

NR 673.37 Response to releases. (1) A large quantity handler of universal waste shall immediately contain all releases of universal wastes and other residues from universal wastes.

(2) A large quantity handler of universal waste shall determine whether any material resulting from the release is hazardous waste, and if so, shall manage the hazardous waste in compliance with all applicable requirements of chs. NR 660 to 670. The handler is considered the generator of the material resulting from the release, and is subject to ch. NR 662.

NR 673.38 Off-site shipments. (1) A large quantity handler of universal waste is prohibited from sending or taking universal waste to a place other than another universal waste handler, a destination facility or a foreign destination.

(2) If a large quantity handler of universal waste self-transports universal waste off-site, the handler becomes a universal waste transporter for those self-transportation activities and shall comply with the transporter requirements of subch. D while transporting the universal waste.

(3) If a universal waste being offered for off-site transportation meets the definition of hazardous materials under 49 CFR parts 171 to 180, a large quantity handler of universal waste shall package, label, mark and placard the shipment, and prepare the proper shipping papers in accordance with the applicable U.S. department of transportation regulations under 49 CFR parts 172 to 180.

(4) Prior to sending a shipment of universal waste to another universal waste handler, the originating handler shall ensure that the receiving handler agrees to receive the shipment.

(5) If a large quantity handler of universal waste sends a shipment of universal waste to another handler or to a destination facility and the shipment is rejected by the receiving handler or destination facility, the originating handler shall do one of the following:

(a) Receive the waste back when notified that the shipment has been rejected.

(b) Agree with the receiving handler on a destination facility to which the shipment will be sent.

(6) A large quantity handler of universal waste may reject a shipment containing universal waste, or a portion of a shipment containing universal waste, that the handler has received from another handler. If a handler rejects a shipment or a portion of a shipment, the handler shall contact the originating handler to notify the originating handler of the rejection and to discuss reshipment of the load. The handler shall do one of the following:

(a) Send the shipment back to the originating handler.

(b) If agreed to by both the originating and receiving handler, send the shipment to a destination facility.

(7) If a large quantity handler of universal waste receives a shipment containing hazardous waste that is not a universal waste, the handler shall immediately notify the department of the illegal shipment, and provide the name, address and phone number of the originating shipper. The department will provide instructions for managing the hazardous waste.

(8) If a large quantity handler of universal waste receives a shipment of non-hazardous, non-universal waste, the handler may manage the waste in any way that is in compliance with chs. 287 and 289, Stats., chs. NR 500 to 549 and applicable federal or local solid waste regulations.

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.39 Tracking shipments. (1)** RECEIPT OF SHIPMENTS. A large quantity handler of universal waste shall keep a record of each shipment of universal waste received at the facility. The record may take the form of a log, invoice, manifest, bill of lading or other shipping document. The record for each shipment of universal waste received shall include all of the following information:

(a) The name and address of the originating universal waste handler or foreign shipper from whom the universal waste was sent.

(b) The quantity of each type of universal waste received (e.g., batteries, pesticides, thermostats, lamps).

(c) The date of receipt of the shipment of universal waste.

(2) SHIPMENTS OFF-SITE. A large quantity handler of universal waste shall keep a record of each shipment of universal waste sent from the handler to other facilities. The record may take the form of a log, invoice, manifest, bill of lading or other shipping document. The record for each shipment of universal waste sent shall include all of the following information:

(a) The name and address of the universal waste handler, destination facility or foreign destination to whom the universal waste was sent.

(b) The quantity of each type of universal waste sent (e.g., batteries, pesticides, thermostats, lamps).

(c) The date the shipment of universal waste left the facility.

(3) RECORD RETENTION. (a) A large quantity handler of universal waste shall retain the records described in sub. (1) for at least 3 years from the date of receipt of a shipment of universal waste.

(b) A large quantity handler of universal waste shall retain the records described in sub. (2) for at least 3 years from the date a shipment of universal waste left the facility.

NR 673.40 Exports. A large quantity handler of universal waste who sends universal waste to a foreign destination other than to those OECD countries specified in s. NR 662.058(1)(a) (in which case the handler is subject to the requirements of subch. H of ch. NR 662) shall do all of the following:

(1) Comply with the requirements applicable to a primary exporter in ss. NR 662.053, 662.056(1)(a) to (d), (f) and (2) and 662.057.

(2) Export the universal waste only upon consent of the receiving country and in conformance with the EPA acknowledgment of consent as defined in subch. E of ch. NR 662.

(3) Provide a copy of the EPA acknowledgment of consent for the shipment to the transporter transporting the shipment for export.

Subchapter D —Transporters

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.50 Applicability.** This subchapter applies to universal waste transporters.

NR 673.51 Prohibitions. A universal waste transporter is prohibited from doing any of the following:
(1) Disposing of universal waste.
(2) Diluting or treating universal waste, except by responding to releases as provided in s. NR 673.54.

NR 673.52 Waste management. (1) A universal waste transporter shall comply with all applicable U.S. department of transportation regulations in 49 CFR parts 171 to 180 for transport of any universal waste that meets the definition of hazardous material in 49 CFR 171.8. For purposes of the U.S. department of transportation regulations, a material is considered a hazardous waste if it is subject to the EPA hazardous waste manifest requirements in 40 CFR part 262. Because universal waste does not require a hazardous waste manifest, it is not considered hazardous waste under the U.S. department of transportation regulations.
(2) Some universal waste materials are regulated by the U.S. department of transportation as hazardous materials because they meet the criteria for one or more hazard classes specified in 49 CFR 173.2. As universal waste shipments do not require a manifest under 40 CFR part 262, they may not be described by the U.S. department of transportation proper shipping name ”hazardous waste, (l) or (s), n.o.s.”, nor may the hazardous material’s proper shipping name be modified by adding the word ”waste”.

NR 673.53 Storage time limits. (1) A universal waste transporter may only store the universal waste at a universal waste transfer facility for 10 days or less.
(2) If a universal waste transporter stores universal waste for more than 10 days, the transporter becomes a universal waste handler and shall comply with the applicable requirements of subch. B or C while storing the universal waste.

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.54 Response to releases. (1)** A universal waste transporter shall immediately contain all releases of universal wastes and other residues from universal wastes.
(2) A universal waste transporter shall determine whether any material resulting from the release is hazardous waste, and if so, it is subject to all applicable requirements of chs. NR 660 to 670. If the waste is determined to be a hazardous waste, the transporter is subject to ch. NR 662.

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.55 Off-site shipments. (1)** A universal waste transporter is prohibited from transporting the universal waste to a place other than a universal waste handler, a destination facility or a foreign destination.
(2) If the universal waste being shipped off-site meets the U.S. department of transportation’s definition of hazardous material under 49 CFR 171.8, the shipment shall be properly described on a shipping paper in accordance with the applicable U.S. department of transportation regulations under 49 CFR part 172.

NR 673.56 Exports. A universal waste transporter transporting a shipment of universal waste to a foreign destination other than to those OECD countries specified in s. NR 662.058(1)(a) (in which case the transporter is subject to the requirements of subch. H of ch. NR 662) may not accept a shipment if the transporter knows the shipment does not conform to the EPA acknowledgment of consent. In addition the transporter shall ensure that all of the following conditions are met:
(1) A copy of the EPA acknowledgment of consent accompanies the shipment.
(2) The shipment is delivered to the facility designated by the person initiating the shipment.

Subchapter E —Destination Facilities

http://ecfrback.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000273&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 673.60 Applicability. (1)** The owner or operator of a destination facility is subject to all applicable requirements of chs. NR 664 to 670.

(2) The owner or operator of a destination facility that recycles a particular universal waste without storing that universal waste before it is recycled shall comply with s. NR 661.06(3)(b).

NR 673.61 Off-site shipments. (1) The owner or operator of a destination facility is prohibited from sending or taking universal waste to a place other than a universal waste handler, another destination facility or foreign destination.

(2) The owner or operator of a destination facility may reject a shipment containing universal waste, or a portion of a shipment containing universal waste. If the owner or operator of the destination facility rejects a shipment or a portion of a shipment, the owner or operator shall contact the shipper to notify the shipper of the rejection and to discuss reshipment of the load. The owner or operator of the destination facility shall do one of the following:

(a) Send the shipment back to the original shipper.

(b) If agreed to by both the shipper and the owner or operator of the destination facility, send the shipment to another destination facility.

(3) If the owner or operator of a destination facility receives a shipment containing hazardous waste that is not a universal waste, the owner or operator of the destination facility shall immediately notify the department of the illegal shipment, and provide the name, address and phone number of the shipper. The department will provide instructions for managing the hazardous waste.

(4) If the owner or operator of a destination facility receives a shipment of non-hazardous, non-universal waste, the owner or operator may manage the waste in any way that is in compliance with chs. 287 and 289, Stats., chs. NR 500 to 549 and applicable federal or local solid waste regulations.

NR 673.62 Tracking shipments. (1) RECEIPT OF SHIPMENTS. The owner or operator of a destination facility shall keep a record of each shipment of universal waste received at the facility. The record may take the form of a log, invoice, manifest, bill of lading or other shipping document. The record for each shipment of universal waste received shall include all of the following information:

(a) The name and address of the universal waste handler, destination facility or foreign shipper from whom the universal waste was sent.

(b) The quantity of each type of universal waste received (e.g., batteries, pesticides, thermostats, lamps).

(c) The date of receipt of the shipment of universal waste.

(2) RECORD RETENTION. The owner or operator of a destination facility shall retain the records described in sub. (1) for at least 3 years from the date of receipt of a shipment of universal waste.

Subchapter F —Imports

NR 673.70 Imports. Persons managing universal waste that is imported from a foreign country into the state of Wisconsin are subject to the applicable requirements of this chapter, immediately after the waste enters Wisconsin, as indicated in subs. (1) to (3).

(1) A universal waste transporter is subject to the transporter requirements of subch. D.

(2) A universal waste handler is subject to the small or large quantity handler requirements of subch. B or C, as applicable.

(3) An owner or operator of a destination facility is subject to the destination facility requirements of subch. E.

(4) Persons managing universal waste that is imported from an OECD country as specified in s. NR 662.058(1)(a) are subject to subs. (1) to (3), in addition to the requirements of subch. H of ch. NR 662.

Subchapter G —Petitions to Include Other Wastes under this Chapter

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NR 673.80 General. (1) Any person seeking to add a hazardous waste or a category of hazardous waste to this chapter may petition for a rule amendment under this subchapter and ss. NR 660.20 and 660.23.

(2) To be successful, the petitioner shall demonstrate to the satisfaction of the department that regulation under the universal waste rules of this chapter is appropriate for the waste or category of waste, will improve management practices for the waste or category of waste and will improve implementation of the hazardous waste program. The petition shall include the information required by s. NR 660.20(2). The petition shall also address as many of the factors listed in s. NR 673.81 as are appropriate for the waste or waste category addressed in the petition.

(3) The department will evaluate petitions using the factors listed in s. NR 673.81. The department will grant or deny a petition using the factors listed in s. NR 673.81. The decision will be based on the weight of evidence showing that regulation under this chapter is appropriate for the waste or category of waste, will improve management practices for the waste or category of waste and will improve implementation of the hazardous waste program.

NR 673.81 Factors for petitions to include other wastes under this chapter. (1) The waste or category of waste, as generated by a wide variety of generators, is listed in subch. D of ch. NR 661 or, if not listed, a proportion of the waste stream exhibits one or more characteristics of hazardous waste identified in subch. C of ch. NR 661. (When a characteristic waste is added to the universal waste rules of this chapter by using a generic name to identify the waste category (e.g., batteries), the department will amend the definition of universal waste in ss. NR 660.10 and 673.09 to include only the hazardous waste portion of the waste category (e.g., hazardous waste batteries).) Thus, only the portion of the waste stream that does exhibit one or more characteristics (i.e., is hazardous waste) is subject to the universal waste rules of this chapter.

(2) The waste or category of waste is not exclusive to a specific industry or group of industries, is commonly generated by a wide variety of types of establishments (including, for example, households, retail and commercial businesses, office complexes, very small quantity generators, small businesses, government organizations, as well as large industrial facilities).

(3) The waste or category of waste is generated by a large number of generators (e.g., more than 1,000 nationally) and is frequently generated in relatively small quantities by each generator.

(4) Systems to be used for collecting the waste or category of waste (including packaging, marking and labeling practices) would ensure close stewardship of the waste.

(5) The risk posed by the waste or category of waste during accumulation and transport is relatively low compared to other hazardous wastes, and specific management standards proposed or referenced by the petitioner (e.g., waste management requirements appropriate to be added to ss. NR 673.13, 673.33 and 673.52 or applicable U.S. department of transportation requirements) would be protective of human health and the environment during accumulation and transport.

(6) Regulation of the waste or category of waste under this chapter will increase the likelihood that the waste will be diverted from non-hazardous waste management systems (e.g., the municipal waste stream, non-hazardous industrial or commercial waste stream, municipal sewer or stormwater systems) to recycling, treatment or disposal in compliance with ch. 291, Stats., and chs. NR 660 to 670.

(7) Regulation of the waste or category of waste under this chapter will improve implementation of and compliance with the hazardous waste regulatory program.

(8) Other factors as may be appropriate.

CHAPTER NR 679
USED OIL MANAGEMENT STANDARDS

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Note: This chapter is similar to federal regulations contained in 40 CFR part 279, revised as of July 1, 2003.

Note: A person responsible for the discharge of a hazardous substance must comply with the applicable requirements of s. 292.11, Stats. and ch. NR 706 which includes giving notice to the division of emergency management at (800) 943-0003.

Note: Used oil generators, and owners and operators of do-it-yourselfer used oil collection centers, used oil collection centers and used oil aggregation points may also be subject to state requirements for used oil stored in tanks in ch. Comm 10.

Subchapter A —Definitions

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.01 Definitions.** Terms that are defined in ss. NR 661.01(3) and Comm 10.01 have the same meanings when used in this chapter. In this chapter:

(1) "Above ground tank" means a tank used to store or process used oil that is not an underground storage tank as defined in s. Comm 10.01.

(2) "Container" means any portable device in which a material is stored, transported, treated, disposed of or otherwise handled.

(3) "Do-it-yourselfer used oil collection center" means any site or facility that accepts or aggregates and stores used oil collected only from household do-it-yourselfers.

(4) "Existing tank" means a tank that is used for the storage or processing of used oil and that is in operation, or for which installation has commenced on or prior to June 1, 1995. Installation will be considered to have commenced if the owner or operator has obtained all federal, state and local approvals, licenses or permits necessary to begin installation of the tank and if any of the following applies:

(a) A continuous on-site installation program has begun.

(b) The owner or operator has entered into a contract, which cannot be canceled or modified without substantial loss, for installation of the tank to be completed within a reasonable time.

(5) "Household do-it-yourselfer" means an individual who generates household do-it-yourselfer used oil.

(6) "Household do-it-yourselfer used oil" means used oil that is derived from households, such as used oil generated by individuals who generate used oil through the maintenance of their personal vehicles.

(7) "New tank" means a tank that will be used to store or process used oil and for which installation has commenced after June 1, 1995.

(8) "Petroleum refining facility" means an establishment primarily engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils and lubricants, through fractionation, straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking or other processes (i.e., facilities classified as SIC 2911).

(9) "Processing" means chemical or physical operations designed to produce from used oil, or to make used oil more amenable for production of, fuel oils, lubricants or other used oil-derived products. Processing includes, but is not limited to, blending used oil with virgin petroleum products, blending used oils to meet the fuel specification, filtration, simple distillation, chemical or physical separation and re-refining.

(10) "Re-refining distillation bottoms" means the heavy fraction produced by vacuum distillation of filtered and dehydrated used oil. The composition of still bottoms varies with column operation and feedstock.

(11) "Tank" means a stationary device, designed to contain an accumulation of used oil which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

(12) "Used oil" means any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of the use is contaminated by physical or chemical impurities.

(13) "Used oil aggregation point" means any site or facility that accepts, aggregates or stores used oil collected only from other used oil generation sites owned or operated by the owner or operator of the aggregation point, from which used oil is transported to the aggregation point in shipments of no more than 55 gallons. Used oil aggregation points may also accept used oil from household do-it-yourselfers.

(14) "Used oil burner" means a facility where used oil not meeting the specification requirements in s. NR 679.11 is burned for energy recovery in devices identified in s. NR 679.61(1).

(15) "Used oil collection center" means any site or facility that accepts or aggregates and stores used oil collected from used oil generators regulated under subch. C who bring used oil to the collection center in shipments of no more than 55 gallons according to s. NR 679.24(1). Used oil collection centers may also accept used oil from household do-it-yourselfers.

(16) "Used oil fuel marketer" means any person who does any of the following:

(a) Directs a shipment of off-specification used oil from that person's facility to a used oil burner.

(b) First claims that used oil that is to be burned for energy recovery meets the used oil fuel specifications in s. NR 679.11.

(17) "Used oil generator" means any person, by site, whose act or process produces used oil or whose act first causes used oil to become regulated.

(18) "Used oil processor or re-refiner" means a facility that processes used oil.

(19)"Used oil transfer facility" means any transportation related facility including loading docks, parking areas, storage areas and other areas where shipments of used oil are held for more than 24 hours and not longer than 35 days during the normal course of transportation or prior to an activity performed pursuant to s. NR 679.20(2)(b).

(20) "Used oil transporter" means any person who transports used oil, any person who collects used oil from more than one generator and transports the collected oil, and owners and operators of used oil transfer facilities.

Subchapter B —Applicability

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.10 Applicability.** This section identifies those materials which are regulated as used oil under this chapter. This section also identifies some

materials that are not regulated as used oil under this chapter, and indicates whether these materials may be regulated as hazardous waste under chs. NR 660 to 670.

(1) USED OIL. The department presumes that used oil is to be recycled unless a used oil handler disposes of used oil, or sends used oil for disposal. Except as provided in s. NR 679.11, this chapter applies to used oil, and to materials identified in this section as being regulated as used oil, whether or not the used oil or material exhibits any hazardous waste characteristics identified in subch. C of ch. NR 661.

(2) MIXTURES OF USED OIL AND HAZARDOUS WASTE. (a) *Listed hazardous waste.* 1. Mixtures of used oil and hazardous waste that is listed in subch. D of ch. NR 661 are regulated as hazardous waste under chs. NR 660 to 670, rather than as used oil under this chapter.

2. Except as provided in subd. 2.a. and b., used oil containing greater than or equal to 1,000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subch. D of ch. NR 661. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste.

Note: An example of demonstrating that the used oil does not contain hazardous waste is using an analytical method from EPA SW-846, incorporated by reference in s. NR 660.11, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in ch. NR 661, Appendix VIII.

a. The rebuttable presumption does not apply to metalworking oils or fluids containing chlorinated paraffins, if they are processed, through a tolling arrangement as described in s. NR 679.24(3), to reclaim metalworking oils or fluids. The presumption does apply to metalworking oils or fluids if the oils or fluids are recycled in any other manner, or are disposed.

b. The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(b) CHARACTERISTIC HAZARDOUS WASTE. Mixtures of used oil and hazardous waste that solely exhibits any hazardous waste characteristics identified in subch. C of ch. NR 661, and mixtures of used oil and hazardous waste that is listed in subch. D of ch. NR 661 solely because it exhibits any hazardous waste characteristics identified in subch. C of ch. NR 661, are regulated as one of the following:

1. Except as provided in subd. 3., hazardous waste under chs. NR 660 to 670 rather than as used oil under this chapter, if the resultant mixture exhibits any hazardous waste characteristics identified in subch. C of ch. NR 661.

2. Except as provided in subd. 3., used oil under this chapter, if the resultant mixture does not exhibit any hazardous waste characteristics identified in subch. C of ch. NR 661.

3. Used oil under this chapter, if the mixture is of used oil and a waste which is hazardous solely because it exhibits the ignitability characteristic (e.g., ignitable-only mineral spirits), or is listed in subch. D of ch. NR 661 solely because it exhibits the ignitability characteristic, if the resultant mixture does not exhibit the ignitability characteristic identified in s. NR 661.21.

(c) VERY SMALL QUANTITY GENERATOR HAZARDOUS WASTE. Mixtures of used oil and very small quantity generator hazardous waste regulated under NR 662.220 are regulated as used oil under this chapter.

(3) MATERIALS CONTAINING OR OTHERWISE CONTAMINATED WITH USED OIL. (a) Except as provided in par. (b), materials containing or otherwise contaminated with used oil from which the used oil has been properly drained or removed to the extent possible such that no visible signs of free-flowing oil remain in or on the material:

1. Are not used oil and thus not subject to this chapter.

2. If applicable are subject to the hazardous waste rules of chs. NR 660 to 670.

(b) Materials containing or otherwise contaminated with used oil that are burned for energy recovery are regulated as used oil under this chapter.

(c) Used oil drained or removed from materials containing or otherwise contaminated with used oil is regulated as used oil under this chapter.

(4) MIXTURES OF USED OIL WITH PRODUCTS. (a) Except as provided in par. (b), mixtures of used oil and fuels or other fuel products are regulated as used oil under this chapter.

(b) Mixtures of used oil and diesel fuel mixed on-site by the generator of the used oil for use in the generator's own vehicles are not subject to this chapter once the used oil and diesel fuel have been mixed. Prior to mixing, the used oil is subject to subch. C.

(5) MATERIALS DERIVED FROM USED OIL. (a) Materials that are reclaimed from used oil that are used beneficially and are not burned for energy recovery or used in a manner constituting disposal (e.g., re-refined lubricants) are all of the following:

1. Not used oil and thus are not subject to this chapter.

2. Not solid wastes and are thus not subject to the hazardous waste rules of chs. NR 660 to 670 as provided in s. NR 661.03(3)(b)1.

(b) Materials produced from used oil that are burned for energy recovery (e.g., used oil fuels) are regulated as used oil under this chapter.

(c) Except as provided in par. (d), materials derived from used oil that are disposed of or used in a manner constituting disposal are all of the following:

1. Not used oil and thus are not subject to this chapter.

2. Solid wastes and thus are subject to the hazardous waste rules of chs. NR 660 to 670 if the materials are listed or identified as hazardous wastes.

(d) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products are not subject to this chapter.

(6) WASTEWATER. Wastewater, the discharge of which is regulated under s. 283.21(2), 283.31 or 283.33, Stats., including wastewaters at facilities which have eliminated the discharge of wastewater, contaminated with "de minimis" quantities of used oil is not subject to this chapter. For purposes of this subsection, de minimis quantities of used oils are defined as small spills, leaks or drippings from pumps, machinery, pipes and other similar equipment during normal operations or small amounts of oil lost to the wastewater treatment system during washing or draining operations. This exception will not apply if the used oil is discarded as a result of abnormal manufacturing operations resulting in substantial leaks, spills or other releases, or to used oil recovered from wastewaters.

(7) USED OIL INTRODUCED INTO CRUDE OIL PIPELINES OR A PETROLEUM REFINING FACILITY. (a) Used oil mixed with crude oil or natural gas liquids (e.g., in a production separator or crude oil stock tank) for insertion into a crude oil pipeline is exempt from this chapter. The used oil is subject to this chapter prior to the mixing of used oil with crude oil or natural gas liquids.

(b) Mixtures of used oil and crude oil or natural gas liquids containing less than 1% used oil that are being stored or transported to a crude oil pipeline or petroleum refining facility for insertion into the refining process at a point prior to crude distillation or catalytic cracking are exempt from this chapter.

(c) Used oil that is inserted into the petroleum refining facility process before crude distillation or catalytic cracking without prior mixing with crude oil is exempt from this chapter if the used oil constitutes less than 1% of the crude oil feed to any petroleum refining facility process unit at any given time. Prior to insertion into the petroleum refining facility process, the used oil is subject to this chapter.

(d) Except as provided in par. (e), used oil that is introduced into a petroleum refining facility process after crude distillation or catalytic cracking is exempt from this chapter only if the used oil meets the specification of s. NR 679.11. Prior to insertion into the petroleum refining facility process, the used oil is subject to this chapter.

(e) Used oil that is incidentally captured by a hydrocarbon recovery system or wastewater treatment system as part of routine process operations at a petroleum refining facility and inserted into the petroleum refining facility process is exempt from this chapter. This exemption does not extend to used

oil which is intentionally introduced into a hydrocarbon recovery system (e.g., by pouring collected used oil into the wastewater treatment system).

(f) Tank bottoms from stock tanks containing exempt mixtures of used oil and crude oil or natural gas liquids are exempt from this chapter.

(8) USED OIL ON VESSELS. Used oil produced on vessels from normal shipboard operations is not subject to this chapter until it is transported ashore.

(9) USED OIL CONTAINING PCBS. Used oil containing PCBs (as defined at s. NR 157.02 and 40 CFR 761.3) at any concentration less than 50 ppm is subject to this chapter and 40 CFR 761.3 unless, because of dilution, it is regulated under ch. NR 157 and 40 CFR part 761 as a used oil containing PCBs at 50 ppm or greater. PCB-containing used oil subject to this chapter may also be subject to ch. NR 157 and the prohibitions and requirements in 40 CFR part 761, including 40 CFR 761.20(d) and (e). Used oil containing PCBs at concentrations of 50 ppm or greater is not subject to this chapter, but is regulated under ch. NR 157 and 40 CFR part 761. No person may avoid regulation under ch. NR 157 or 40 CFR part 761 by diluting used oil containing PCBs, unless otherwise specifically provided for in this chapter or 40 CFR part 761.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.11 Used oil specifications.** Used oil burned for energy recovery, and any fuel produced from used oil by processing, blending or other treatment, is regulated under this chapter unless it is shown not to exceed any of the allowable levels of the constituents and properties in the specification shown in Table 1. Once used oil that is to be burned for energy recovery has been shown not to exceed any specification and the person making that showing complies with ss. NR 679.72, 679.73 and 679.74(2), the used oil is no longer regulated under this chapter.

Table 1 -
Used Oil Not Exceeding Any Specification Level Is Not Regulated Under This Chapter When Burned for Energy Recovery[1]

Constituent or property	Allowable level

1

Arsenic	5 ppm maximum

Cadmium.....	2 ppm maximum

Chromium	10 ppm maximum

Lead	100 ppm maximum

Flash point.....	100 °F minimum

Total halogens	4,000 ppm maximum[2]

[1]The specification does not apply to mixtures of used oil and hazardous waste that continue to be regulated as hazardous waste (see s. NR 679.10(2)).

[2]Used oil containing greater than or equal to 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under s. NR 679.10(2)(a). This used oil is regulated under subch. H of ch. NR 666 rather than this chapter when burned for energy recovery unless the presumption of mixing can be successfully rebutted.

Note: Applicable standards for the burning of used oil containing PCBs are imposed by 40 CFR 761.20(e).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.12 Prohibitions. (1)**SURFACE IMPOUNDMENTS AND WASTE PILES. Used oil may not be managed in surface impoundments or waste piles unless the units are regulated under ch. NR 664 or 665.

(2)USE AS A DUST SUPPRESSANT. The use of used oil as a dust suppressant is prohibited.

(3)BURNING IN PARTICULAR UNITS. Off-specification used oil fuel may be burned for energy recovery in only the following devices:

(a) Industrial furnaces identified in s. NR 660.10.

(b) Boilers, as defined in s. NR 660.10, that are identified as any of the following:

1. Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes.

2. Utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale.

3. Used oil-fired space heaters if the burner meets s. NR 679.23.

(c) Hazardous waste incinerators regulated under subch. O of ch. NR 664 or 665.

Subchapter C —Standards for Used Oil Generators

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.20 Applicability. (1)** GENERAL. This subchapter applies to all used oil generators, as defined in s. NR 679.01, except for any of the following:

(a) *Household do-it-yourselfers.* Household do-it-yourselfers, as defined in s. NR 679.01, are not regulated under this chapter.

(b) *Vessels.* Vessels at sea or at port are not regulated under this subchapter. For purposes of this subchapter, used oil produced on vessels from normal shipboard operations is generated at the time it is transported ashore. The owner or operator of the vessel and the person or persons removing or accepting used oil from the vessel are co-generators of the used oil and are all responsible for managing the waste in compliance with this subchapter once the used oil is transported ashore. The co-generators may decide among them which party or parties will fulfill the requirements of this subchapter.

(c) *Diesel fuel.* Mixtures of used oil and diesel fuel mixed by the generator of the used oil for use in the generator's own vehicles are not regulated under this chapter once the used oil and diesel fuel have been mixed. Prior to mixing, the used oil fuel is regulated under this subchapter.

(d) *Farmers.* Farmers who generate an average of 25 gallons per month or less of used oil from vehicles or machinery used on the farm in a calendar year are not regulated under this chapter.

(2) OTHER APPLICABLE PROVISIONS. Used oil generators who conduct any of the following activities are subject to the following subchapters:

(a) Generators who transport used oil, except under the self-transport provisions of s. NR 679.24(1) and (2), shall also comply with subch. E.

(b)1. Except as provided in subd. 2., generators who process or re-refine used oil shall also comply with subch. F.

2. Generators who perform any of the following activities are not processors if the used oil is generated on-site and is not being sent off-site to a burner of on- or off-specification used oil fuel:

a. Filtering, cleaning or otherwise reconditioning used oil before returning it for reuse by the generator.

b. Separating used oil from wastewater generated on-site to make the wastewater acceptable for discharge or reuse pursuant to s. 283.21(2), 283.31 or 283.33, Stats., or other applicable federal or state requirements governing the management or discharge of wastewaters.

c. Using oil mist collectors to remove small droplets of used oil from in-plant air to make plant air suitable for continued recirculation.

d. Draining or otherwise removing used oil from materials containing or otherwise contaminated with used oil in order to remove excess oil to the extent possible pursuant to s. NR 679.10(3).

e. Filtering, separating or otherwise reconditioning used oil before burning it in a space heater pursuant to s. NR 679.23.

(c) Generators who burn off-specification used oil for energy recovery, except under the on-site space heater provisions of s. NR 679.23, shall also comply with subch. G.

(d) Generators who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications in s. NR 679.11 shall also comply with subch. H.

(e) Generators who dispose of used oil shall also comply with subch. I.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.21 Hazardous waste mixing. (1)** Mixtures of used oil and hazardous waste shall be managed according to s. NR 679.10(2).

(2) The rebuttable presumption for used oil of s. NR 679.10(2)(a)2. applies to used oil managed by generators. Under the rebuttable presumption for used oil of s. NR 679.10(2)(a)2., used oil containing greater than or equal to 1,000 ppm total halogens is presumed to be a hazardous waste and thus shall be managed as hazardous waste and not as used oil unless the presumption is rebutted. However, the rebuttable presumption does not apply to certain metalworking oils or fluids and certain used oils removed from refrigeration units.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.22 Used oil storage.** Used oil generators are subject to all applicable spill prevention, control and countermeasures (40 CFR part 112) requirements in addition to this subchapter. Used oil generators are also subject to the underground storage tank (ch. Comm 10) requirements for used oil stored in underground tanks, whether or not the used oil exhibits any hazardous waste characteristics, in addition to this subchapter.

(1) STORAGE UNITS. Used oil generators may not store used oil in units other than tanks, containers or units regulated under ch. NR 664 or 665.

(2) CONDITION OF UNITS. Containers and above ground tanks used to store used oil at generator facilities shall be all of the following:

(a) In good condition (no severe rusting, apparent structural defects or deterioration).

(b) Not leaking (no visible leaks).

(3) LABELS. (a) Containers and above ground tanks used to store used oil at generator facilities shall be labeled or marked clearly with the words ”Used Oil”.

(b) Fill pipes used to transfer used oil into underground storage tanks at generator facilities shall be labeled or marked clearly with the words ”Used Oil”.

(4) RESPONSE TO RELEASES. Upon detection of a release of used oil to the environment, a generator shall perform all of the following cleanup steps:

(a) Stop the release.

(b) Contain the released used oil.

(c) Clean up and properly manage the released used oil and other materials.

(d) If necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

NR 679.23 On-site burning in space heaters. Generators may burn used oil in used oil-fired space heaters if all of the following conditions are met:

(1) The heater burns only used oil that the owner or operator generates or used oil received from household do-it-yourselfers.

(2) The heater is designed to have a maximum capacity of not more than 0.5 million Btu per hour.

(3) The combustion gases from the heater are vented to the ambient air.

NR 679.24 Off-site shipments. Except as provided in subs. (1) to (3), generators shall ensure that their used oil is transported only by transporters who have obtained EPA identification numbers.

(1) SELF-TRANSPORTATION OF SMALL AMOUNTS TO COLLECTION CENTERS. Generators may transport, without an EPA identification number or department solid waste collection and transportation service license, used oil that is generated at the generator's site and used oil collected from household do-it-yourselfers to a used oil collection center if all of the following conditions are met:

(a) The generator transports the used oil in a vehicle owned by the generator or owned by an employee of the generator.

(b) The generator transports no more than 55 gallons of used oil at any time.

(2) SELF-TRANSPORTATION OF SMALL AMOUNTS TO AGGREGATION POINTS OWNED BY THE GENERATOR. Generators may transport, without an EPA identification number or department solid waste collection and transportation service license, used oil that is generated at the generator's site to an aggregation point if all of the following conditions are met:

(a) The generator transports the used oil in a vehicle owned by the generator or owned by an employee of the generator.

(b) The generator transports no more than 55 gallons of used oil at any time.

(c) The generator transports the used oil to an aggregation point that is owned or operated by the same generator.

(3) TOLLING ARRANGEMENTS. Used oil generators may arrange for used oil to be transported by a transporter without an EPA identification number if the used oil is reclaimed under a contractual agreement pursuant to which reclaimed oil is returned by the processor or re-refiner to the generator for use as a lubricant, cutting oil or coolant. The contract (known as a "tolling arrangement") shall indicate all of the following:

(a) The type of used oil and the frequency of shipments.

(b) That the vehicle used to transport the used oil to the processing or re-refining facility and to deliver recycled used oil back to the generator is owned and operated by the used oil processor or re-refiner.

(c) That reclaimed oil will be returned to the generator.

Subchapter D —Standards for Used Oil Collection Centers and Aggregation Points

NR 679.30 Do-it-yourselfer used oil collection centers. (1) APPLICABILITY. This section applies to owners or operators of all do-it-yourselfer used oil collection centers, as defined in s. NR 679.01.

(2) DO-IT-YOURSELFER USED OIL COLLECTION CENTER REQUIREMENTS. Owners or operators of all do-it-yourselfer used oil collection centers shall comply with the generator standards in subch. C.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.31 Used oil collection centers. (1)** APPLICABILITY. This section applies to owners or operators of used oil collection centers.

(2) USED OIL COLLECTION CENTER REQUIREMENTS. Owners or operators of all used oil collection centers shall comply with the generator standards in subch. C.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.32 Used oil aggregation points owned by the generator. (1)** APPLICABILITY. This section applies to owners or operators of all used oil aggregation points.

(2) USED OIL AGGREGATION POINT REQUIREMENTS. Owners or operators of all used oil aggregation points shall comply with the generator standards in subch. C.

Subchapter E —Standards for Used Oil Transporters and Transfer Facilities

NR 679.40 Applicability. (1) GENERAL. This subchapter applies to all used oil transporters, except for any of the following:

(a) This subchapter does not apply to on-site transportation.

(b) This subchapter does not apply to generators who transport shipments of used oil totaling 55 gallons or less from the generator to a used oil collection center according to s. NR 679.24(1).

(c) This subchapter does not apply to generators who transport shipments of used oil totaling 55 gallons or less from the generator to a used oil aggregation point owned or operated by the same generator according to s. NR 679.24(2).

(d) This subchapter does not apply to transportation of used oil from household do-it-yourselfers to a regulated used oil generator, collection center, aggregation point, processor or re-refiner or burner subject to this chapter. Except as provided in pars. (a) to (c), this subchapter does, however, apply to transportation of collected household do-it-yourselfer used oil from regulated used oil generators, collection centers, aggregation points or other facilities where household do-it-yourselfer used oil is collected.

(2) IMPORTS AND EXPORTS. Transporters who import used oil from abroad or export used oil outside of the United States are subject to this subchapter from the time the used oil enters and until the time it exits Wisconsin.

(3) TRUCKS USED TO TRANSPORT HAZARDOUS WASTE. Unless trucks previously used to transport hazardous waste are emptied as described in s. NR 661.07 prior to transporting used oil, the used oil is considered to have been mixed with the hazardous waste and shall be managed as hazardous waste unless, under s. NR 679.10(2), the hazardous waste and used oil mixture is determined not to be hazardous waste.

(4) OTHER APPLICABLE PROVISIONS. Used oil transporters who conduct any of the following activities are also subject to the following subchapters:

(a) Transporters who generate used oil shall also comply with subch. C.

(b) Transporters who process or re-refine used oil, except as provided in s. NR 679.41, shall also comply with subch. F.

(c) Transporters who burn off-specification used oil for energy recovery shall also comply with subch. G.

(d) Transporters who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications in s. NR 679.11 shall also comply with subch. H.

(e) Transporters who dispose of used oil shall also comply with subch. I.

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NR 679.41 Restrictions on transporters who are not also processors or re-refiners. (1) Used oil transporters may consolidate or aggregate loads of used oil for purposes of transportation. However,

except as provided in subs. (2) and (3), used oil transporters may not process used oil unless they also comply with the requirements for processors and re-refiners in subch. F.

(2) Transporters may conduct incidental processing operations that occur in the normal course of used oil transportation (e.g., settling and water separation), but that are not designed to produce (or make more amenable for production of) used oil derived products unless they also comply with the processor and re-refiner requirements in subch. F.

(3) Transporters of used oil that is removed from oil bearing electrical transformers and turbines and filtered by the transporter or at a transfer facility prior to being returned to its original use are not subject to the processor and re-refiner requirements in subch. F.

NR 679.42 Notification and Licensing. (1) IDENTIFICATION NUMBERS. Used oil transporters who have not previously complied with the notification requirements of s. NR 660.07 shall comply with this section and obtain an EPA identification number.

(2) MECHANICS OF NOTIFICATION. A used oil transporter who has not received an EPA identification number may obtain one by notifying the department of its used oil activity by submitting a completed EPA form 8700-12.

Note: See s. NR 660.07 for information on obtaining EPA form 8700-12.

(3) LICENSING. Notwithstanding s. NR 502.06(2), used oil transporters shall obtain a department solid waste collection and transportation service license, issued under s. NR 502.06.

NR 679.43 Used oil transportation. (1) DELIVERIES. A used oil transporter shall deliver all used oil received to any of the following:

(a) Another used oil transporter, if the transporter has obtained an EPA identification number.

(b) A used oil processing or re-refining facility who has obtained an EPA identification number.

(c) An off-specification used oil burner facility who has obtained an EPA identification number.

(d) An on-specification used oil burner facility.

(2) DEPARTMENT OF TRANSPORTATION REQUIREMENTS. Used oil transporters shall comply with all applicable requirements under the U.S. department of transportation regulations in 49 CFR parts 171 to 180. Persons transporting used oil that meets the definition of a hazardous material in 49 CFR 171.8 shall comply with all applicable regulations in 49 CFR parts 171 to 180.

(3) USED OIL DISCHARGES. (a) In the event of a discharge of used oil during transportation, the transporter shall take appropriate immediate action to protect human health and the environment (e.g., notify appropriate authorities, dike the discharge area).

(b) If a discharge of used oil occurs during transportation and an official (state or local government or a federal agency) acting within the scope of official responsibilities determines that immediate removal of the used oil is necessary to protect human health or the environment, that official may authorize the removal of the used oil by transporters who do not have EPA identification numbers or department solid waste collection and transportation service licenses.

(c) An air, rail, highway or water transporter who has discharged used oil shall do all of the following:

1. Give notice, if required by 49 CFR 171.15, to the national response center at 800-424-8802 or 202-267-2675.

2. Report in writing as required by 49 CFR 171.16 to the U.S. department of transportation, Washington, DC 20590.

(d) A water transporter who has discharged used oil shall give notice as required by 33 CFR 153.203.

(e) A transporter shall clean up any used oil discharge that occurs during transportation or take action as may be required or approved by federal, state or local officials so that the used oil discharge no longer presents a hazard to human health or the environment.

NR 679.44 Rebuttable presumption for used oil. (1) To ensure that used oil is not a hazardous waste under the rebuttable presumption of s. NR 679.10(2)(a)2., the used oil transporter shall determine whether the total halogen content of used oil being transported or stored at a transfer facility is above or below 1,000 ppm.

(2) The transporter shall make this determination by doing either of the following:

(a) Testing the used oil.

(b) Applying knowledge of the halogen content of the used oil in light of the materials or processes used.

(3) Except as provided in pars. (a) and (b), if the used oil contains greater than or equal to 1,000 ppm total halogens, it is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subch. D of ch. NR 661. The owner or operator may rebut the presumption by demonstrating that the used oil does not contain hazardous waste.

Note: An example of demonstrating that the used oil does not contain hazardous waste is using an analytical method from EPA SW-846, incorporated by reference in s. NR 660.11, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in ch. NR 661, Appendix VIII.

(a) The rebuttable presumption does not apply to metalworking oils or fluids containing chlorinated paraffins, if they are processed, through a tolling arrangement as described in s. NR 679.24(3), to reclaim metalworking oils or fluids. The presumption does apply to metalworking oils or fluids if the oils or fluids are recycled in any other manner, or are disposed.

(b) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units if the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(4) Records of analyses conducted or information used to comply with subs. (1) to (3) shall be maintained by the transporter for at least 3 years.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.45 Used oil storage at transfer facilities.** Used oil transporters are subject to all applicable spill prevention, control and countermeasures (40 CFR part 112) in addition to this subchapter. Used oil transporters are also subject to the underground storage tank (ch. Comm 10) requirements for used oil stored in underground tanks, whether or not the used oil exhibits any hazardous waste characteristics, in addition to this subchapter.

(1) APPLICABILITY. This section applies to used oil transfer facilities as defined in s. NR 679.01. Transfer facilities that store used oil for more than 35 days are regulated under subch. F.

(2) STORAGE UNITS. Owners or operators of used oil transfer facilities may not store used oil in units other than tanks, containers, or units regulated under ch. NR 664 or 665.

(3) CONDITION OF UNITS. Containers and above ground tanks used to store used oil at transfer facilities shall be all of the following:

(a) In good condition (no severe rusting, apparent structural defects or deterioration).

(b) Not leaking (no visible leaks).

(4) SECONDARY CONTAINMENT FOR CONTAINERS. Containers used to store used oil at transfer facilities shall be equipped with a secondary containment system.

(a) The secondary containment system shall consist of, at a minimum, the following in subds. 1. and 2., or subd. 3.:

1. Dikes, berms or retaining walls.
2. A floor. The floor shall cover the entire area within the dikes, berms or retaining walls.
3. An equivalent secondary containment system.

(b) The entire containment system, including walls and floors, shall be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater or surface water.

(5) SECONDARY CONTAINMENT FOR EXISTING ABOVE GROUND TANKS. Existing above ground tanks used to store used oil at transfer facilities shall be equipped with a secondary containment system.

(a) The secondary containment system shall consist of, at a minimum, the following in subds. 1. and 2., or subd. 3.:

1. Dikes, berms or retaining walls.

2. A floor. The floor shall cover the entire area within the dike, berm or retaining wall except areas where existing portions of the tank meet the ground.

3. An equivalent secondary containment system.

(b) The entire containment system, including walls and floors, shall be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater or surface water.

(6) SECONDARY CONTAINMENT FOR NEW ABOVE GROUND TANKS. New above ground tanks used to store used oil at transfer facilities shall be equipped with a secondary containment system.

(a) The secondary containment system shall consist of, at a minimum, the following in subds. 1. and 2., or subd. 3.:

1. Dikes, berms or retaining walls.

2. A floor. The floor shall cover the entire area within the dike, berm or retaining wall.

3. An equivalent secondary containment system.

(b) The entire containment system, including walls and floors, shall be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater or surface water.

(7) LABELS. (a) Containers and above ground tanks used to store used oil at transfer facilities shall be labeled or marked clearly with the words ”Used Oil”.

(b) Fill pipes used to transfer used oil into underground storage tanks at transfer facilities shall be labeled or marked clearly with the words ”Used Oil”.

(8) RESPONSE TO RELEASES. Upon detection of a release of used oil to the environment, the owner or operator of a transfer facility shall perform all of the following cleanup steps:

(a) Stop the release.

(b) Contain the released used oil.

(c) Clean up and properly manage the released used oil and other materials.

(d) If necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.46 Tracking. (1)** ACCEPTANCE. Used oil transporters shall keep a record of each used oil shipment accepted for transport. Records for each shipment shall include all of the following:

(a) The name and address of the generator, transporter, or processor or re-refiner who provided the used oil for transport.

(b) The EPA identification number (if applicable) of the generator, transporter, or processor or re-refiner who provided the used oil for transport.

(c) The quantity of used oil accepted.

(d) The date of acceptance.

(e)1. Except as provided in subd. 2., the signature, dated upon receipt of the used oil, of a representative of the generator, transporter, or processor or re-refiner who provided the used oil for transport.

2. Intermediate rail transporters are not required to sign the record of acceptance.

(2) DELIVERIES. Used oil transporters shall keep a record of each shipment of used oil that is delivered to another used oil transporter, or to a used oil burner, processor or re-refiner, or disposal facility. Records of each delivery shall include all of the following:

(a) The name and address of the receiving facility or transporter.

(b) The EPA identification number of the receiving facility or transporter.

(c) The quantity of used oil delivered.

(d) The date of delivery.

(e)1. Except as provided in subd. 2., the signature, dated upon receipt of the used oil, of a representative of the receiving facility or transporter.

2. Intermediate rail transporters are not required to sign the record of delivery.

(3) EXPORTS OF USED OIL. Used oil transporters shall maintain the records described in sub. (2)(a) to (d) for each shipment of used oil exported to any foreign country.

(4) RECORD RETENTION. The records described in subs. (1) to (3) shall be maintained for at least 3 years.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.47 Management of residues.** Transporters who generate residues from the storage or transport of used oil shall manage the residues as specified in s. NR 679.10(5).

Subchapter F —Standards for Used Oil Processors and Re-Refiners

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.50 Applicability. (1)** This subchapter applies to owners and operators of facilities that process used oil. Processing is defined in s. NR 679.01. This subchapter does not apply to any of the following:

(a) Transporters that conduct incidental processing operations that occur during the normal course of transportation as provided in s. NR 679.41.

(b) Burners that conduct incidental processing operations that occur during the normal course of used oil management prior to burning as provided in s. NR 679.61(2).

(2) Used oil processors or re-refiners who conduct any of the following activities are also subject to the following subchapters:

(a) Processors or re-refiners who generate used oil shall also comply with subch. C.

(b) Processors or re-refiners who transport used oil shall also comply with subch. E.

(c) Except as provided in subds. 1. and 2., processors or re-refiners who burn off-specification used oil for energy recovery shall also comply with subch. G. Processors or re-refiners burning used oil for energy recovery under any of the following conditions are not subject to subch. G:

1. The used oil is burned in an on-site space heater that meets s. NR 679.23.

2. The used oil is burned for purposes of processing used oil, which is considered burning incidentally to used oil processing.

(d) Processors or re-refiners who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications in s. NR 679.11 shall also comply with subch. H.

(e) Processors or re-refiners who dispose of used oil shall also comply with subch. I.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.51 Notification. (1)** IDENTIFICATION

NUMBERS. Used oil processors and re-refiners who have not previously complied with the notification requirements of s. NR 660.07 shall comply with this section and obtain an EPA identification number.

(2) MECHANICS OF NOTIFICATION. A used oil processor or re-refiner who has not received an EPA identification number may obtain one by notifying the department of its used oil activity by submitting a completed EPA form 8700-12.

Note: See s. NR 660.07 for information on obtaining EPA form 8700-12.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.52 General facility standards. (1)** PREPAREDNESS AND PREVENTION. Owners and operators of used oil processing and re-refining facilities shall comply with all of the following requirements:

(a) *Maintenance and operation of facility.* Facilities shall be maintained and operated to minimize the possibility of a fire, explosion or any unplanned sudden or non-sudden release of used oil to air, soil or surface water which could threaten human health or the environment.

(b) *Required equipment.* All facilities shall be equipped with all of the following, unless none of the hazards posed by used oil handled at the facility could require a particular kind of equipment specified in subds.1 to 4:

1. An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.

2. A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments or state or local emergency response teams.

3. Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas or dry chemicals), spill control equipment and decontamination equipment.

4. Water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers or water spray systems.

(c) *Testing and maintenance of equipment.* All facility communications or alarm systems, fire protection equipment, spill control equipment and decontamination equipment, where required, shall be tested and maintained as necessary to assure its proper operation in time of emergency.

(d) *Access to communications or alarm system.* 1. Whenever used oil is being poured, mixed, spread or otherwise handled, all personnel involved in the operation shall have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required in par. (b).

2. If there is ever just one employee on the premises while the facility is operating, the employee shall have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless such a device is not required in par. (b).

(e) *Required aisle space.* The owner or operator shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

(f) *Arrangements with local authorities.* 1. The owner or operator shall attempt to make all of the following arrangements, as appropriate for the type of used oil handled at the facility and the potential need for the services of these organizations:

a. Arrangements to familiarize police, fire departments and emergency response teams with the layout of the facility, properties of used oil handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility and possible evacuation routes.

b. Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority.

c. Agreements with state emergency response teams, emergency response contractors and equipment suppliers.

d. Arrangements to familiarize local hospitals with the properties of used oil handled at the facility and the types of injuries or illnesses which could result from fires, explosions or releases at the facility.

2. Where state or local authorities decline to enter into any of the arrangements described in subd. 1., the owner or operator shall document the refusal in the operating record.

(2) CONTINGENCY PLAN AND EMERGENCY PROCEDURES. Owners and operators of used oil processing and re-refining facilities shall comply with all of the following requirements:

(a) *Purpose and implementation of contingency plan.* 1. Each owner or operator shall have a contingency plan for the facility. The contingency plan shall be designed to minimize hazards to human health or the environment from fires, explosions or any unplanned sudden or non-sudden release of used oil to air, soil or surface water.

2. The provisions of the plan shall be carried out immediately whenever there is a fire, explosion or release of used oil which could threaten human health or the environment.

(b) *Content of contingency plan.* 1. The contingency plan shall describe the actions facility personnel must take to comply with pars. (a) and (f) in response to fires, explosions or any unplanned sudden or non-sudden release of used oil to air, soil or surface water at the facility.

2. If the owner or operator has already prepared a spill prevention, control and countermeasures (SPCC) plan according to 40 CFR part 112 or 300, or some other emergency or contingency plan, the owner or operator need only amend that plan to incorporate used oil management provisions that are sufficient to comply with this chapter.

3. The plan shall describe arrangements agreed to by local police departments, fire departments, hospitals, contractors and state and local emergency response teams to coordinate emergency services, pursuant to sub. (1)(f).

4. The plan shall list names, addresses and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see par. (e)), and this list shall be kept up to date. Where more than one person is listed, one shall be named as primary emergency coordinator and others shall be listed in the order in which they will assume responsibility as alternates.

5. The plan shall include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list shall be kept up to date. In addition, the plan shall include the location and a physical description of each item on the list, and a brief outline of its capabilities.

6. The plan shall include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan shall describe signals to be used to begin evacuation, evacuation routes and alternate evacuation routes (in cases where the primary routes could be blocked by releases of used oil or fires).

(c) *Copies of contingency plan.* A copy of the contingency plan and all revisions to the plan shall be all of the following:

1. Maintained at the facility.

2. Submitted to all local police departments, fire departments, hospitals and state and local emergency response teams that may be called upon to provide emergency services.

(d) *Amendment of contingency plan.* The contingency plan shall be reviewed, and immediately amended, if necessary, whenever any of the following occur:

1. Applicable rules are revised.

2. The plan fails in an emergency.

3. The facility changes, in its design, construction, operation, maintenance or other circumstances, in a way that materially increases the potential for fires, explosions or releases of used oil, or changes the response necessary in an emergency.

4. The list of emergency coordinators changes.

5. The list of emergency equipment changes.

(e) *Emergency coordinator.* At all times, there shall be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator shall be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristic of used oil handled, the location of all records within the facility and facility layout. In addition, this person shall have the authority to commit the resources needed to carry out the contingency plan.

Note: The emergency coordinator's responsibilities are more fully spelled out in par. (f). Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of used oil handled by the facility, and type and complexity of the facility.

(f) *Emergency procedures.* 1. Whenever there is an imminent or actual emergency situation, the emergency coordinator (or the designee when the emergency coordinator is on call) shall immediately do all of the following:

a. Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel.

b. Notify appropriate state or local agencies with designated response roles if their help is needed.

2. Whenever there is a release, fire or explosion, the emergency coordinator shall immediately identify the character, exact source, amount and areal extent of any released materials. The emergency coordinator may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

3. Concurrently, the emergency coordinator shall assess possible hazards to human health or the environment that may result from the release, fire or explosion. This assessment shall consider both direct and indirect effects of the release, fire or explosion (e.g., the effects of any toxic, irritating or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

4. If the emergency coordinator determines that the facility has had a release, fire or explosion which could threaten human health, or the environment, outside the facility, the emergency coordinator shall report the findings according to all of the following:

a. If the emergency coordinator's assessment indicated that evacuation of local areas may be advisable, the emergency coordinator shall immediately notify appropriate local authorities. The emergency coordinator shall be available to help appropriate officials decide whether local areas should be evacuated.

b. The emergency coordinator shall immediately notify either the government official designated as the on-scene coordinator for the geographical area (in the applicable regional contingency plan under 40 CFR part 300), or the national response center (using its 24-hour toll free number 800/424-8802). The report shall include all of the following:

1) Name and telephone number of reporter.

2) Name and address of facility.

3) Time and type of incident (e.g., release, fire).

4) Name and quantity of materials involved, to the extent known.

5) The extent of injuries, if any.

6) The possible hazards to human health, or the environment, outside the facility.

5. During an emergency, the emergency coordinator shall take all reasonable measures necessary to ensure that fires, explosions and releases do not occur, recur or spread to other used oil or hazardous waste at the facility. These measures shall include, where applicable, stopping processes and operations, collecting and containing released used oil and removing or isolating containers.

6. If the facility stops operation in response to a fire, explosion or release, the emergency coordinator shall monitor for leaks, pressure buildup, gas generation or ruptures in valves, pipes or other equipment, wherever this is appropriate.

7. Immediately after an emergency, the emergency coordinator shall provide for recycling, storing or disposing of recovered used oil, contaminated soil or surface water, or any other material that results from a release, fire or explosion at the facility.

8. The emergency coordinator shall ensure that, in the affected areas of the facility, all of the following are met:

a. No waste or used oil that may be incompatible with the released material is recycled, treated, stored or disposed of until cleanup procedures are completed.

b. All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

c. The owner or operator shall notify the department, and appropriate state and local authorities that the facility is in compliance with subd. 8.a. and b. before operations are resumed in the affected areas of the facility.

9. The owner or operator shall note in the operating record the time, date and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, the owner or operator shall submit a written report on the incident to the department. The report shall include all of the following:

a. Name, address and telephone number of the owner or operator.

b. Name, address and telephone number of the facility.

c. Date, time and type of incident (e.g., fire, explosion).

d. Name and quantity of materials involved.

e. The extent of injuries, if any.

f. An assessment of actual or potential hazards to human health or the environment, where applicable.

g. Estimated quantity and disposition of recovered material that resulted from the incident.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.53 Rebuttable presumption for used oil.** **(1)** To ensure that used oil managed at a processing or re-refining facility is not hazardous waste under the rebuttable presumption of s. NR 679.10(2)(a)2., the owner or operator of a used oil processing or re-refining facility shall determine whether the total halogen content of used oil managed at the facility is above or below 1,000 ppm.

(2) The owner or operator shall make this determination by doing any of the following:

(a) Testing the used oil.

(b) Applying knowledge of the halogen content of the used oil in light of the materials or processes used.

(3) Except as provided in pars. (a) and (b), if the used oil contains greater than or equal to 1,000 ppm total halogens, it is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subch. D of ch. NR 661. The owner or operator may rebut the presumption by demonstrating that the used oil does not contain hazardous waste.

Note: An example of demonstrating that the used oil does not contain hazardous waste is using an analytical method from EPA SW-846, incorporated by reference in s. NR 660.11, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in ch. NR 661, Appendix VIII.

(a) The rebuttable presumption does not apply to metalworking oils or fluids containing chlorinated paraffins, if they are processed, through a tolling agreement, to reclaim metalworking oils or fluids. The presumption does apply to metalworking oils or fluids if the oils or fluids are recycled in any other manner, or are disposed.

(b) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

NR 679.54 Used oil management. Used oil processors or re-refiners are subject to all applicable spill prevention, control and countermeasures (40 CFR part 112) in addition to this subchapter. Used oil processors or re-refiners are also subject to the underground storage tank (ch. Comm 10) requirements for used oil stored in underground tanks whether or not the used oil exhibits any hazardous waste characteristics, in addition to this subchapter.

(1) MANAGEMENT UNITS. Used oil processors or re-refiners may not store used oil in units other than tanks, containers or units regulated under ch. NR 664 or 665.

(2) CONDITION OF UNITS. Containers and above ground tanks used to store or process used oil at processing and re-refining facilities shall be all of the following:

(a) In good condition (no severe rusting, apparent structural defects or deterioration).

(b) Not leaking (no visible leaks).

(3) SECONDARY CONTAINMENT FOR CONTAINERS. Containers used to store or process used oil at processing and re-refining facilities shall be equipped with a secondary containment system.

(a) The secondary containment system shall consist of, at a minimum, the following in subds. 1. and 2., or subd. 3.:

1. Dikes, berms or retaining walls.

2. A floor. The floor shall cover the entire area within the dike, berm or retaining wall.

3. An equivalent secondary containment system.

(b) The entire containment system, including walls and floor, shall be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater or surface water.

(4) SECONDARY CONTAINMENT FOR EXISTING ABOVE GROUND TANKS. Existing above ground tanks used to store or process used oil at processing and re-refining facilities shall be equipped with a secondary containment system.

(a) The secondary containment system shall consist of, at a minimum, the following in subds. 1. and 2., or subd. 3.:

1. Dikes, berms or retaining walls.

2. A floor. The floor shall cover the entire area within the dike, berm or retaining wall except areas where existing portions of the tank meet the ground.

3. An equivalent secondary containment system.

(b) The entire containment system, including walls and floor, shall be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater or surface water.

(5) SECONDARY CONTAINMENT FOR NEW ABOVE GROUND TANKS. New above ground tanks used to store or process used oil at processing and re-refining facilities shall be equipped with a secondary containment system.

(a) The secondary containment system shall consist of, at a minimum, the following in subds. 1. and 2., or subd. 3.:

1. Dikes, berms or retaining walls.

2. A floor. The floor shall cover the entire area within the dike, berm or retaining wall.

3. An equivalent secondary containment system.

(b) The entire containment system, including walls and floor, shall be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater or surface water.

(6) LABELS. (a) Containers and above ground tanks used to store or process used oil at processing and re-refining facilities shall be labeled or marked clearly with the words ”Used Oil”.

(b) Fill pipes used to transfer used oil into underground storage tanks at processing and re-refining facilities shall be labeled or marked clearly with the words ”Used Oil”.

(7) RESPONSE TO RELEASES. Upon detection of a release of used oil to the environment, an owner or operator shall perform all of the following cleanup steps:

(a) Stop the release.

(b) Contain the released used oil.

(c) Clean up and properly manage the released used oil and other materials.

(d) If necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

(8) CLOSURE. (a) *Above ground tanks.* Owners and operators who store or process used oil in above ground tanks shall comply with all of the following requirements:

1. At closure of a tank system, the owner or operator shall remove or decontaminate used oil residues in tanks, contaminated containment system components, contaminated soils, and structures and equipment contaminated with used oil, and manage them as hazardous waste, unless the materials are not hazardous waste under ch. NR 661.

2. If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in subd. 1., then the owner or operator shall close the tank system and perform long-term care according to the closure and long-term care requirements that apply to hazardous waste landfills (s. NR 665.0310).

(b) *Containers.* Owners and operators who store used oil in containers shall comply with all of the following requirements:

1. At closure, containers holding used oils or residues of used oil shall be removed from the site.

2. The owner or operator shall remove or decontaminate used oil residues, contaminated containment system components, contaminated soils, and structures and equipment contaminated with used oil, and manage them as hazardous waste, unless the materials are not hazardous waste under ch. NR 661.

NR 679.55 Analysis plan. Owners or operators of used oil processing and re-refining facilities shall develop and follow a written analysis plan describing the procedures that will be used to comply with the analysis requirements of s. NR 679.53 and, if applicable, s. NR 679.72. The owner or operator shall keep the plan at the facility.

(1) REBUTTABLE PRESUMPTION FOR USED OIL IN S. NR 679.53. At a minimum, the plan shall specify all of the following:

(a) Whether sample analyses or knowledge of the halogen content of the used oil will be used to make this determination.

(b) If sample analyses are used to make this determination, all of the following:

1. The sampling method used to obtain representative samples to be analyzed. A representative sample may be obtained using one of the following:

a. One of the sampling methods in ch. NR 661, Appendix I.

b. A method shown to be equivalent under ss. NR 660.20 and 660.21.

2. The frequency of sampling to be performed, and whether the analysis will be performed on-site or off-site.

3. The methods used to analyze used oil for the parameters specified in s. NR 679.53.

(c) The type of information that will be used to determine the halogen content of the used oil.

(2) ON-SPECIFICATION USED OIL FUEL IN S. NR 679.72. At a minimum, the plan shall specify all of the following if s. NR 679.72 is applicable:

(a) Whether sample analyses or other information will be used to make this determination.

(b) If sample analyses are used to make this determination, all of the following:

1. The sampling method used to obtain representative samples to be analyzed. A representative sample may be obtained using one of the following:

a. One of the sampling methods in ch. NR 661, Appendix I.

b. A method shown to be equivalent under ss. NR 660.20 and 660.21.

2. Whether used oil will be sampled and analyzed prior to or after any processing or re-refining.

3. The frequency of sampling to be performed, and whether the analysis will be performed on-site or off-site.

4. The methods used to analyze used oil for the parameters specified in s. NR 679.72.

(c) The type of information that will be used to make the on-specification used oil fuel determination.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.56 Tracking. (1)** ACCEPTANCE. Used oil processors or re-refiners shall keep a record of each used oil shipment accepted for processing or re-refining. These records may take the form of a log, invoice, manifest, bill of lading or other shipping documents. Records for each shipment shall include all of the following information:

(a) The name and address of the transporter who delivered the used oil to the processor or re-refiner.

(b) The name and address of the generator or processor or re-refiner from whom the used oil was sent for processing or re-refining.

(c) The EPA identification number of the transporter who delivered the used oil to the processor or re-refiner.

(d) The EPA identification number (if applicable) of the generator or processor or re-refiner from whom the used oil was sent for processing or re-refining.

(e) The quantity of used oil accepted.

(f) The date of acceptance.

(2) DELIVERY. Used oil processors or re-refiners shall keep a record of each shipment of used oil that is shipped to a used oil burner, processor or re-refiner or disposal facility. These records may take the form of a log, invoice, manifest, bill of lading or other shipping documents. Records for each shipment shall include all of the following information:

(a) The name and address of the transporter who delivers the used oil to the burner, processor or re-refiner or disposal facility.

(b) The name and address of the burner, processor or re-refiner or disposal facility who will receive the used oil.

(c) The EPA identification number of the transporter who delivers the used oil to the burner, processor or re-refiner or disposal facility.

(d) The EPA identification number of the burner, processor or re-refiner or disposal facility who will receive the used oil.

(e) The quantity of used oil shipped.

(f) The date of shipment.

(3) RECORD RETENTION. The records described in subs. (1) and (2) shall be maintained for at least 3 years.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.57 Operating record and reporting. (1)** OPERATING RECORD. (a) The owner or operator shall keep a written operating record at the facility.

(b) All of the following information shall be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

1. Records and results of used oil analyses performed as described in the analysis plan required under s. NR 679.55.

2. Summary reports and details of all incidents that require implementation of the contingency plan as specified in s. NR 679.52(2).

(2) REPORTING. A used oil processor or re-refiner shall report to the department on a biennial basis (by March 1 of each even numbered year), all of the following information concerning used oil activities during the previous calendar year:

(a) The EPA identification number, name and address of the processor or re-refiner.

(b) The calendar year covered by the report.

(c) The quantities of used oil accepted for processing or re-refining and the manner in which the used oil is processed or re-refined, including the specific processes employed.

Note: Department form 4400-193 may be used to meet this reporting requirement and may be obtained from the department by E-mail: waste.management@dnr.state.wi.us, phone (608) 266-2111 or Fax (608) 267-2768.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.58 Off-site shipments of used oil.** Used oil processors or re-refiners who initiate shipments of used oil off-site shall ship the used oil using a used oil transporter who has obtained an EPA identification number.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.59 Management of residues.** Owners and operators who generate residues from the storage, processing or re-refining of used oil shall manage the residues as specified in s. NR 679.10(5).

Subchapter G —Standards for Used Oil Burners Who Burn Off-Specification Used Oil for Energy Recovery

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.60 Applicability. (1)** GENERAL. This subchapter applies to used oil burners, as defined in s. NR 679.01, except for facilities burning used oil for energy recovery under any of the following conditions:

(a) The used oil is burned by the generator in an on-site space heater according to s. NR 679.23.

(b) The used oil is burned by a processor or re-refiner for purposes of processing used oil, which is considered burning incidentally to used oil processing.

(2) OTHER APPLICABLE PROVISIONS. Used oil burners who conduct any of the following activities are also subject to the requirements of the following subchapters:

(a) Burners who generate used oil shall also comply with subch. C.

(b) Burners who transport used oil shall also comply with subch. E.

(c) Except as provided in s. NR 679.61(2), burners who process or re-refine used oil shall also comply with subch. F.

(d) Burners who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications in s. NR 679.11 shall also comply with subch. H.

(e) Burners who dispose of used oil shall comply with subch. I.

(3) SPECIFICATION FUEL. This subchapter does not apply to persons burning used oil that meets the used oil fuel specification of s. NR 679.11, if the burner complies with subch. H.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.61 Restrictions on burning. (1)** Off-specification used oil fuel may be burned for energy recovery in only the following devices:

(a) Industrial furnaces identified in s. NR 660.10.

(b) Boilers, as defined in s. NR 660.10, that are identified as any of the following:

1. Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes.

2. Utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale.

3. Used oil-fired space heaters if the burner meets s. NR 679.23.

(c) Hazardous waste incinerators regulated under subch. O of ch. NR 664 or 665.

(2)(a) Except as provided in par. (b), used oil burners may not process used oil unless they also comply with subch. F.

(b) Used oil burners may aggregate off-specification used oil with virgin oil or on-specification used oil for purposes of burning, but may not aggregate for purposes of producing on-specification used oil.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.62 Notification (1)** IDENTIFICATION NUMBERS. Used oil burners which have not previously complied with the notification requirements of s. NR 660.07 shall comply with this section and obtain an EPA identification number.

(2) MECHANICS OF NOTIFICATION. A used oil burner who has not received an EPA identification number may obtain one by notifying the department of its used oil activity by submitting a completed EPA form 8700-12.

Note: See s.NR 660.07 for information on obtaining EPA form 8700-12.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.63 Rebuttable presumption for used oil. (1)** To ensure that used oil managed at a used oil burner facility is not hazardous waste under the rebuttable presumption of s. NR 679.10(2)(a)2., a used oil burner shall determine whether the total halogen content of used oil managed at the facility is above or below 1,000 ppm.

(2) The used oil burner shall determine if the used oil contains above or below 1,000 ppm total halogens by doing any of the following:

(a) Testing the used oil.

(b) Applying knowledge of the halogen content of the used oil in light of the materials or processes used.

(c) If the used oil has been received from a processor or re-refiner regulated under subch. F, using information provided by the processor or re-refiner.

(3) Except as provided in pars. (a) and (b), if the used oil contains greater than or equal to 1,000 ppm total halogens, it is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subch. D of ch. NR 661. The owner or operator may rebut the presumption by demonstrating that the used oil does not contain hazardous waste.

Note: An example of demonstrating that the used oil does not contain hazardous waste is using an analytical method from EPA SW-846, incorporated by reference in s. NR 660.11, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in ch. NR 661, Appendix VIII.

(a) The rebuttable presumption does not apply to metalworking oils or fluids containing chlorinated paraffins, if they are processed, through a tolling arrangement as described in s. NR 679.24(3), to reclaim metalworking oils or fluids. The presumption does apply to metalworking oils or fluids if the oils or fluids are recycled in any other manner, or are disposed.

(b) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(4) Records of analyses conducted or information used to comply with subs. (1) to (3) shall be maintained by the burner for at least 3 years.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.64 Used oil storage.** Used oil burners are subject to all applicable spill prevention, control and countermeasures (40 CFR part 112) in addition to this subchapter. Used oil burners are also subject to the underground storage tank (ch. Comm 10) requirements for used oil stored in underground tanks whether or not the used oil exhibits any hazardous waste characteristics, in addition to this subchapter.

(1) STORAGE UNITS. Used oil burners may not store used oil in units other than tanks, containers or units regulated under ch. NR 664 or 665.

(2) CONDITION OF UNITS. Containers and above ground tanks used to store used oil at burner facilities shall be all of the following:

(a) In good condition (no severe rusting, apparent structural defects or deterioration).

(b) Not leaking (no visible leaks).

(3) SECONDARY CONTAINMENT FOR CONTAINERS. Containers used to store used oil at burner facilities shall be equipped with a secondary containment system.

(a) The secondary containment system shall consist of, at a minimum, all of the following:

1. Dikes, berms or retaining walls.

2. A floor. The floor shall cover the entire area within the dike, berm or retaining wall.

(b) The entire containment system, including walls and floor, shall be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater or surface water.

(4) SECONDARY CONTAINMENT FOR EXISTING ABOVE GROUND TANKS. Existing above ground tanks used to store used oil at burner facilities shall be equipped with a secondary containment system.

(a) The secondary containment system shall consist of, at a minimum, the following in subds. 1. and 2., or subd. 3.:

1. Dikes, berms or retaining walls.

2. A floor. The floor shall cover the entire area within the dike, berm or retaining wall except areas where existing portions of the tank meet the ground.

3. An equivalent secondary containment system.

(b) The entire containment system, including walls and floor, shall be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater or surface water.

(5) SECONDARY CONTAINMENT FOR NEW ABOVE GROUND TANKS. New above ground tanks used to store used oil at burner facilities shall be equipped with a secondary containment system.

(a) The secondary containment system shall consist of, at a minimum, the following in subds. 1. and 2., or subd. 3.:

1. Dikes, berms or retaining walls.

2. A floor. The floor shall cover the entire area within the dike, berm or retaining wall.

3. An equivalent secondary containment system.

(b) The entire containment system, including walls and floor, shall be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater or surface water.

(6) LABELS. (a) Containers and above ground tanks used to store used oil at burner facilities shall be labeled or marked clearly with the words ”Used Oil”.

(b) Fill pipes used to transfer used oil into underground storage tanks at burner facilities shall be labeled or marked clearly with the words ”Used Oil”.

(7) RESPONSE TO RELEASES. Upon the detection of a release of used oil to the environment, a burner shall perform all of the following cleanup steps:

(a) Stop the release.

(b) Contain the released used oil.

(c) Clean up and properly manage the released used oil and other materials.

(d) If necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

NR 679.65 Tracking. (1) ACCEPTANCE. Used oil burners shall keep a record of each used oil shipment accepted for burning. These records may take the form of a log, invoice, manifest, bill of lading or other shipping documents. Records for each shipment shall include all of the following information:

(a) The name and address of the transporter who delivered the used oil to the burner.

(b) The name and address of the generator or processor or re-refiner from whom the used oil was sent to the burner.

(c) The EPA identification number of the transporter who delivered the used oil to the burner.

(d) The EPA identification number (if applicable) of the generator or processor or re-refiner from whom the used oil was sent to the burner.

(e) The quantity of used oil accepted.

(f) The date of acceptance.

(2) RECORD RETENTION. The records described in sub. (1) shall be maintained for at least 3 years.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.66 Notices. (1)** CERTIFICATION. Before a burner accepts the first shipment of off-specification used oil fuel from a generator, transporter, or processor or re-refiner, the burner shall provide to the generator, transporter, or processor or re-refiner a one-time written and signed notice certifying all of the following:

(a) The burner has notified the department stating the location and general description of the burner’s used oil management activities.

(b) The burner will burn the used oil only in an industrial furnace or boiler identified in s. NR 679.61(1).

(2) CERTIFICATION RETENTION. The certification described in sub. (1) shall be maintained for 3 years from the date the burner last receives shipment of off-specification used oil from that generator, transporter, or processor or re-refiner.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.67 Management of residues.** Burners who generate residues from the storage or burning of used oil shall manage the residues according to s. NR 679.10(5).

Subchapter H —Standards for Used Oil Fuel Marketers

NR 679.70 Applicability. (1) Any person who conducts any of the following activities is subject to this subchapter:

(a) Directs a shipment of off-specification used oil from that person's facility to a used oil burner.

(b) First claims that used oil that is to be burned for energy recovery meets the used oil fuel specifications in s. NR 679.11.

(2) The following persons are not marketers subject to this subchapter:

(a) Used oil generators, and transporters who transport used oil received only from generators, unless the generator or transporter directs a shipment of off-specification used oil from the generator's or transporter's facility to a used oil burner. However, processors or re-refiners who burn some used oil fuel for purposes of processing are considered to be burning incidentally to processing. Thus, generators and transporters who direct shipments of off-specification used oil to processors or re-refiners who incidentally burn used oil are not marketers subject to this subchapter.

(b) Persons who direct shipments of on-specification used oil and who are not the first person to claim the oil meets the used oil fuel specifications of s. NR 679.11.

(3) Any person subject to this subchapter shall also comply with one or more of the following:

(a) Subchapter C - Standards for Used Oil Generators.

(b) Subchapter E - Standards for Used Oil Transporters and Transfer Facilities.

(c) Subchapter F - Standards for Used Oil Processors and Re-Refiners.

(d) Subchapter G - Standards for Used Oil Burners Who Burn Off-Specification Used Oil for Energy Recovery.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.71 Prohibitions.** A used oil fuel marketer may initiate a shipment of off-specification used oil only to a used oil burner who meets all of the following:

(1) Has an EPA identification number.

(2) Burns the used oil in an industrial furnace or boiler identified in s. NR 679.61(1).

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.72 On-specification used oil fuel. (1)** ANALYSIS OF USED OIL FUEL. A generator, transporter, processor or re-refiner, or burner may determine that used oil that is to be burned for energy recovery meets the fuel specifications of s. NR 679.11 by performing analyses or obtaining copies of analyses or other information documenting that the used oil fuel meets the specifications.

(2) RECORD RETENTION. A generator, transporter, processor or re-refiner, or burner who first claims that used oil that is to be burned for energy recovery meets the specifications for used oil fuel under s. NR 679.11, shall keep copies of analyses of the used oil (or other information used to make the determination) for 3 years.

NR 679.73 Notification. (1) IDENTIFICATION NUMBERS. A used oil fuel marketer subject to this subchapter who has not previously complied with the notification requirements of s. NR 660.07 shall comply with this section and obtain an EPA identification number.

(2) MECHANICS OF NOTIFICATION. A marketer who has not received an EPA identification number may obtain one by notifying the department of its used oil activity by submitting a completed EPA form 8700-12.

Note: See s.NR 660.07 for information on obtaining EPA form 8700-12.

NR 679.74 Tracking. (1) OFF-SPECIFICATION USED OIL DELIVERY. Any used oil fuel marketer who directs a shipment of off-specification used oil to a burner shall keep a record of each shipment of used oil to a used oil burner. These records may take the form of a log, invoice, manifest, bill of lading or other shipping documents. Records for each shipment shall include all of the following information:

(a) The name and address of the transporter who delivers the used oil to the burner.
(b) The name and address of the burner who will receive the used oil.
(c) The EPA identification number of the transporter who delivers the used oil to the burner.
(d) The EPA identification number of the burner.
(e) The quantity of used oil shipped.
(f) The date of shipment.

(2) ON-SPECIFICATION USED OIL DELIVERY. A generator, transporter, processor or re-refiner, or burner who first claims that used oil that is to be burned for energy recovery meets the fuel specifications under s. NR 679.11 shall keep a record of each shipment of used oil to the facility to which it delivers the used oil. Records for each shipment shall include all of the following information:
(a) The name and address of the facility receiving the shipment.
(b) The quantity of used oil fuel delivered.
(c) The date of shipment or delivery.
(d) A cross-reference to the record of used oil analysis or other information used to make the determination that the oil meets the specification as required under s. NR 679.72(1).

(3) RECORD RETENTION. The records described in subs. (1) and (2) shall be maintained for at least 3 years.

NR 679.75 Notices. (1) CERTIFICATION. Before a used oil generator, transporter, or processor or re-refiner directs the first shipment of off-specification used oil fuel to a burner, that person shall obtain a one-time written and signed notice from the burner certifying all of the following:
(a) The burner has notified the department stating the location and general description of used oil management activities.
(b) The burner will burn the off-specification used oil only in an industrial furnace or boiler identified in s. NR 679.61(1).

(2) CERTIFICATION RETENTION. The certification described in sub. (1) shall be maintained for 3 years from the date the last shipment of off-specification used oil is shipped to the burner.

Subchapter I — Standards for Use as a Dust Suppressant and Disposal of Used Oil

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.80 Applicability.** This subchapter applies to all used oils that cannot be recycled and are therefore being disposed.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.81 Disposal. (1)** DISPOSAL OF HAZARDOUS USED OILS. Used oils that are identified as a hazardous waste and cannot be recycled according to this chapter, shall be managed according to the hazardous waste management requirements of chs. NR 660 to 670.

(2) DISPOSAL OF NONHAZARDOUS USED OILS. (a) No person may dispose of used oil, or material containing or otherwise contaminated with used oil, in a solid waste disposal facility except as provided in par. (b).

(b) Material containing or otherwise contaminated with minimal amounts of used oil from which the used oil has been properly drained or removed to the extent possible, such that no visible signs of free-flowing oil remain in or on the material, may be disposed of in a solid waste disposal facility according to chs. NR 500 to 524, if the material is not hazardous waste and cannot be recycled under this chapter.

Note: The department encourages the recycling of used oil including oil-soaked rags and similar materials by the use of laundering services, burning for energy recovery and other recycling methods.

Note: The disposal of petroleum contaminated soil and materials into solid waste disposal facilities is subject to the applicable requirements of chs. NR 419, 506 and 718.

http://ecfr.access.gpo.gov/otcgi/cfr/otfilter.cgi?DB=3&query=40000000279&region=BIBSRT&action=view&SUBSET=SUBSET&FROM=1&SIZE=10&ITEM=1**NR 679.82 Use as a dust suppressant.** The use of used oil as a dust suppressant is prohibited.

SECTION 3. **EFFECTIVE DATE**. This rule shall take effect on the first day of the month following publication in the Wisconsin administrative register, as provided in s. 227.22 (2) (intro.), Stats.

SECTION 4. **BOARD ADOPTION**. The foregoing rule was approved and adopted by the State of Wisconsin Natural Resources Board on December 7, 2005.

Dated at Madison, Wisconsin _____.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____
Scott Hassett, Secretary

(SEAL)