



CA 91-81

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

101 South Webster Street
Box 7921
Madison, Wisconsin 53707
TELEPHONE 608-266-2621
TELEFAX 608-267-3579
TDD 608-267-6897

STATE OF WISCONSIN)
)
DEPARTMENT OF NATURAL RESOURCES) ss

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Bruce B. Braun, Deputy Secretary of the Department of Natural Resources and custodian of the official records of said Department, do hereby certify that the annexed copy of Natural Resources Board Order No. SW-31-91 was duly approved and adopted by this Department on October 24, 1991. I further certify that said copy has been compared by me with the original on file in this Department and that the same is a true copy thereof, and of the whole of such original.

IN TESTIMONY WHEREOF, I have here-
unto set my hand and affixed the
official seal of the Department at
the Natural Resources Building in
the City of Madison, this 4th
day of March, 1991.

RECEIVED

MAR 12 1992
10:35 am.
Revisor of Statutes
Bureau

Bruce B. Braun
Bruce B. Braun, Deputy Secretary

(SEAL)

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
RENUMBERING, AMENDING AND CREATING RULES

IN THE MATTER of renumbering ss. NR 502.05(1)(b), 502.06(1), (4) to (6), 502.09(4) & (5), 506.15 and 508.04 (5); amending ch. 502(title) and 520 Table 1, ss. NR 500.03(86), 502.01, 502.02(1), 502.05(4)(a), 502.08(1), 502.09(1), 508.10(4) Table 1 and 520.04(4); and creating ss. NR 500.03(12m), (33m), (41m), (85m), (86m), (114m), (149m), & (155m), 500.10, 502.05(1)(b), (2)(e) & (13), 502.06(1)(b), (4) & (5), 502.08(15), 502.09(2)(c), 502.09(4), 502.14, 504.08, 506.15, 508.04(5), 514.08, 600.03(137) & 605.05(1)(a)13. of the Wisconsin Administrative Code pertaining to municipal solid waste combustor residue management.

SW-31-91

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Analysis Prepared by Department of Natural Resources

Statutory authority: ss. 144.025(2)(c), 144.431(1)(a), 144.62(5) and 227.11(2)(a), Stats.

Statutes interpreted: ss. 144.431(1)(e), 144.62(12) and 159.03(1)(b)2., Stats.

The rules will provide for the management of municipal solid waste combustor residue. The guideline language used by the Department since August, 1990, which was incorporated into plan approvals, is being proposed to be promulgated as administrative rules. Included in the rules are:

1. Testing requirements for the residue from solid waste combustors;
2. Additional monitoring requirements at landfills accepting combustor residues;
3. Additional design requirements at landfills accepting combustor residues;
4. Plan of operation submittal requirements for combustor facilities, collection and transportation facilities, and landfills;
5. Residue storage and handling requirements for the combustor facilities and the transporters;
6. Operational requirements at landfills accepting combustor residues;
7. Combustor operator certification requirements;
8. License and plan review fees; and
9. Exemption of the combustor residues from the hazardous waste regulations.

SECTION 1. NR 500.03(12m), (33m), (41m), and (85m) are created to read:

NR 500.03(12m) "Building materials" means non-combustible construction material including brick, concrete and drywall.

(33m) "Design capacity for a facility which burns municipal solid waste" means the facility's rated capacity or any permit limitation, whichever is less, for burning municipal solid waste. The design capacity for facilities that burn multiple fuel types such as refuse derived fuel, wood and coal will be determined based on the municipal solid waste portion of the fuel.

(41m) "EPA" or "USEPA" means the United States environmental protection agency.

(85m) "Monofill cell for residue produced by burning municipal solid waste" means a landfill or a specified area within a landfill for residue disposal which is designed to prevent mixing of residue and wastes which produce acidic leachates and which is designed to prevent leachate from adjacent cells from coming into contact with the residue.

SECTION 2. NR 500.03(86) is amended to read:

NR 500.03(86) "Municipal solid waste" means ~~solid waste generated primarily by residential and commercial activities;~~

(a) Household waste, or

(b) Solid waste from commercial or industrial sources that does not contain hazardous waste and does not contain any process waste which is the direct or indirect result of the manufacturing of a product or the performance of a service such as dry cleaners or paint shops. "Municipal solid waste" does not include waste wood, papermill sludge, sewage sludge, tires or industrial process wastes.

SECTION 3. NR 500.03(86m), (114m), (149m) and (155m) are created to read:

NR 500.03(86m) "Municipal solid waste combustor" means any solid waste treatment facility that is used to burn municipal solid waste or products derived from municipal solid waste, alone or in conjunction with other materials.

(114m) "Residue produced by burning municipal solid waste" means the residue produced in a municipal solid waste combustor designed and operated for controlled burning of solid wastes primarily to achieve volume and weight reduction or to change waste characteristics. This includes facilities such as boilers which also capture energy in the form of steam, electricity, heat, gas, oil or char from the burning of waste. Residue produced by burning municipal solid waste includes, but is not limited to, slag, ash, flyash, reacted and unreacted scrubber lime, and soot. Residue produced by burning municipal solid waste does not include bypass waste which is rejected prior to burning.

(149m) "UW" means the university of Wisconsin.

(155m) "White goods" means large and medium sized metal appliances including stoves and refrigerators.

SECTION 4. NR 500.10 is created to read:

NR 500.10 EXEMPTION FOR USE OF MUNICIPAL SOLID WASTE AS A FUEL. The department may grant exemptions in writing from any of the requirements of chs. NR 500 - 520 for municipal solid waste combustors and any other solid waste facilities which manage the residue from municipal solid waste combustors. The department also may issue an approval for solid waste which has been processed into a fuel for a municipal solid waste combustor which exempts the combustor and any facility which manages the combustor residue from regulation under chs. NR 500 - 520, Wis. Adm. Code. Such exemptions may be granted under this section. The department shall consider the following criteria in determining whether an exemption shall be granted under this section:

- (a) The source of the waste to be used as fuel.

- (b) The variability of the waste to be used as fuel.
- (c) The physical and chemical properties of the waste to be used as fuel.
- (d) The quantity of the waste to be used as fuel.
- (e) The percentage of the total fuel mix contributed by the municipal solid waste.
- (f) The physical and chemical properties of the residue.

SECTION 5. Chapter NR 502 (title) is amended to read:

SOLID WASTE STORAGE, TRANSPORTATION, TRANSFER, INCINERATION,
AIR CURTAIN DESTRUCTORS, PROCESSING, WOOD BURNING, ONE TIME
DISPOSAL AND, SMALL DEMOLITION FACILITIES,
AND MUNICIPAL SOLID WASTE COMBUSTORS

SECTION 6. NR 502.01 is amended to read:

NR 502.01 PURPOSE. The purpose of this chapter is to help ensure that efficient, nuisance-free and environmentally acceptable solid waste management procedures are practiced in Wisconsin and to outline the requirements regarding licensing and operational requirements for solid waste storage, transportation, transfer, incinerators, air curtain destructors, processing, wood burning, one time disposal and, small demolition facilities and municipal solid waste combustors. This chapter is adopted under ss. 144.43 to 144.47, and 227.11, Stats.

SECTION 7. NR 502.02(1) is amended to read:

NR 502.02 APPLICABILITY. (1) Except as otherwise provided, this chapter governs all solid waste storage, transportation, transfer, incinerators, air curtain destructors, processing, wood burning, one time disposal and, small demolition facilities and municipal solid waste combustors as defined in

s. 144.43(5), Stats., except hazardous waste facilities as defined in s. 144.61(5m), Stats., and regulated under chs. NR 600 to 685, and metallic mining operations as defined in s. 144.81(5), Stats., and regulated under ch. NR 182.

SECTION 8. NR 502.05(1)(b) is renumbered (1)(c):

SECTION 9. NR 502.05(1)(b) is created to read:

NR 502.05(1)(b) No person may operate or maintain a facility for the storage of residue produced by the burning of municipal solid waste unless the person has obtained an operating license from the department under this section.

SECTION 10. NR 502.05(2)(e) is created to read:

NR 502.05(2)(e) On site storage at a municipal solid waste combustor.

SECTION 11. NR 502.05(4)(a) is amended to read:

NR 502.05(4)(a) The solid waste does not include residue produced by the burning of municipal solid waste or putrescible waste such as garbage and municipal refuse.

SECTION 12. 502.05(13) is created to read:

NR 502.05(13) STORAGE OF RESIDUE PRODUCED BY BURNING MUNICIPAL SOLID WASTE. (a) Except for on-site storage at a municipal solid waste combustor approved under s. NR 502.14, no person may maintain or operate a storage facility for residue produced by burning municipal solid waste unless the person has obtained an operating license under sub. (1), and written

approval of a plan of operation under sub. (5), for the facility. Residue storage areas shall be designed, operated and maintained in compliance with the applicable portions of this section.

(b) The residue shall be wetted at all times during storage to prevent dust emissions.

Alternative methods of dust control shall be approved by the department prior to implementation. Provisions shall be made to prevent the release of residue into the air in the residue handling areas.

(c) The storage area shall have an impervious surface on which the residue is stored and a collection system for any liquids coming into contact with the residue. All liquid that comes into contact with the residue which is not used as makeup water in the quench tank shall be treated at a wastewater treatment plant approved by the department.

(d) Access to the temporary storage areas shall be restricted to authorized personnel only. Fencing or other means of access control acceptable to the department shall be maintained around the storage facility.

SECTION 13. NR 502.06(1) is renumbered 502.06(1)(a).

SECTION 14. NR 502.06(1)(b) is created to read:

NR 502.06(1)(b) No person may maintain or operate a facility for the collection and transportation of residue produced by burning municipal solid waste unless the person has obtained a written approval of a plan of operation for the facility under sub. (4).

SECTION 15. NR 502.06(4) to (6) are renumbered 502.06(6) to (8).

SECTION 16. NR 502.06(4) and (5) are created to read:

NR 502.06(4) PLAN OF OPERATION FOR TRANSPORTATION OF RESIDUE PRODUCED BY BURNING MUNICIPAL SOLID WASTE. (a) No person may maintain or operate a facility for the collection and transportation of residue produced by burning municipal solid waste unless the person has obtained an operating license and written approval of a plan of operation for the facility.

(b) The plan of operation shall specify the intent and objectives of the proposal and indicate methods and procedures to minimize adverse environmental impacts. Unless an exemption is granted by the department in writing, the plan shall be submitted in accordance with s. NR 500.05 (1) to (3) and shall contain, at a minimum, the following information:

1. A legal description of the property and the facility boundaries.
2. The present ownership of the proposed facility property.
3. The operator of the facility.
4. The types of vehicles used to haul residue to a landfill or processing facility.
5. The names and locations of all solid waste disposal facilities to which residue may be hauled.
6. The names and locations of all facilities that residue produced by burning municipal solid waste will be collected from.
7. The method used to restrict access to the residue transport vehicles to authorized personnel only.
8. The methods used to prevent spillage and wind blown residue.

(c) Any licensed residue collection and transportation service which is in operation on the effective date of this paragraph...[revisor insert date] shall submit a plan of operation in accordance with this subsection no later than 3 months after the effective date of this paragraph...[revisor insert date].

(d) No residue collection or transportation service may begin initial operation after the effective date of this paragraph...[revisor insert date], unless a plan of operation under this section has been approved by the department.

(5) TRANSPORTATION OF RESIDUE PRODUCED BY BURNING MUNICIPAL SOLID WASTE. (a) The transportation of residue produced by burning municipal solid waste shall be in accordance with the applicable portions of this section.

(b) The residue shall contain sufficient moisture during transportation to prevent dust emissions. Alternative methods of dust control shall be approved by the department prior to implementation. Provisions shall be made to prevent the release of residue into the air in the residue handling areas.

(c) Prior to transportation of the residue, free liquids shall be drained until no more free liquids remain. All vehicles that transport the residue shall be designed and operated as necessary to prevent leakage during operation.

(d) Access to the residue transport vehicles shall be restricted to authorized personnel only.

(e) All transportation vehicles shall be covered to adequately prevent spillage and wind blown residue during transport.

SECTION 17. NR 502.08(1) is amended to read:

NR 502.08 (1) GENERAL. No person may operate or maintain a solid waste processing facility unless the person has obtained an operating license from the department, except as provided in sub. (2). An applicant intending to establish or construct a solid waste processing facility shall contact the department to arrange for an initial inspection. This section does not apply to incinerators, air curtain destructors ~~or~~, wood burning facilities or municipal solid waste combustors which are regulated under ss. NR 502.09 to 502.11 or 502.14.

SECTION 18. NR 502.08(15) is created to read:

NR 502.08(15) MANAGEMENT OF RESIDUE PRODUCED BY BURNING MUNICIPAL SOLID WASTE. (a) No person may operate or maintain a facility for the treatment of residue produced by burning municipal solid waste unless the person has obtained an operating license from the department and a written plan approval under sub. (5). Residue treatment areas shall be designed, operated and maintained in accordance with the applicable portions of this section.

(b) All treatment or mixing shall be performed in a manner which controls air and water emissions.

SECTION 19. NR 502.09 (1) is repealed and recreated to read:

NR 502.09(1) GENERAL. No person may operate a solid waste incinerator unless the person has obtained an operating license from the department, except as provided in sub. (2), and a written approval from the department of a plan of operation under sub. (4), for the facility. An applicant intending to establish or construct a solid waste incinerator shall contact the department to arrange for an initial inspection.

SECTION 20. NR 502.09 (2)(c) is created to read:

NR 502.09(2)(c) Incinerators which are regulated under s. NR 502.14 are not subject to regulation under this section.

SECTION 21. NR 502.09 (4) and (5) are renumbered 502.09 (5) and (6).

SECTION 22. NR 502.09 (4) is created to read:

NR 502.09(4) PLAN OF OPERATION. No person may establish or construct an incinerator facility or expand an existing incinerator after the effective date of this paragraph...[revisor insert

date] prior to obtaining approval in writing from the department of a plan of operation for the facility.

An operator of a solid waste incinerator which is in operation on the effective date of this paragraph...[revisor insert date] shall submit a plan of operation in accordance with this section no later than 3 months after the effective date of this paragraph...[revisor insert date]. The plan of operation for an incinerator shall contain, at a minimum, the following information:

(a) A map or aerial photograph of the area showing land use and zoning within ¼ mile of the site. The map or aerial photograph shall be of sufficient scale to show all homes, industrial buildings, roads and other applicable details and the details shall be identified and indicated on the map or aerial photograph.

(b) A plot plan of the incinerator site including means of limiting access such as fencing, gates, natural barriers; methods of acceptably screening the facility from the surrounding area; general layout of equipment and flow pattern; road access; and location of existing and proposed utilities serving the incinerator.

(c) A report which shall include the following information:

1. Population, area and facilities to be served by the incinerator.
2. Anticipated type and quantity of waste to be handled by the incinerator.
3. Persons responsible for incinerator operations.
4. Methods of treating or disposing of any liquid wastes or waste waters resulting from the operation of the incinerator.

(d) Appurtenances and procedures intended to store refuse beyond the end of the working day and to control dust, odors, fire outside the burning chamber and windblown materials.

(e) Methods of volume reduction including compaction, compression, baling, shredding, grinding, tamping, separating or classifying.

(f) Daily clean up procedures.

- (g) Incinerator inspection and maintenance schedule and procedures.
 - (h) Detailed drawings and specifications of all structures, equipment and site.
 - (i) A report which includes furnace design criteria and expected performance data, including emission data.
- (h) The site at which the ash residue will be disposed and alternative sites available for use when the primary site is inoperative.

SECTION 23. NR 502.14 is created to read:

NR 502.14 MUNICIPAL SOLID WASTE COMBUSTORS. (1) GENERAL. No person may operate or maintain a municipal solid waste combustor unless the person has obtained an operating license and a written approval of a plan of operation under sub. (3).

(2) LOCATIONAL CRITERIA. Municipal solid waste combustors shall meet the locational criteria specified in s. NR 502.04(2)(c) and the performance standards specified in s. NR 502.04(3). Exemptions from the requirements of s. NR 502.04(3)(b), (e) and (f) may be granted only upon demonstration by the applicant of circumstances which warrant such exemptions. Exemptions from compliance with s. NR 502.04(3)(a) may be granted only in accordance with the standards in s. NR 1.95. Exemptions from compliance with s. NR 502.04(3)(d) may be granted only in accordance with the procedures in ch. NR 140. Exemptions from compliance with s. NR 502.04(2)(c) and (3)(c) may not be granted.

(3) PLAN OF OPERATION. No person may establish or construct a municipal solid waste combustor or expand an existing facility after the effective date of this paragraph...[revisor insert date] prior to obtaining approval in writing from the department of a plan of operation for the facility. The operator of a municipal solid waste combustor which is in operation on the effective date of this paragraph...[revisor insert date] shall submit a plan of operation in accordance with this subsection no

later than 3 months after the effective date of this paragraph...[revisor insert date]. The plan of operation for the municipal solid waste combustor shall contain, at a minimum, the following information:

(a) A map or aerial photograph of the area showing land use and zoning within ¼ mile of the site. The map or aerial photograph shall be of sufficient scale to show all homes, industrial buildings, roads and other applicable details and such details shall be identified and indicated on the map or aerial photograph.

(b) A plot plan of the municipal solid waste combustor site including means of limiting access such as fencing, gates, natural barriers; methods of acceptably screening the facility from the surrounding area; general layout of equipment and flow pattern; road access; and location of existing and proposed utilities serving the municipal solid waste combustor.

(c) A report which shall include the following information:

1. Population, area and facilities to be served by the municipal solid waste combustor.
2. Anticipated type and quantity of waste to be handled by the municipal solid waste combustor.
3. Persons responsible for the municipal solid waste combustor operations.
4. Methods of treating or disposing of any liquid wastes or waste waters resulting from the operation of the combustor.

(d) Appurtenances and procedures intended to store refuse beyond the end of the working day and to control dust, odors, fire outside the burning chamber and windblown materials.

(e) Methods of volume reduction including compaction, compression, baling, shredding, grinding, tamping, separating or classifying.

(f) Daily clean up procedures.

(g) Municipal solid waste combustor inspection and maintenance schedule and procedures.

(h) Detailed drawings and specifications of all structures, equipment and site.

(i) A report which includes furnace design criteria and expected performance data, including emission data.

(j) The site at which the residue will be disposed and alternative sites available for use when the primary site is inoperative.

Note: Municipal solid waste combustors must also have the air management permits required under s. 144.391, Stats.

(6) OPERATIONAL REQUIREMENTS. No person may operate or maintain a municipal solid waste combustor except in conformance with the following minimum requirements, unless an exemption is granted by the department in writing:

(a) The municipal solid waste combustor shall be situated, equipped, operated and maintained to minimize interference with other activities in the area.

(b) Adequate shelter and sanitary facilities shall be available for facility personnel.

(c) A sign shall be prominently posted at the entrance to the facility which indicates name, license number, hours of operation, necessary safety precautions and any other pertinent information.

(d) All incoming solid waste shall be confined to the designated storage area.

(e) Incoming and bypass solid waste shall be stored in conformance with s. NR 502.05(9).

(f) Dust shall be controlled in the unloading and charging areas.

(g) Permanent records shall be maintained in accordance with sub. (9).

(h) Appropriate fire-fighting equipment shall be available in the storage and charging areas and elsewhere as needed.

(i) Arrangements shall be made with the local fire protection agency to provide adequate emergency fire-fighting forces.

(j) Means of communication with emergency facilities shall be provided.

(k) Adequate equipment shall be provided to allow cleaning after each day of operation or as may be required in order to maintain the plant in a sanitary condition.

(l) The charging openings as well as all equipment throughout the plant shall be provided with adequate safety equipment.

(m) The municipal solid waste combustor shall be designed and operated so that it will not cause a nuisance because of the emission of noxious odors, gases, contaminants or particulate matter or exceed emission limitations established by state air management rules.

(n) Residue shall be disposed of at a solid waste facility licensed by the department to accept the material or be handled by an alternate method approved in writing by the department. Approval shall be issued on a case-by-case basis after review of the information contained in sub. (8).

(o) All wastewater from the combustor shall be discharged into a sanitary sewer or other system approved in writing by the department.

(p) Upon completion of construction of a new municipal solid waste combustor and at least 10 days prior to initial operation, the department shall be notified to allow inspection of the combustor both prior to and during any performance tests and initial operation.

(q) Open burning of solid waste may not be conducted.

(r) An approved alternative method shall be used for solid waste disposal during any time that the municipal solid waste combustor is inoperable.

(s) The incoming waste shall be screened to eliminate unacceptable material from entering the municipal solid waste combustor such as hazardous waste, asbestos, explosive materials or other materials as defined in sub. (11).

(t) Residue storage at the municipal solid waste combustor shall be in accordance with the following:

1. The residue shall be wetted at all times during storage to prevent dust emissions.

Alternative methods of dust control shall be approved by the department prior to implementation. Provisions shall be made to prevent the release of residue into the air in the residue handling areas.

2. The storage area shall have an impervious surface on which the residue is stored and a collection system for any liquids coming into contact with the residue. All liquid that comes into contact with the residue which is not used as makeup water in the quench tank shall be treated at a wastewater treatment plant approved by the department.

3. Access to the temporary storage areas shall be restricted to authorized personnel only. Fencing or other means of access control acceptable to the department shall be maintained around the storage facility.

(u) All treatment or mixing of residue shall be performed in a manner which controls air and water emissions.

(v) Treatment or mixing of residue at a facility other than at the municipal solid waste combustor shall require a processing license under s. NR 502.08.

(7) RESIDUE SAMPLING. (a) Representative samples of residues produced by burning municipal solid waste shall be collected over a minimum one-week period every quarter within 2 weeks of March 15, June 15, September 15 and December 15, except as provided in par. (f). Minimum 2 gallon volume samples shall be obtained hourly by using the appropriate procedure described in ASTM Method D2234-89. The hourly samples shall be composited daily. Each daily sample shall then be composited together at the end of the testing period to result in a minimum of one representative sample. Compositing shall be performed in a manner acceptable to the department.

Note: A copy of this sample collection procedure can be obtained from the Department of Natural Resources, Bureau of Solid Waste Management, 101 S. Webster Street, Madison, Wisconsin 53707.

Copies of this test method are also available for inspection at the offices of the Revisor of Statutes and

the Secretary of State. Personal copies may be obtained from ASTM, 1916 Race Street, Philadelphia, PA 19103-1187.

(b) Unless the residues are mixed as part of an internal, mechanical process, air pollution control equipment residue samples shall be collected separately from bottom-ash samples. If the mixing is part of an internal mechanical process, then the sampling shall be performed after the residue is mixed. If an ash treatment process occurs at the municipal solid waste combustor, then the sample shall be collected after treatment.

(c) For a municipal solid waste combustor where the sampling methods established in pars. (a) and (b) would be impractical, alternatives, such as pile testing methods, may be approved by the department.

(d) An adequate volume of each representative composite sample to be tested shall be retained to allow for confirmatory testing if any of the levels established under sub. (8)(g) are exceeded.

(e) In addition to the routine quarterly sampling required in par. (a), representative samples shall be collected within 2 weeks of initial startup and shakedown, and after any significant changes in plant design, operation or waste input, if such changes are expected to cause an increase or decrease in the number or concentrations of the residue parameters listed in sub. (8), Table 1. The operator shall identify, and submit to the department, the changes made and the anticipated effect the changes will have on the residues.

(f) An operator of a municipal solid waste combustor that has a design capacity of less than 10 tons per day shall:

1. Collect representative samples over a minimum one-week period every year within 2 weeks of June 15.

2. Collect representative samples quarterly to test for the 8 heavy metal parameters listed in sub. (8)(g) and within 2 weeks of initial startup and shakedown and after any significant changes in

plant design, operation or waste input, if such changes are expected to cause an increase or decrease in the number or concentrations of the listed parameters in the residue. The operator shall identify, and submit to the department, the changes made and the anticipated effect the changes will have on the residues. Sample collection and compositing procedures shall be performed as provided in par. (a).

3. Comply with all of the other provisions of sub. (7).

(8) RESIDUE CHARACTERIZATION. (a) An operator of a municipal solid waste combustor with a design capacity of 10 tons per day or greater shall test its residue quarterly the first year after an approval has been issued. After the first year of quarterly testing the residues shall be tested on an annual basis, except as provided in par. (m). The testing program listed in Table 1 shall be applied to all samples collected as required by sub. (7)(a) to (d). Test results shall be submitted to the department within 10 days of receiving the test results or within 60 days of the date of collection of the final sample, whichever is sooner.

(b) An operator of a municipal solid waste combustor with a design capacity of less than 10 tons per day shall:

1. Test its residue annually beginning the first June after an approval has been issued, except as otherwise provided in pars. (g) and (m).

2. Apply the testing program listed in Table 1 to all samples collected as required by sub. (7)(f). The dioxin/furan testing may be eliminated from the testing program.

3. Submit test results to the department within 10 days of receiving the test results or within 60 days of the date of collection of the final sample, whichever is sooner.

4. Comply with all of the other provisions of this section.

(c) A leachate sample from the monofill where the residue is disposed of may be substituted for the EPA Method 1312 leach procedure listed in Table 1, Section III, after the initial 4 rounds of

testing. The leachate sample shall be tested for all of the parameters listed under the EPA Method 1312 leach requirements in Table 1, Section III, unless a reduction in the number of parameters tested for has been approved by the department. The municipal solid waste combustor using the leachate substitute shall be responsible for the testing. If significant levels of any of the listed parameters are detected in the leachate tested from a monofill that receives multiple sources of residue, the department may require all contributing municipal solid waste combustors to perform leach testing of their residue using EPA Method 1312.

Note: A copy of this test method can be obtained from the Department of Natural Resources, Bureau of Solid Waste Management, 101 S. Webster Street, Madison, Wisconsin 53707. Copies of this test method are also available for inspection at the offices of the Revisor of Statutes and the Secretary of State. Personal copies can be obtained from the U.S. Environmental Protection Agency, Office of Solid Waste, 401 M Street SW, Washington D.C. 20460.

(d) The operator of the municipal solid waste combustor may apply to the department at the end of the initial 4 rounds of testing for elimination of those parameters which do not appear in its residues at significant levels.

(e) The provisions of this subsection do not supersede the testing requirements for the 8 heavy metal parameters listed in par. (g) using the EPA Method 1312 leach procedure.

(f) During the scheduled testing period, if any parameter in the bulk analysis is not detected at or above the specified detection limits, then that parameter may be eliminated from further leach testing for that test period.

(g) An operator of a municipal solid waste combustor shall test its residue for the parameters in this paragraph quarterly and within 2 weeks of completing initial startup and shakedown, and after any significant changes in plant design, operation or waste input that significantly affects or changes the residue characteristics by using EPA Method 1312. For municipal solid waste combustors which

receive approval to co-dispose under s. NR 504.08(3)(c), the UW, method R, synthetic leach test shall be used. Multiple samples may be tested separately and the results combined to obtain an arithmetic mean for each parameter. The operator shall immediately notify the department if test results indicate that any of the following limits are exceeded:

| | | | |
|------------------|------------|------------------|----------|
| 1. Arsenic (As) | 5.0 mg/l | 5. Lead (Pb) | 5.0 mg/l |
| 2. Barium (Ba) | 100.0 mg/l | 6. Mercury (Hg) | 0.2 mg/l |
| 3. Cadmium (Cd) | 1.0 mg/l | 7. Selenium (Se) | 1.0 mg/l |
| 4. Chromium (Cr) | 5.0 mg/l | 8. Silver (Ag) | 5.0 mg/l |

Note: Copies of these test procedures can be obtained from the Department of Natural Resources, Bureau of Solid Waste Management, 101 S. Webster Street, Madison, Wisconsin 53707. Copies of these test methods are also available for inspection at the offices of the Revisor of Statutes and the Secretary of State. Personal copies can be obtained from the U.S. Environmental Protection Agency, Office of Solid Waste, 401 M Street SW, Washington D.C. 20460.

(h) If any of the limits in par. (g) are exceeded, the operator may elect to complete confirmatory testing on the retained sample within 2 weeks of receiving the initial results. If the operator elects to perform the confirmatory testing then, only the constituents exceeding the limits will require retesting.

(i) After January 1, 1993, if any of the limits in par. (g) are exceeded and confirmatory testing under par. (h) is not completed, or if the test results of par. (h) confirms the exceedance of the limits for the parameters listed in par. (g), then the residue may be treated to reduce leachable constituents below the threshold values, prior to disposal, or the residue shall be disposed of in a double composite lined landfill in accordance with s. NR 504.08(3)(b). The treatment of the residue or disposal in a double composite lined landfill shall continue until a significant change to the facility

(9) **RECORD KEEPING.** Operators of municipal solid waste combustor facilities shall maintain a record at the facility available for inspection by department staff during normal business hours.

Records shall be compiled on a monthly basis, at a minimum. The department may approve alternative record-keeping programs. The following shall be included in the records:

(a) The hours of plant operation, combustion temperatures and residence time.

(b) The weight of material coming into the facility.

(c) The weight of material rejected by the facility and where it was sent. Where exact weights are not available, estimates shall be made of the weight of rejected hazardous waste, lead-acid batteries, the material sent to a recycler and the material sent to a landfill.

(d) The weight of residue produced and where it was sent. Where exact weights are not available, the volume of residue produced shall be recorded.

(e) A list of the states of origin of solid waste accepted at the facility in the previous year and the amount, by weight, originating in each state.

(f) The recording person's initials and the date of each entry.

(10) **ANNUAL REPORT.** (a) The facility operator shall compile and submit the records defined in sub. (9) as an annual report.

(b) The report shall cover the calendar year and be submitted no later than April 1 of the following year.

(c) The annual report shall include the results of all testing required under sub. (8) for the previous year.

(11) **WASTE SCREENING.** (a) The operator or designated agent of a municipal solid waste combustor shall screen the incoming waste to eliminate the materials identified in pars. (b) to (d), from entering the facility.

(b) The screening of materials from the combustion process may be accomplished at the facility or by the contributors of the waste from the area served by the facility that have an effective recycling program. Additional restrictions to waste acceptance for some facilities may exist as specified in s. 159.07, Stats. Alkaline batteries and similar heavy metal sources should not be accepted at municipal solid waste combustor facilities.

(c) Hazardous waste as defined by s. NR 600.03(87) may not be accepted at a municipal solid waste combustion facility. This includes waste produced by small quantity generators. Household hazardous waste shall be excluded if separated from residential waste. Household hazardous waste may be accepted if not separated from residential waste.

(d) White goods, large metal objects, lead/acid batteries, building materials, and non-combustible furniture, office and farm equipment may not be fed into a municipal solid waste combustor.

(e) Waste oils may be burned only in compliance with state and federal regulations.

(12) WASTE SCREENING PLAN. The operator of a municipal solid waste combustion facility shall evaluate and submit to the department a waste screening and handling plan that contains the following:

(a) Procedures for limiting the items listed in sub. (11)(c) and (d) from entering a combustor.

(b) Identification of other items that will not be accepted by the combustor due to heavy metal content or other reasons.

(c) Procedures for handling and disposing of screened items.

(d) Procedures and authority for enforcement of its requirements.

(e) The plan may include the effective recycling program under s. 159.11, Stats., developed by each responsible unit or units served by the municipal solid waste combustor. Other waste reduction plans, such as medical waste reduction plans, may be included where appropriate.

(f) Municipal solid waste combustion facilities which began initial operation prior to the effective date of this section...[revisor insert date] shall submit a waste screening and handling plan to the department no later than 3 months after the effective date of this paragraph...[revisor insert date] for approval.

(g) No municipal solid waste combustion facility may begin initial operation after 3 months after the effective date of this paragraph...[revisor insert date] unless a waste screening and handling plan under this section has been approved by the department.

(13) OPERATOR QUALIFICATIONS. The municipal solid waste combustion facility shall be operated by personnel meeting the operator qualification requirements established under s. 144.31(3), Stats.

SECTION 24. NR 504.08 is created to read:

NR 504.08 DISPOSAL OF RESIDUE PRODUCED BY BURNING MUNICIPAL SOLID WASTE. (1) APPLICABILITY. This section applies to landfills designed for residue produced by the burning of municipal solid waste as approved by the department. This section applies to all new facilities and existing facilities.

(2) LANDFILL DESIGN CRITERIA FOR RESIDUE PRODUCED BY BURNING MUNICIPAL SOLID WASTE. (a) All municipal solid waste combustor residue disposal areas which are not substantially constructed prior to January 1, 1992 shall be designed and constructed, at a minimum, as composite lined monofills as specified in sub. (3).

(b) The department may approve alternate designs such as double liners if it finds that the design provides equivalent protection.

(c) All landfills which accept residue produced by burning municipal solid waste shall maintain a surface water runoff containment system approved by the department.

(d) All landfills which accept residue produced by burning municipal solid waste shall maintain access control to the landfill.

(e) All landfills which accept residue produced by burning municipal solid waste shall maintain a financial responsibility plan substantially meeting the requirements of ch. NR 520 and approved by the department.

(3) DISPOSAL OF RESIDUE PRODUCED BY BURNING MUNICIPAL SOLID WASTE. (a)

No person may dispose of municipal solid waste combustor residue which does not exceed limits specified in s. NR 502.14(8)(g) except according to the following criteria:

1. All residue shall be disposed of in a landfill designed, at a minimum, with a clay liner and leachate collection system and specifically approved by the department to accept municipal solid waste combustor residue.

2. After January 1, 1992 all residue shall be disposed of in a landfill area designed, at a minimum, as a monofill cell approved by the department. Non-acidic leachate producing wastes such as foundry process waste and utility ash may be mixed with the residue.

3. After January 1, 1993 all municipal solid waste combustor residue shall be disposed of in a landfill area designed, at a minimum, as a composite lined monofill cell. The composite liner shall consist of a minimum 60 mil geomembrane overlying a minimum thickness of 4 feet of compacted clay meeting the specifications of s. NR 504.05. The leachate collection system shall be designed such that the leachate from the residue monofill cell can be sampled and collected separately from non-residue disposal areas.

4. All residue produced by a municipal solid waste combustor which begins initial operation after the effective date of this paragraph...[revisor insert date] shall be disposed of in a landfill area designed, at a minimum, as a composite lined monofill cell.

(b) After January 1, 1993 all municipal solid waste combustor residue which exceeds the test limits in s. NR 502.14(8)(g) and is not subsequently treated to below those limits shall be disposed of in a double composite lined landfill. The double composite liner shall be constructed of 2 separate composite liners with each liner consisting of a minimum 60 mil geomembrane overlying a minimum thickness of 4 feet of compacted clay. The composite liners shall be separated by a leachate detection layer consisting of a minimum one foot layer of granular material. The clay components of the liner system shall have properties that meet the specifications of s. NR 504.05. Separate leachate collection systems shall be constructed above and between the composite liners. The leachate collection system shall be designed such that the leachate from the leachate detection layer can be sampled and collected separately from the upper leachate collection system and separately from the non-residue disposal areas. The department may approve alternate designs if it finds that the design provides equivalent protection.

(c) Operators of medical waste combustors with a design capacity of less than 10 tons per day may apply to the department for an written exemption to subd. 2 or 3 or both if they can demonstrate that no reasonable alternative is available. The department may place an expiration date on any exemption which is granted.

(d) All landfills which accept municipal solid waste combustor residue shall be approved by the department in accordance with s. NR 514.08 prior to accepting each specific residue waste stream.

SECTION 25. NR 506.15 is renumbered 506.16.

SECTION 26. NR 506.15 is created to read:

NR 506.15 MANAGEMENT OF RESIDUE PRODUCED BY BURNING MUNICIPAL SOLID WASTE. (1) GENERAL. No person may operate or maintain a facility for the disposal of residue

produced by the burning of municipal solid waste, except in accordance with this section and the written approval of the department.

(2) **FACILITY CRITERIA.** Only facilities meeting the following criteria may accept municipal solid waste combustor residue for disposal:

(a) The facility shall be a licensed and approved facility as defined in s. 144.441(1)(a), Stats. The department may grant an exemption to this provision if the facility can demonstrate substantial compliance with the design criteria in s. NR 504.08.

(b) The facility shall obtain approval from the department in writing prior to accepting residue from each municipal solid waste combustor source. The facility may accept only residue from municipal solid waste combustors designated in the municipal solid waste combustor residue disposal plan included in the initial plan of operation approval or a modification to the original approval granted under ch. NR 514.

(3) **OPERATIONAL REQUIREMENTS.** No person may operate or maintain a new or existing disposal facility that accepts residue produced by the burning of municipal solid waste except in conformance with all provisions of a municipal solid waste residue disposal plan approved under s. NR 514.08, the applicable portions of s. NR 506.07 and the following minimum requirements:

(a) Wind blown material shall be prevented.

(b) Cover soil shall be used during filling operations to restrict the exposed residue area of disposal to as small an area as practical. In no case may the exposed residue area be larger than 50 feet by 100 feet unless otherwise approved by the department.

(c) The residue shall be covered with a minimum of 6 inches of soil at the end of daily operations for each day residue was accepted unless an alternative method is approved by the department under par. (e).

(d) Filled areas, other than the active residue disposal area, shall be covered with soil or a department approved soil substitute such as foundry sand.

(e) The department may approve alternatives to daily cover such as water or foam if it can be demonstrated that the residue will not become wind blown.

(f) Equipment operators shall be provided with appropriate safety equipment, such as respirators.

(g) Only residue that has been tested in accordance with s. NR 502.14 (8) may be accepted.

SECTION 27. NR 508.04(5) is renumbered 508.04(6).

SECTION 28. NR 508.04 (5) is created to read:

NR 508.04(5) ENVIRONMENTAL MONITORING AT LANDFILLS ACCEPTING RESIDUE PRODUCED BY BURNING MUNICIPAL SOLID WASTE. (a) Monitoring shall be performed for cadmium and lead at any disposal facility accepting residue produced by burning municipal solid waste and shall be analyzed for as dissolved metals in the groundwater monitoring program and as total metals in the lysimeter and leachate monitoring programs.

(b) The department may require additional monitoring parameters or points at any disposal facility accepting residue produced by burning municipal solid waste.

(c) The department may require air monitoring for particulates at any disposal facility accepting residue produced by burning municipal solid waste.

SECTION 29. NR 508.10 (4) (table 1) is amended to read:

Table 1

| Waste Type | Indicators | PARAMETERS | |
|--|---|---|--|
| | | Public Welfare Standards | Public Health Standards |
| Municipal solid waste | Field temperature Field conductivity (uncorrected) Field conductivity (at 25°C) Field pH Alkalinity Hardness COD | Chloride Dissolved iron | |
| Paper mill sludge | Field temperature Field conductivity (uncorrected) Field conductivity (at 25°C) Field pH Alkalinity COD Hardness Ammonia-nitrogen | Chloride Dissolved iron Sulfates | Nitrate + Nitrite (as N) |
| Fly or bottom ash | Field temperature Field conductivity (uncorrected) Field conductivity (at 25°C) Field pH Alkalinity Boron COD Hardness | Dissolved iron Sulfates | Selenium |
| Foundry waste | Field temperature Field conductivity (uncorrected) Field conductivity (at 25°C) Field pH Alkalinity COD Hardness Sodium | | Fluoride |
| <u>Municipal solid waste combustor residue</u> | <u>Field temperature</u> <u>Field conductivity (uncorrected)</u> <u>Field conductivity (at 25°C)</u> <u>Field pH</u> <u>Alkalinity</u> <u>Boron</u> <u>COD</u> <u>Hardness</u> | <u>Dissolved iron</u> <u>Sulfates</u> <u>Chloride</u> | <u>Cadmium</u> <u>Lead</u> <u>Selenium</u> |
| Other solid waste | As specified in writing by the department | | |

SECTION 30. NR 514.08 is created to read:

NR 514.08 MUNICIPAL SOLID WASTE COMBUSTOR RESIDUE MANAGEMENT

PLANS. (1) GENERAL. No person may establish, construct or operate a facility for the land disposal of municipal solid waste combustor residue or expand an existing facility for the land disposal of municipal solid waste combustor residue until a management plan has been submitted in accordance with s. NR 500.05 and this chapter and has been approved in writing by the department. The facility shall also have an approved plan of operation in accordance with ss. NR 514.04 to 514.06. The department may approve residue management plans for facilities which have approved plans which are substantially equivalent to the requirements of ss. NR 514.04 to 514.06. Any facility which accepts municipal solid waste combustor residue prior to the effective date of this section...[revisor insert date] and which continues to accept residues after January 1, 1992, shall submit a residue management plan in accordance with this section for review and approval no later than 3 months after the effective date of this paragraph...[revisor insert date]. No person may establish, construct, operate or close a facility for the land disposal of municipal solid waste combustor residue except in accordance with this chapter, ss. NR 504.08 and NR 506.15 and with the approved plan of operation.

(2) RESIDUE SOURCES. (a) All management plans for the land disposal of municipal solid waste combustor residue shall contain the name and location of the proposed sources and the expected volume from each source of municipal solid waste combustor residue to be accepted.

(b) All management plans for the land disposal of municipal solid waste combustor residue shall evaluate the results of the testing requirements of s. NR 502.14 (8) and any trends in the results from previous testing periods to determine the need for any changes to the proposed facility design or operation.

(3) **ENGINEERING PLAN.** The management plan shall contain a set of engineering plans which are drawn on standard 24 inch by 36 inch plan sheets, unless an alternative size is approved by the department, in accordance with ss. NR 500.05, 504.05, 504.07 and 504.08. The plan sheets shall specifically address the design requirements of s. NR 504.08 and include plan views, cross-sections and details as necessary to illustrate the applicable design features, including the composite liner and leachate collection system. Phasing plan sheets shall also be included to show facility development through time.

(4) **OPERATION MANUAL AND DESIGN REPORT.** The management plan shall contain an operations manual and design report which describes the daily operations including a discussion of the timetable for the phases of facility development; waste types accepted or excluded; typical waste handling techniques and methods for handling unusual waste types; hours of operation; traffic routing; drainage and erosion control; windy, wet and cold weather disposal operations; methods for dust control; and direction of filling. Methods to maintain compliance with the requirements of s. NR 506.15 shall also be described.

(5) **MONITORING.** The management plan shall include a proposed groundwater, unsaturated zone and leachate monitoring program which complies with the requirements of s. NR 508.04(5).

SECTION 31. NR 520.04(4) is amended to read:

NR 520.04(4) PLAN REVIEW AND LICENSE FEES. For the purposes of plan review and license fees charged to land disposal and treatment facilities as provided in Table 2, the following shall apply:

SECTION 32. NR 520. Table 1 is amended to read:

TABLE 1

FEE SCHEDULE - ALL FACILITIES EXCEPT LANDFILLS AND SURFACE IMPOUNDMENTS

| NR FACILITY TYPE | LICENSE REQUIRED | PLAN REVIEW REQUIRED | PLAN REVIEW FEES (1) (2) | | LICENSE FEES 0-12 months |
|--|-------------------|----------------------|--------------------------|---------------------------------------|-----------------------------|
| | | | PLAN OF OPERATION | FACILITIES CONSTRUCTION DOCUMENTATION | |
| 500.08 Exemption Request | No | Yes | 500 | | |
| 502.05 STORAGE FACILITY | | | | | |
| Containerized | Yes | No | | | 80 |
| Non-containerized | Yes | Yes | 600 | 150 | 150 |
| 502.06 Collection and Transportation | Yes | No | | | 80 |
| Additional trucks | Yes | No | | | 20 ⁽⁴⁾ |
| 502.07 Transfer Facility | Yes | Yes | 300 | 150 | 150 |
| 502.08 Processing Facility (3) | Yes | Yes | 600 | 150 | 150 |
| 502.09 Incineration (3) Facility | No Yes | No Yes | 600 | | 80 150 |
| 502.10 Air Curtain Destructor | Yes | Yes | 300 | 150 | 150 |
| 502.11 Woodburning | Yes | Yes | 150 | | 150 |
| 502.12 One Time Disposal | No | Yes | 600 | | |
| 502.13 Small Demolition Facilities | No | Yes | 600 | 150 | |
| <u>502.14 Municipal Solid Waste Combustors</u> | <u>Yes</u> | <u>Yes</u> | <u>600</u> | <u>150</u> | <u>150</u> |
| 518 Land Spreading | No | Yes | 600 | | |

- (1) The plan review fees specified in Table 1 cover the department's review from initial submittal through approval or denial of the report or plan. An applicant may withdraw and revise or supplement a report or plan prior to it being deemed complete and resubmit it without paying an additional review fee. The applicant shall pay a plan review fee as specified in Table 1 for resubmittal of a plan which has been withdrawn after having been determined to be complete.
- (2) The department may waive any plan review fee if it determines that the total review time is not likely to exceed 4 hours.
- (3) The department shall waive the plan review fees and license fees for a processing facility or incinerator which has a primary purpose of converting solid waste into usable materials, products or energy.
- (4) The department may waive the additional license fee for trucks used only one or twice a year for spring/fall clean-up operations by municipalities.

SECTION 33. NR 600.03(139) is created to read:

NR 600.03(139) "Municipal solid waste" means:

(a) Household waste, or

(b) Solid waste from commercial or industrial sources that does not contain hazardous waste and does not contain any process waste which is the direct or indirect result of the manufacturing of a product or the performance of a service such as dry cleaners or paint shops. Municipal solid waste does not include waste wood, papermill sludge, sewage sludge, tires or industrial process wastes.

SECTION 34. NR 605.05(1)(a)13. is created to read:

NR 605.05(1)(a)13. Until September 30, 1990, bottom ash waste, fly ash waste, slag waste and flue gas emission control waste generated from the combustion of municipal solid waste. After September 30, 1990, bottom ash waste, fly ash waste, slag waste and flue gas emission control waste generated from the combustion of municipal solid waste at a facility approved by the department under s. NR 502.14.

The foregoing rules were approved and adopted by the State of Wisconsin Natural Resources Board on October 24, 1991

The rules shall take effect the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22(2)(intro), Stats.

Dated at Madison, Wisconsin March 4, 1992

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By Carroll D. Besadny
Carroll D. Besadny, Secretary

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