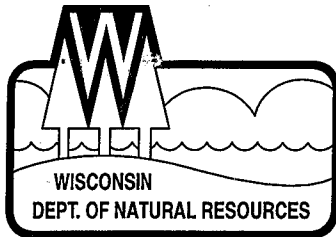


95-223

# Clearinghouse Rule 95-223

## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES



Tommy G. Thompson, Governor  
George E. Meyer, Secretary

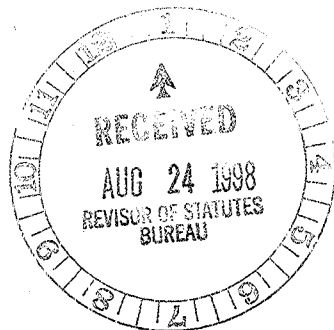
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STATE OF WISCONSIN )  
 ) ss  
DEPARTMENT OF NATURAL RESOURCES )

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, George E. Meyer, 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-9-96 was duly approved and adopted by this Department on May 27, 1998. 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 hereunto set my hand and affixed the official seal of the Department at the Natural Resources Building in the City of Madison, this 19th day of August, 1998.



George E. Meyer  
George E. Meyer, Secretary

(SEAL)

12  
X-1-98



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

The Wisconsin Natural Resources Board proposes an order to repeal NR 718.14(3), to renumber NR 718.03(3) to (9); to amend NR 419.07(4)(b) to (f), NR 518.05(4)(f), NR 518.09, NR 718.09(1), 718.09(7)(intro), 718.11(1), 718.13(1), NR 811.16(4)(d) 5 and NR 812.08(4)(f) 11, Table A; to repeal and recreate NR 718.09(8); and to create NR 500.03(124m) and (209m), NR 518.04(6m), NR 718.03(3), (7), (9) and (11) and NR 812.08(4)(f)11 relating to the remediation of soil contamination through landspreading.

SW-9-96

Analysis prepared by the Department of Natural Resources

Statutory authority: Sections 227.11(2), 280.11, 285.11, 289.05 and 289.06, Wis. Stats.

Statutes interpreted: Sections 292.11 and 292.31 and chapters 280, 285 and 289, Wis. Stats.

Standards for the single-application landspreading of petroleum-contaminated, or fertilizer or pesticide-contaminated soil are being added to ch. NR 718. Single-application landspreading was previously regulated under ch. NR 518. Soil treatment operations which utilize land for multiple landspreading applications will continue to be regulated under ch. NR 518. Other rule changes are proposed to add cross references to these new landspreading standards, and to clarify the applicability of provisions in ch. NR 718 that relate to the on-site replacement of contaminated soil and the off-site disposal of contaminated soil at another response action site. Section 419.07(4)(b) to (f) are proposed to be amended to provide appropriate emission limits for landspreading and to make the emission limits for all remedial options more consistent. Chapters NR 811 and 812 are being amended to include the setback distances between landspreading facilities and private and public wells.

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SECTION 1. NR 419.07(4)(b) to (f) are amended to read:

NR 419.07(4)(b) The emissions from the remediation or disposal of contaminated soil or water may not exceed:

1. ~~5.7~~ 137 pounds of volatile organic compounds per ~~hour~~ day in Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth, Washington or Waukesha county, except as specified in pars. (d) and (e).

2. ~~9.0~~ 216 pounds of volatile organic compounds per ~~hour~~ day in counties not listed in subd. 1., except as specified in pars. ~~(c)~~, (d) and (e).

3. The maximum emission ~~rate permitted~~ limit for any hazardous air contaminant listed in tables 1 to 5 of s. NR 445.04 under ch. NR 445.

(c) When remediating soil or water, thermal evaporation units shall meet the following volatile organic compound emission limits:

1. ~~5.7~~ 137 pounds per ~~hour~~ day in Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth, Washington or Waukesha county.

2. ~~9.0~~ 216 pounds per ~~hour~~ day in counties not listed in subd. 1.

(d) When receiving contaminated soil for disposal or beneficial use or reuse, landfills shall comply with the following limitations:

1. In Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth, Washington or Waukesha county, ~~either of the following:~~

~~a. Volatile~~ the total volatile organic compound emissions content of soils received may not exceed ~~5.7~~ 137 pounds per ~~hour~~ day.

~~b. The concentration of volatile organic compound contaminants in the soils accepted may not exceed 250 mg/kg.~~

2. In all counties not listed in subd. 1., ~~one of the following:~~

~~a. Volatile the total volatile organic compound emissions content of soils received may not exceed 9.0 216 pounds per hour day.~~

~~b. The volatile organic compound concentration, as measured midway between vertical gas extraction wells at a landfill that has an operating active gas extraction system or at the face of any landfill that does not have an operating active gas extraction system, may not exceed 500 ppm, until August 1, 1997. Thereafter landfills shall meet the requirements in subd. 2. a. or c.~~

~~c. In all contaminated soils accepted with a volatile organic compound concentration of greater than 250 mg/kg, the total quantity of volatile organic compounds may not exceed 25 tons per year.~~

Note: In calculating the total VOC content of soil received for disposal or beneficial use or reuse, landfills should not include in that figure the VOCs in soils accepted for treatment at a treatment facility at the landfill

Note: Chapter NR 722 has further limitations on the amount of contaminated soil that may be disposed of in landfills

(e) When remediating contaminated soil, ~~at a landspreading facilities shall comply with the following limitations:~~ facility

~~1. In Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth, Washington or Waukesha county, the organic compound contaminants in the soil treated at a site may not exceed 2,000 pounds per year.~~

~~2. In all counties not listed in subd. 1., the total volatile organic compound contaminants in the soil treated at a site source may not exceed 6,000 pounds per year.~~

(f) Except as provided for in sub. (6), the volatile organic compound emissions for pars. (b), and (c) and (d) ~~1.a. and 2.a. and b.~~ and the volatile organic compound quantity for pars. (d) ~~1.b., 2.c.~~ and (e) are determined by averaging the contaminant concentrations in all samples of the contaminated soil or water analyzed and multiplying that average by the total amount of soil or

water to be remediated. If in any sample there is no contamination detected, the detection level of the test method is used for the contaminant concentration in that sample.

SECTION 2. NR 500.03(124m) and (209m) are created to read:

NR 500.03 (124m) "Light petroleum products" means gasoline, diesel fuel, no. 1 or no. 2 fuel oil, kerosene, aviation gasoline, jet fuel, or a mixture of 2 or more of these materials.

(209m) "Single-application landspreading" means landspreading where contaminated soil from only one remedial action site is all the contaminated soil that is ever applied onto an area of a property.

SECTION 3. NR 518.04(6m) is created to read:

NR 518.04(6m) CONTAMINATED SOIL. Facilities used for single-application landspreading of soils contaminated solely with light petroleum products, agricultural chemicals regulated by the department of agriculture trade and consumer protection under s. 94.73, Stats., alone or in combination with each other, are exempt from the requirements of this chapter if the facility is approved under, and is operated and closed in compliance with, s. NR 718.09(8).

SECTION 4. NR 518.05(4)(f) is amended to read:

NR 518.05(4)(f) The emission of any hazardous air contaminant exceeding the limitations emission rate for those substances contained in s. NR 445.03 that contaminant listed in tables 1 to 5 of s. NR 445.04 or the total application rate of volatile organic compounds to exceed the limitation contained in s. NR 419.07(4)(e).

SECTION 5. NR 518.09 is amended to read:

NR 518.09 **Licensing.** Landspreading facilities which are approved under this chapter or s. NR 718.09(8) are exempt from the licensing requirements of ~~ss. 289.21 to 289.51~~ s. 289.31, Stats.

SECTION 6. NR 718.03(3) to (9) are renumbered to NR 718.03(4), (5), (6), (8), (10), (12) and (13), respectively.

SECTION 7. NR 718.03(3), (7), (9) and (11) are created to read:

NR 718.03(3) "Boundaries of a landspreading facility" means the outer edges of the area on which contaminated soil has been spread at a landspreading facility.

(7) "Landspreading facility" has the meaning specified in s. NR 500.03(121).

Note: Section NR 500.03(121) defines "landspreading facility" to mean "a land disposal facility where solid waste is discharged, deposited, placed or injected in thin layers onto the land surface of the facility, or is incorporated into the top several feet of the surface soil, for agricultural, silvicultural or waste disposal purposes".

(9) "Light petroleum products" means gasoline, diesel fuel, no. 1 or no. 2 fuel oil, kerosene, aviation gasoline, jet fuel, or a mixture of 2 or more of these materials.

(11) "Single-application landspreading" means landspreading where contaminated soil from only one remedial action site is all the contaminated soil that is ever applied onto an area of a property.

SECTION 8. NR 718.09(1) is amended to read:

NR 718.09 **Treatment of excavated contaminated soil.** (1) GENERAL. If excavated contaminated soil is treated at a non-commercial treatment unit or facility and the treatment unit or facility is operated by the responsible parties in compliance with the requirements of this

chapter, that site or facility is exempt from solid waste program requirements for the treatment of the contaminated soil in ~~ss. 144.43 to 144.441, 144.443 to 144.47,~~ ch. 289, Stats., and chs. NR 500 to 536, except where solid waste program requirements are specifically referenced in this section. If contaminated soil is incorporated into hot-mix asphalt in accordance with sub. (5), the asphalt plant is exempt from solid waste program requirements for treatment of contaminated soil found in ~~ss. 144.43 to 144.441, 144.443 to 144.47,~~ ch. 289, Stats., and chs. NR 500 to 536, except where solid waste program requirements are specifically referenced in this section. If excavated soil contaminated solely with light petroleum products or light petroleum products in combination with agricultural chemicals regulated by the department of agriculture trade and consumer protection under s. 94.73, Stats., is treated by the responsible parties at a single-application landspreading facility in compliance with sub. (8), that landspreading facility is exempt from solid waste program requirements for the treatment of the contaminated soil in ch. 289, Stats., and chs. NR 500 to 536, except where solid waste program requirements are specifically referenced in this section. Commercial treatment units or facilities, hot-mix asphalt plants where contaminated soil is treated by means other than incorporation into the asphalt mix, and thermal treatment units or facilities are required to be licensed under ~~ss. 144.43 to 144.441, 144.443 to 144.47~~ ch. 289, Stats., and chs. NR 500 to 536, and are not exempt under this section.

SECTION 9. NR 718.09(7)(intro) is amended to read:

NR 718.09(7) BIOREMEDIATION AND TREATMENT BY VOLATILIZATION OF EXCAVATED CONTAMINATED SOIL. (intro.) ~~All~~ Except as provided in sub. (8), all of the following requirements apply to the treatment of excavated contaminated soil by bioremediation, volatilization or both:

SECTION 10. NR 718.09(8) is repealed and recreated to read:

NR 718.09(8) SINGLE-APPLICATION LANDSPREADING OF EXCAVATED CONTAMINATED SOIL. (a) *General.* Responsible parties, or their agents or contractors, may conduct single-application landspreading of soil contaminated solely with light petroleum products or light petroleum products in combination with agricultural chemicals regulated by the department of agriculture, trade and consumer protection under s. 94.73, Stats., provided that the requirements of pars. (b), (c), (d) and (e) are met. Landspreading of contaminated soil which contains chemicals regulated by the department of agriculture, trade and consumer protection under s. 94.73, Stats., shall also be conducted in accordance with a plan that has received prior written approval from the department of agriculture, trade and consumer protection.

(b) *Waste characterization.* 1. Waste shall be characterized prior to submitting the operation plan under par. (d). Analytical results from a site investigation conducted under ch. NR 716 may be used to characterize the waste or to supplement the waste characterization.

Samples shall be collected and analyzed in accordance with the following requirements:

a. For the first 600 cubic yards of contaminated soil to be landspread at each landspreading facility, one soil sample shall be collected for each 100 cubic yards of contaminated soil to be landspread. For volumes of contaminated soil that exceed 600 cubic yards, a minimum of one additional sample per 300 cubic yards shall be collected for analysis. At a minimum, 2 samples shall be collected from the soil to be landspread.

b. Samples shall be analyzed for all contaminants whose presence is suspected considering the site investigation scoping items listed under s. NR.716.07.



c. At a minimum, the testing listed in Table 1 shall be performed on the contaminated soil based on the contaminant type.

TABLE 1. MINIMUM TESTING REQUIREMENTS FOR LANDSPREADING SOIL CONTAMINATED WITH LIGHT PETROLEUM PRODUCTS

<u>PETROLEUM CONTAMINANT TYPE</u>	<u>LABORATORY ANALYSIS</u>
gasoline; grades 80, 100, 100LL & aviation gasoline	GRO, PVOC & Pb
diesel; jet fuel; kerosene; & nos. 1 & 2 fuel oil	DRO, PVOC & PAH

d. The following analytical methods shall be used to complete the laboratory analyses required by this paragraph:

GRO: Gasoline range organics by the Wisconsin DNR Modified GRO Method, with a maximum detection level of 10 mg/kg.

DRO: Diesel range organics by the Wisconsin DNR Modified DRO Method, with a maximum detection level of 10 mg/kg.

PVOC: Petroleum volatile organic compounds by EPA Method 5030/8020 or GRO/PVOC run concurrently as specified in the GRO method.

PAH: Polynuclear aromatic hydrocarbons by EPA Method 8310 (HPLC) or 3540/8270 or 3550/8270.

Total lead (Pb): Combined inorganic and organic by methods approved under SW-846 with a maximum detection level of 1.

2. Soil to be landspread shall meet the following requirements:

a. Landspreading of soil containing polynuclear aromatic hydrocarbons (PAHs) shall be approved in writing by the department in accordance with the procedures in par. (d)4.

b. The metal contaminant concentrations in the excavated contaminated soil to be landspread may not exceed the residual concentration levels listed in s. NR 720.11, Table 2, except as provided in s. NR 720.11(5).

c. The excavated contaminated soil to be landspread may not be a hazardous waste as defined in ch. NR 600.

(c) *Facility approvals.* 1. The department may approve a facility for single-application landspreading under this section if the applicant submits a complete application and the facility meets the location standards under subd. 3. All applications for facility approvals shall be submitted on forms supplied by the department. The applicant shall send a copy of the application to the clerks of the county and the city, village or town where the facility is located at the same time that it is submitted to the department. Before an application for approval of a single-application landspreading facility is considered complete, the following information shall be submitted:

a. The facility location, including legal description and copies of any county soil survey maps, plat maps, USGS topographic maps or other maps used to demonstrate that the criteria in this paragraph are met. The area proposed for landspreading shall be delineated on appropriate maps and the total area proposed for landspreading shall be determined in square feet or acres.

- b. The names, addresses and telephone numbers of the person who will operate the landspreading facility and the site owner.
- c. A description of the current land use of the facility and surrounding properties.
- d. The slope, depth to seasonal high water table and bedrock, and soil characteristics including soil type, and the mean permeability of the uppermost 5 feet of soil. Information summarized from county soil surveys published by the United States department of agriculture maps and similar sources may be used to obtain this information where appropriate. Information obtained from soil borings or test pits may be used to determine site-specific characteristics. The use of county soil surveys is not appropriate to determine separation from groundwater or bedrock for sites where a 10-foot separation distance is required.
- e. Copies of any local approvals required in order to landspread or an affirmation that no local approvals are required.
- f. Documentation that the site meets the location standards in subd. 3.

Note: Copies of application forms for facility approvals may be obtained from any regional office of the department or by writing to the Department of Natural Resources, Bureau for Remediation and Redevelopment, PO Box 7921, Madison, Wisconsin, 53707-7921

2. a. If a facility approval application is not complete, the department shall notify the application within 15 business days of receipt that it is not complete and identify the information necessary to complete the application.
  - b. The department shall approve or disapprove of an application within 30 business days of receipt of a complete application.
  - c. Approval of a facility shall be effective for 2 years after the date of approval, unless circumstances affecting the facility change so that the facility no longer meets the location standards in subd. 3. An approval is no longer effective at any time that circumstances change in

a manner that would cause the facility to not meet any of the standards in subd. 3. The department may extend a facility approval up to an additional 2 years from the date of the original approval if the applicant submits a request for an extension and that request certifies that circumstances have not changed in a manner that would cause the facility to not meet any of the standards in subd. 3.

3. No person may establish, construct, operate, maintain or permit use of property as a single-application landspreading facility in the following areas:

- a. Within a floodplain.
- b. Within 100 feet of a wetland.
- c. Within 100 feet of a critical habitat area.
- d. Within 300 feet of any navigable water body.
- e. Within 1,000 feet of a public water supply well or its delineated wellhead protection area, unless a written waiver by the department is obtained. The department shall use the provisions for alternative requirements under s. NR 811.03 in acting on requests for waivers.
- f. Within 250 feet of a private water supply well, unless a written waiver by the department is obtained. The department shall use the provisions for obtaining a variance under s. NR 812.43 in acting on requests for waivers.
- g. Within 500 feet of any residence, unless written consent is obtained from the resident.
- h. Within 500 feet of buildings housing domestic livestock, unless written consent is obtained from the owner of the livestock.
- i. Within 25 feet of any boundary of the property on which the landspreading facility is located if there are no residences within 500 feet of that boundary, unless written consent from the adjoining property owner is obtained.

j. Within 200 feet of any boundary of the property if there is a residence within 500 feet of that boundary, unless written consent is obtained from the resident.

k. On land where the ground surface is located less than 5 feet above the seasonal high groundwater table or bedrock if the mean permeability in the uppermost 5 feet of soil is equal to or less than 6 inches per hour or on land where the ground surface is located less than 10 feet above the seasonal high groundwater table or bedrock if the mean permeability in the uppermost 5 feet of soil is greater than 6 inches per hour. Mean permeability shall be the weighted average determined by summing the products of the permeability of a each layer of soil in the uppermost 5 feet of soil times the thickness of that layer, in feet, and dividing by 5 feet. Where the permeability of a layer of soil is stated as a range, the midpoint of the range shall be used to calculate the mean permeability.

l. On any land where the surface slope exceeds 6%.

(d) *Operation plan.* 1. Except as provided in subd. 4., single-application landspreading of excavated contaminated soil may be conducted at a facility that has been approved under par. (c) without additional department approval if the responsible party, or an agent or contractor, submits an operation plan to the department at least 10 days, but not more than 70 days, prior to the start of the operation, and complies with the operation standards in subd.3., unless the department issues a written objection. The operation plan for a single-application landspreading facility shall contain the following information:

a. Results of the waste characterization required under par. (b)1.

b. A certification that the responsible party, their agent or contractor will comply with the operational requirements of subd. 2. and a description of how the requirements will be complied with.

c. A list of the persons notified under this paragraph and clerks notified under par. (c)1, or the addresses to which the notices were delivered.

2. The responsible party, or an agent or contractor, shall give written notice that landspreading of contaminated soil will occur. This notification shall include the location of the landspreading facility, the name, address and telephone number of a contact person for the landspreading facility, a description of the type of contamination in the soil and the anticipated dates and times that the landspreading will occur. This notification shall occur at least 10 days, but not more than 70 days, prior to commencing operation, and shall be mailed or delivered to the following persons:

a. The clerks of the county and the city, village or town where the facility is located.

b. All owners, tenants and occupants of residences within 1,000 feet of the landspreading facility.

3. Any person operating a single-application landspreading facility shall comply with the following operation standards:

a. Except as proved in subd. 3.b., only one single-application landspreading facility may be operated at any one time on all contiguous property owned by the same entity. A landspreading facility shall be considered in operation from the time that contaminated soil is first placed on the facility until such time that the requirements in par. (e) have been met.

b. Notwithstanding subd. 3.a., where contiguous property owned by the same entity is larger than 40 acres, the number of single-application landspreading facilities allowed to be operating on that property shall be determined by dividing the total number of acres of the property by 40 and rounding up to the nearest whole number.

c. Contaminated soil shall be evenly spread over the landspreading area and incorporated into the native soil by plowing, disking or similar operations within 72 hours of landspreading. Each batch of contaminated soils shall be incorporated within 72 hours from when that batch was first spread. Except for incorporation, all spreading, loading, unloading and storage of petroleum contaminated soils shall cease no later than one hour prior to sunset.

d. The excavated contaminated soil may not be landspread when frozen, landspread on frozen ground or landspread under any other conditions that would make incorporation into the native soils impractical.

e. The spreading thickness of contaminated soil may not exceed 4 inches.

f. Contaminated soil to be landspread may not contain free product.

g. Debris including pieces of plastic, bricks, metal and wood shall be removed from the contaminated soil prior to landspreading and shall be properly disposed of in accordance with chs. NR 500 to 590.

h. The maximum total organic compound contaminant landspreading rate may not exceed 3000 pounds per acre.

i. The total organic compound contaminants and benzene landspread at the landspreading facility may not exceed the limit in s. NR 419.07(4)(e) or the emission rate for benzene in Table 3 of s. NR 445.04.

Note: Section NR 419.07(4)(e) limits the total organic compound contaminants landspread at any landspreading site in Wisconsin to 6000 pounds of organic compound contaminants per year. The amount of benzene emitted at any landspreading facility may not exceed 300 pounds unless additional plans are submitted in accordance with ch. NR 445. Also there a close relationship between the maximum spreading thickness in subd. 3 e and the maximum landspreading rate allowed in subd. 3 h. Facility operators, responsible parties, their agents and contractors need to be aware of this relationship. Guidance on this issue is contained in the DNR publication, Publ-SW512

j. The maximum one time and cumulative application rates of cadmium and other heavy

metal shall be in accordance with s. NR 518.07(1)(d).

k. Contaminated soil to be landspread shall be stored in accordance with s. NR 718.05.

L. The landspreading facility shall be seeded as soon as practicable, but not later than within 7 days after completion of all application of the contaminated soil at the facility if the soil was applied prior to October 15 of any year. If application was completed after October 15, the facility shall be seeded as soon as practicable the following year, but not later than June 30. The department may grant a written waiver of these seeding requirements upon demonstration by the applicant that they are unable to comply with them due to adverse weather conditions.

m. The landspreading facility may not be seeded with a crop intended for human consumption prior to submittal of a closure report which indicates that the contaminants have been reduced to comply with the residual contaminant levels in tables 1 and 2 in ch. NR 720.

n. Erosion control shall be conducted as necessary.

o. Signs shall be posted at any access points to the facility in accordance with s. NR 714.07(3). The boundaries of the landspreading facility shall be marked and maintained until facility closure.

4. If polynuclear aromatic hydrocarbons (PAHs) are detected in the waste characterization required under in par. (b) 1., responsible parties, or their agents or contractors, may landspread excavated contaminated soil only if they obtain a written approval of their operation plan from the department. The department shall notify the applicant, within 15 business days after receipt of the operation plan, if the plan is incomplete. The department shall approve of the operation plan if the plan satisfies the requirements of this paragraph and the levels of PAHs in the contaminated soils meet the criteria for residual contaminant levels specific to a site or facility under s. NR 720.19(3). The department shall approve or disapprove of an application for an



operation plan approval within 30 business days after receipt of a complete plan.

(e) *Site closure.* 1. 'Sampling.' The responsible party, their agent or contractor or the operator of a single-application landspreading facility shall submit to the department the results of a soil sampling program at the landspreading facility, to verify that all contaminants detected through the waste characterization under par. (b)1. have been reduced to meet the residual contaminant levels specified in s. NR 720.09(4). Samples shall be obtained from one location per every 100 yards of soil landspread. These sampling locations shall be evenly distributed over the landspreading facility. If less than 100 yards of soil is landspread, samples shall be collected from 2 sampling locations. At each sampling location 2 samples shall be obtained, one from the treatment zone and one obtained from 2 to 3 feet below the ground surface.

2. 'Sample analysis.' The samples shall be analyzed as follows:

a. If 20 or less samples are required under subd. 1., all samples shall be analyzed for all contaminants identified through the waste characterization under par. (b)1. that exceeded the residual contaminant levels in s. NR 720.09(4).

b. If more than 20 samples are required under subd. 1., the responsible party or agent may use field screening to reduce the number of samples to be analyzed. If the samples are screened in the field to determine relative VOC concentration, only 50% of the samples required to be taken or 20 samples, whichever is greater, need to be analyzed. The samples that are sent for analysis shall be those that showed the greatest contamination during the field screening, except that at least 25 % of the samples sent for analysis shall be those samples obtained from 2 to 3 feet below the ground surface. Samples shall be analyzed for all contaminants identified through the waste characterization under par. (b)1. that exceeded the residual contaminant levels in s. NR 720.09(4).

3. 'Sampling frequency.' Sampling shall be done within 18 months after landspreading commenced on the facility. If sampling results show that any contaminants still exceed the residual contaminant levels in s. NR 720.09(4), additional sampling shall be done at least annually at all sample locations at which the levels are exceeded. The samples shall be analyzed for the contaminants which exceeded the residual contaminant levels in s. NR 720.09(4) in the previous round of sampling. The department may waive the requirement to sample within the first year upon the request of the responsible party, their agent or contractor, or the operator of the landspreading facility, if it is apparent that the site does not yet meet closure requirements and the sampling will serve no useful purpose.

4. 'Incomplete treatment.' If complete treatment of the contaminants which have been landspread has not been demonstrated to the department within 3 years after the contaminated soil was landspread, the responsible party, their agent or contractor shall submit a plan signed by a professional engineer to the department detailing the actions that they will take to enhance the treatment of the contaminants which still exceed the residual contaminant levels in s. NR 720.09(4). This plan shall be submitted within 60 days after the end of the 3-year period and shall assure that cleanup is completed within 2 years. The department shall approve this plan, extending the landspreading treatment period for up to 2 years, if the plan demonstrates to the department that applicable soil cleanup standards will be met within that period of time. The department may require at any time groundwater monitoring to determine whether or not the landspread contaminants are impacting groundwater. At any time that the facility does to appear to be remediating or if it still does not meet cleanup standards after 5 years of treatment, the department may require that additional measures be taken to remediate the site or require the recording of a deed notice at the register of deeds office in the county where the facility is

located that gives notice of the existence of the solid waste landspreading facility in compliance with s. NR 518.10 .

5. 'Written closure report.' Responsible parties shall submit a written closure report to the department within 60 days after successful treatment of the contaminated soil. The report shall contain the results of all sampling conducted under this paragraph.

SECTION 11. NR 718.11(1) is amended to read:

NR 718.11 ON-SITE REPLACEMENT OF CONTAMINATED SOIL. (1) GENERAL. If excavated contaminated soil is replaced on the same property site or facility from which it was excavated in compliance with the requirements of this section, that site or facility is exempt from the solid waste program requirements for placement or disposal in ~~ss. 144.43 to 144.441, 144.443 to 144.47, ch. 289, Stats., and chs. NR 500 to 536.~~

SECTION 12. NR 718.13(1) is amended to read:

NR 718.13 OFF-SITE DISPOSAL OF CONTAMINATED SOIL AT A RESPONSE ACTION SITE. (1) If responsible parties dispose of contaminated soil on a property site or facility other than the property site or facility from which it was excavated in compliance with the requirements of subs. (2) to (9), the disposal site or facility is exempt from solid waste program requirements in ~~ss. 144.43 to 144.441, ch. 289, Stats., and chs. NR 500 to 536,~~ except where solid waste program requirements are specifically referenced in this section.

SECTION 13. NR 718.14(3) is repealed.

SECTION 14. NR 811.16(4)(d) 5 is amended to read:

NR 811.16(4)(d) 5. One thousand feet between a well and land application of municipal, commercial or industrial waste; the boundaries of a landspreading facility for spreading of petroleum-contaminated soil regulated under ch. NR 718 while that facility is in operation; industrial, commercial or municipal waste water lagoons or storage structures; manure stacks or storage structures; and septic tanks or soil adsorption units receiving 8,000 gallons per day or more.

SECTION 15. NR 812.08(4)(f)11 is created to read:

NR 812.08(4)(f)11. The boundaries of a landspreading facility for spreading of petroleum-contaminated soil regulated under ch. NR 718 while that facility is in operation.

SECTION 16. NR 812.08(4)(f) 11, Table A is amended to read:

**TABLE A**  
**MINIMUM SEPARATION DISTANCE REQUIREMENTS BETWEEN POTABLE OR NONPOTABLE WELLS, RESERVOIRS, SPRINGS AND POSSIBLE SOURCES OF CONTAMINATION**

New installations shall meet the separation requirements in the far-right column. Existing installations shall meet the separation requirements in effect at the time of construction, those in effect at the time of installation of the possible source of contamination, if later, or to the requirements adopted on October 1, 1994.

Source	Prior to <sup>®</sup> Oct. 1975	Oct. 1975 to Oct. 1981	Oct. 1981 to Jan. 1991	Feb. 1991 to Oct. 1994	After Oct. 1994
Absorption Unit (field), soil	50'	50'	50'	50'	50'
Air shaft-heating/air conditioning (Vertical, Below grade)	None	None	None	None	25'
Animal Barn Pen with Concrete Floor	None** (25/20)**	25'	25'	25'	25'
Animal Shelter (not including small pet shelter housing 3 or fewer adult pets)	None** (50/25)**	50'	50'	50'	50'
Animal Yard—Includes Calf Hutch (but not residential lot dog kennel enclosing 3 or fewer adult pets)	None**	50'	50'	50'	50'
Barn Gutter—Liquid—Tight	None** (25/18)**	25'	25'	25'	25'
Building Overhang (from centerline of well)	2'	2'	2'	2'	2'
Cemetery Grave Sites	None*	100'	100'	50'	50'
Cistern	10'	10'	10'	8'	8'
Coal Storage (greater than 500 tons)	None*	None*	None*	1,200'	1,200'
Composting Site (See Solid Waste Processing Facility)	None	None	None	None	250'
Discharge to ground from a Water Treatment Device	None	None	None	25'	25'
Ditch—Edge of	None	None	None	None	25'
Doghouse or kennel housing 3 or fewer adult pets on residential lot	None	None	None	50'	8'

Source	Prior to <sup>®</sup> Oct. 1975	Oct. 1975 to Oct. 1981	Oct. 1981 to Jan. 1991	Feb. 1991 to Oct. 1994	After Oct. 1994
Downspout Outlet	10'	10'	10'	8'	8'
Drain-Sewerage (having pipe conforming to ch. ILHR 84) (Buried)	10'	8'	8'	8'	8'
Drain-Sewerage (not having pipe conforming to ch. ILHR 84) (Buried)	10'	25'	25'	25'	25'
Drain (any material) (Buried)					
Clear Water Waste	10'	10'	10'	8'	8'
Building-Foundation	10'	10'	10'	8'	8'
Building-Foundation-Sewer Connected	15'	15'	15'	8'	8'
Drillhole used for the underground placement of any waste, surface water or any substance as defined in s. 160.01 (8), Stats.	None	None	None	None	100'
Fertilizer or Pesticide, any size Storage Tank (Buried tank or surface tank > 1,500 gal.)	None	None	None	100'	100'
Filter Strip	None	None	None	50'	50'
Fuel Oil Tank-Buried	None*	100' (25' Allowed for Private Res. Lots Only)	100' (25' Allowed for Private Res. Lots Only)	100' (Including any associated buried piping) (25' allowed for those serving single family residences)	100' (Including any associated buried piping) (25' allowed for those serving single family residences)
Fuel Oil Tank-Surface (>1,500 gallons) (including any associated buried piping)	None*	None*	None*	100'	100'
Fertilizer or Pesticide (Dry) Storage Area or Building (more than 100 pounds)	None	None	None	None	100'
Gasoline or Other Petroleum or Liquid Product Tank - Buried (not including L.P. tanks)	None*	100'	100'	100' (Including any associated buried piping)	100' (Including any associated buried piping)
Gasoline or Other Petroleum or Liquid Product Tank-Surface (>1,500 gallons including any associated buried piping)	None*	None*	None*	100'	100'
Glass Lined Feed Storage Facility (Harvester-Type Silos)	None**	25'	25'	50'	50'
Grease Interceptor (Trap) (Buried)	25'	25'	25'	25'	25'
Hazardous Waste Treatment Facility Regulated by DNR	None*	None*	None*	1,200'	1,200'
Holding Tank (Sewage)	None	25'	25'	25'	25'
Infiltration basin, Stormwater	None	None	None	None	100'
Kennel on residential lot enclosing 3 or fewer adult pets	None	None	None	50'	8'
Kennel, other than above	None	None	None	50'	50'
Lagoon, Treatment (See liquid waste disposal system)	—	—	—	—	—
Lake Shoreline (Measured to the edge of the floodway)	None*	25'	25' (60' For Schools and High Cap. Wells)	25'	25'
Landfills (existing, proposed or abandoned) (Distance to Nearest Fill Area of abandoned landfills if Known; Otherwise to the Property Line)	None*	400 yards	400 yards	1,200'	1,200'
Lift Station##				##	100'
Liquid Waste Disposal System	None	250'	250'-300'	250'#	250'#
Manure Hopper or Reception Tank-Liquid-Tight	None*	75'	75'-150'	50'	50'
Manure Loading Area	None	None	None	None	50'
Manure Stack	None*	100'	100'-175'	250'***	250'***
Manure Stack,--Temporary	None	100'	100'	250'	150'
Manure--Storage Structure (Earthen, Excavated or Non-liquid tight)	None*	250'	250'-300'	250'***	250'***
Manure Storage Structure (Fabricated, Liquid-Tight)	None*	100'	100'-175'	100'	100'
Manure--Storage Basin-Liquid-Tight Concrete Floor with an Acceptable Drainage Facility	None*	100'	150'-300'	Now in category of Manure Storage Structure	Now in category of Manure Storage Structure
Mound System (Measured to the toe of the mound)	50'	50'	50'	50'	50'
Nonpotable Well	None*	None*	None*	8'	8'

Source	Prior to* Oct. 1975	Oct. 1975 to Oct. 1981	Oct. 1981 to Jan. 1991	Feb. 1991 to Oct. 1994	After Oct. 1994
Pesticide or Fertilizer (Dry) Storage Area or Building (More than 100 Pounds)	None	None	None	None	100'
Pesticide or Fertilizer Storage Tank (not buried)—less than 1,500 gallons (distance only for nonpotable wells)	None	None	None	8'	8'
Pesticide or Fertilizer Storage Tank—Buried tank, any size, or surface tank >1,500 gal.)	None	None	None	100'	100'
Pet Waste Pit Disposal Unit	None*	50'	50'	50'	50'
Pits—Noncomplying	None	10'	10'	8'	8'
			(20' For Schools, WWTP's, and High Capacity—Including Approved Pits)		
Plastic Silage Storage and Transfer Tube	None	None	None	8'	8'
Pond, Stormwater detention (Edge of)	None	None	None	None	25'
Pond, treatment (See liquid waste, disposal system)					
Privy	50' (Sewage Disposal Units)	50'	50'	50'	50'
Quarry (See s. NR 812.12 (16) for well casing depth requirements for wells within 1,200 feet of a quarry.)					
Reservoir—Noncomplying	10' (Cistern)	10'	10'	8'	8'
Ridge and Furrow System (See liquid waste disposal system)					
River or Stream Edge (Measured to the edge of the floodway)	None*	25'	25'	25'	25'
			(60' For Schools and High Cap. Wells)		
Salt or Deicing Material Storage Area (Including structure and area surrounding where material is transferred to vehicles)	None*	None*	None*	250'	250'
Salvage Yard	None*	None*	None*	250'	250'
Septic Tank	25'	25'	25'	25'	25'
Sewer (ch. ILHR 84 Materials) (Buried)					
—Manure/Gravity	8'	8'	8'	25'	25'
—Manure/Pressurized	8'	8'	25'	25'	25'
—Sanitary or Storm Building/Gravity	8'	8'	8'	8'	8'
—Sanitary Building/Pressurized	8'	25'	25'	25'	25'
—Sanitary Collector					
(Serving ≤ 4 living units or ≤ 6" diameter)	8'	50'	50'	50'	25'
—Sanitary Collector					
(Serving > 4 living units or > 6" diameter)	8'	50'	50'	50'	50'
—Influent	50'	50'	50'	50'	50'
—Storm Collector					
(≤ 6" diameter)	8'	50'	50'	50'	25'
—Storm Collector					
(> 6" diameter)	8'	50'	50'	50'	50'
Sewer (not ch. ILHR 84 Materials) (Buried)					
—Manure/Gravity	25'	25'	25'	25'	25'
—Manure/Pressurized	25'	50'	50'	50'	50'
—Sanitary Building/gravity	25'	25'	25'	25'	25'
—Sanitary Building/Pressurized	25'	25'	25'	25'	50'
—Storm Building	25'	25'	25'	25'	8'
—Sanitary Collector	50'	50'	50'	50'	50'
—Storm Collector	25'	50'	50'	50'	50'
—Influent	50'	50'	50'	50'	50'
Shoreline—Lake, River or Stream (Measured as indicated in sub. (4) (b) 7.)	None*	25'	25'	25'	25'
			(60' For Schools and High Capacity Wells)		
Silage Storage, Earthen Trench or Pit	None*	100'	100'–175'	250'	250'
Silage Storage Structure (Fabricated liquid-tight) (In-ground or surface)	None	None	None	None	100'

Source	Prior to <sup>Ⓔ</sup> Oct. 1975	Oct. 1975 to Oct. 1981	Oct. 1981 to Jan. 1991	Feb. 1991 to Oct. 1994	After Oct. 1994
Silage Storage—Surface, Uncovered	None	None	None	None	100'
Silage Storage Tube (Plastic)	None	None	None	8'	8'
Silo With Pit	None**	50'	50'	50'	50'
Silo Without Pit But With Concrete Floor and Drain	None**	25'	25'	50'	50'
<u>Single application landspreading of petroleum-contaminated soil</u>					<u>250'</u>
Sludge Landspreading or Drying	None*	200'	200'	250'	250'
Soil Absorption Unit (< 8,000 gal/day, includes alternate unit)	50'	50'	50' (200' for schools as of 1978)	50' (200' for schools)	50' (200' for schools)
Soil Absorption Unit (≥ 8,000 gal/day, existing or abandoned)	50'	50'	50' (200' for schools as of 1978)	250'	250'
Solid Waste Processing Facility (Including composting facilities)	None	None	None	None	250'
Solid Waste Site (Distance to Nearest Fill Area or Proposed Fill Area If Known; Otherwise to the Property Line)	None	400 yards	400 yards	1,200'	1,200'
Solid Waste Transfer Facility	None	None	None	None	250'
Spray Irrigation Waste Disposal Site (See liquid waste disposal system)					
Stormwater detention pond or basin	None	None	None	None	25'
Stormwater infiltration basin	None	None	None	None	100'
Sump—Watertight clear water	None	None	None	8'	8'
Sump—Wastewater (Watertight) (form. cast-iron equiv.)	None*	8'	8'	25'	25'
Sump—Wastewater (not watertight or equiv. to cast iron)	None*	25'	25'	25'	25'
Swimming Pool (from edge of water)	None*	25' (Below ground)	25' (Below ground)	25' (Below ground)	8' (above or below ground)
Temporary Manure Stack	None	100'	100'	250'	150'
Wastewater Treatment Plant Effluent Pipe	None	None	None	50'	50'
Wastewater Treatment Plant Structure, Conveyance or Treatment Unit	None*	None	150'	100'	100'
Well approved for underground placement of any waste, surface water or any substance as defined in s. 160.01, Stats.	None	None	None	None	100'
Yard Hydrant	None	10'	10'	8'	8'

° The minimum separating distance between a well and a collector sewer serving more than 4 living units or larger than 6 inch diameter is 50 feet regardless of whether the well or the sewer was installed first. However for such sewers less than 16-inch diameter, wells may be located or sewers installed such that a well is less than 50 feet, but at least 25 feet from gravity collector sewers smaller than 16 inches in diameter or from force main collector sewers 4 inches or smaller in diameter provided that within a 50-foot radius of the well the installed sewer pipe meets the allowable leakage requirements of AWWA C600 and the requirements for water-main equivalent type pipe as follows:

- For sewers ≥ 4" diameter, but < 16" diameter:
- ° PVC pipe 4" diameter, but ≤ 12" diameter shall meet AWWA C900 with elastomeric joints having a standard dimension ratio of 18 or less;
- ° PVC pipe > 12" diameter, but < 16" diameter shall meet AWWA C905 with elastomeric joints having a standard dimension ratio of 18 or less.
- ° Ductile iron pipe shall meet AWWA C115 or AWWA C151 having a thickness class 50 or more.
- For sewers < 3" diameter, the pipe shall be any rigid pipe in the ch. ILHR 84 "Table for Pipe and Tubing for Water Services and Private Water Mains," including

approved ABS, brass, cast iron, CPVC, copper, (not including type M copper), ductile iron, galvanized steel, polybutylene (PB), polyethylene (PE), PVC, or stainless steel pipe.

\* "None" Although there were no minimum separation distances required by the code between these possible sources of contamination and a well or reservoir prior to 1975, and in some cases, prior to 1981, it is strongly recommended that the present standard minimum separation distance requirements be met whenever possible.

\*\* Distances were developed under the Public Health Service Grade A Milk Ordinance and have been used by the department of agriculture, trade and consumer protection field inspectors.

\*\*\* Variances from these separating distances may be granted for earthen manure storage and temporary manure stacks meeting specifications of Soil Conservation Service Standards No. 425 and 312, respectively.

# Variances from this minimum separating distance may be granted for treatment ponds or for storage or treatment lagoons constructed and maintained to the requirements of an approval granted under ch. NR 213.

## After Feb. 1, 1991 and prior to October 1, 1994 the minimum separating distance between a well or reservoir and a lift station is based on the presence of a sewer force main at the lift station.

Ⓔ There are several code revisions prior to 1975. The dates of these revisions and the minimum separating distances were as follows:

Source	April 24, 1936	March 1939	July 1951	April 10, 1953	May 1, 1971
Building Overhang	2'	2'	2'	2'	2'
Cistern	None	None	10'	10'	10'
Downspout	None	None	10'	10'	10'
Drain					
—Building Foundation	10'	10'	10'	10'	10'
—Sewer Connected Building Foundation	10'	10'	15'	15'	15'
—Clear Water	None	None	10'	10'	10'
—Cast Iron (With Lead Joints)	10'	10'	10'	10'	10'
Grease Trap (Watertight)	None	None	25'	25'	25'

Source	April 24, 1936	March 1939	July 1951	April 10, 1953	May 1, 1971
Septic Tank	None	None	25'	25'	25'
Sewage Disposal Unit (Absorption Field)	None	None	50'	50'	50'
Sewer					
—Cast Iron (With Lead Joints)	10'	10'	8'	8'	8'
—Not Cast Iron or equivalent	25'	25'	25'	25'	25'

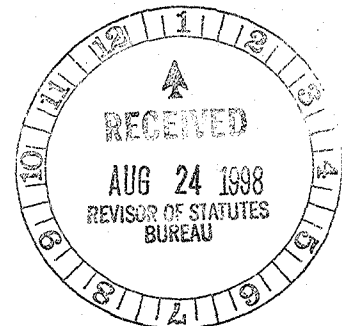
The foregoing rule was approved and adopted by the State of Wisconsin Natural Resources Board on May 27, 1998

The 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.

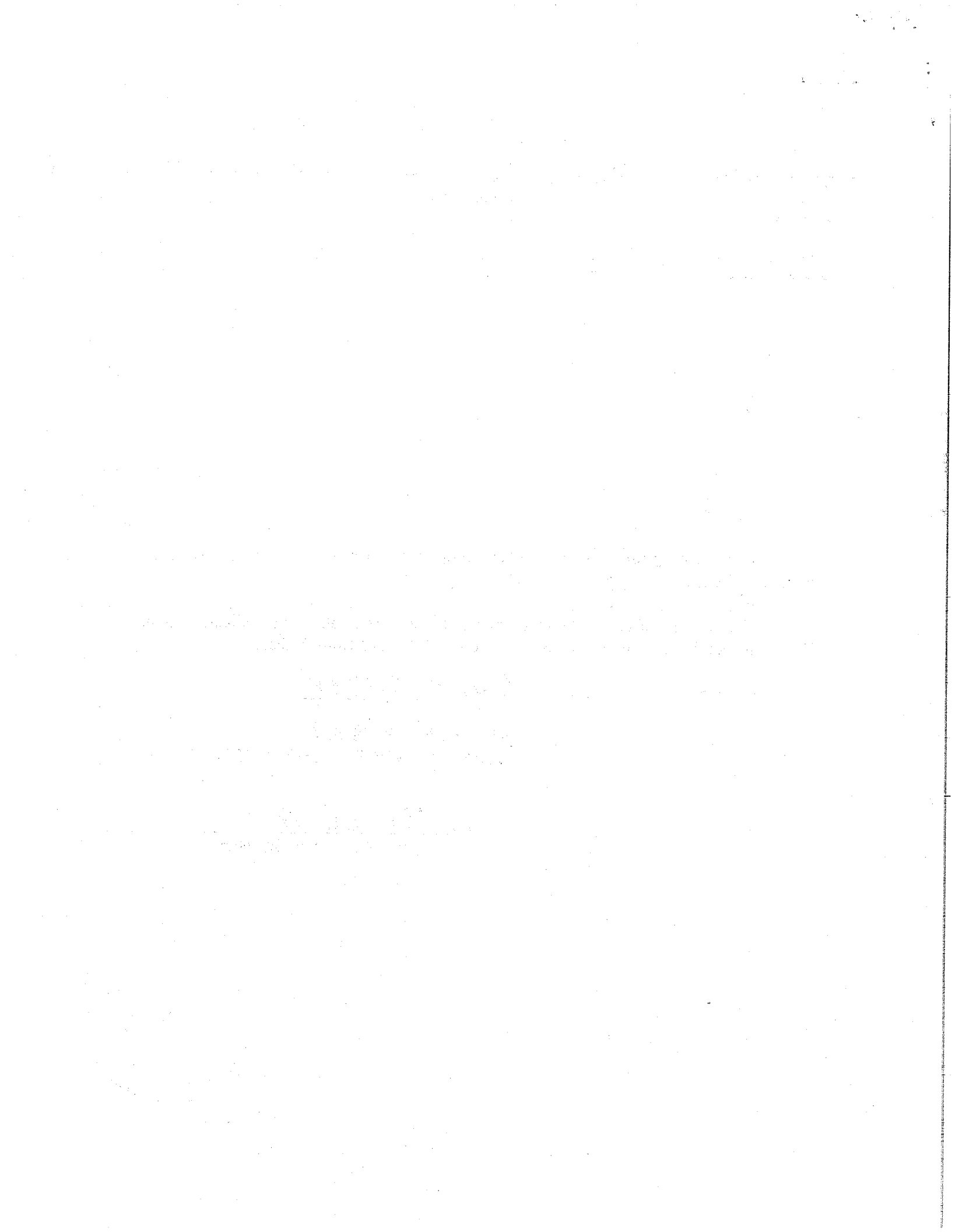
Dated at Madison, Wisconsin August 19, 1998

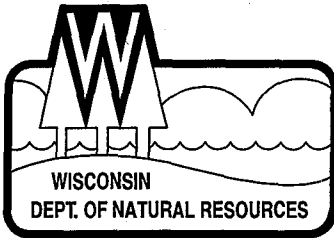
STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES

By George E. Meyer  
George E. Meyer, Secretary









**State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES**

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August 19, 1998

Mr. Gary L. Poulson  
Assistant Revisor of Statutes  
131 West Wilson Street - Suite 800  
Madison, WI

Dear Mr. <sup>Gary</sup>Poulson:

Enclosed are two copies, including one certified copy, of State of Wisconsin Natural Resources Board Order No. SW-9-96. These rules were reviewed by the Assembly Committee on Natural Resources and the Senate Committee on Environment and Energy pursuant to s. 227.19, Stats. Summaries of the final regulatory flexibility analysis and comments of the legislative review committees are also enclosed.

You will note that this order takes effect following publication. Kindly publish it in the Administrative Code accordingly.

Sincerely,

<sup>George</sup>  
George E. Meyer  
Secretary

Enc.

