NR 110

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Anthony S. Earl
Secretary

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IN REPLY REFER TO: _____

STATE OF WISCONSIN)
) ss
DEPARTMENT OF NATURAL RESOURCES)

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TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Anthony S. Earl, 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. WQ-7-77 was duly approved and adopted by this Department on February 17, 1977. 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 Pyare Square Building in the Village of Shorewood Hills, this 9TH day of May, 1977.

Anthony S. Earl

Anthony S. Earl, Secretary

(SEAL)

STATE OF WISCONSIN NATURAL RESOURCES BOARD

IN THE MATTER of repealing and recreating section NR 110.27(5) and creating sections NR 110.27(6) and (7) of the Wisconsin Administrative Code pertaining to sludge management	WQ-7-77

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD

REPEALING & RECREATING AND CREATING RULES

Pursuant to the authority vested in the State of Wisconsin Natural Resources Board by sections 144.025, 147.02 and 227.014, Wisconsin Statutes, the State of Wisconsin Natural Resources Board hereby repeals and recreates, and creates rules as follows:

SECTION 1 - Section NR 110.27 (5) is repealed and recreated to read:

(5) Sludge reduction. (a) Incineration. Adequate provisions for residue disposal and air pollution control shall be provided. The appropriate requirements of Wis. Adm. Code chapter NR 154 shall be met.

(b) Other reduction facilities. If it is proposed to reduce the quantity of sludge by other methods, a detailed description of the process and design data shall accompany the plans.

SECTION 2 - Section NR 110.27 (6) is created to read:

(6) Sludge management. (a) General requirements. 1. A sludge management plan shall be developed by each owner of a wastewater treatment plant and submitted to the department pursuant to conditions imposed in the WPDES permits. The department shall evaluate the plan for adequacy. If the department determines that the plan described an acceptable sludge management plan, it will issue a letter of approval to the owner.

2. If the plan as submitted is determined by the department to be unacceptable, it shall be returned to the owner of the wastewater treatment plant

for revision and resubmittal. At any time after a plan has been found to be unacceptable, the department may issue an order requiring submittal of an acceptable plan.

3. The owner of the wastewater treatment plant shall be responsible for the implementation of the approved sludge management activities. An owner of a wastewater treatment plant may at any time amend the sludge management plan, subject to the approval of the department. Any proposed amendment shall contain the same type of information required in the original management plan. The amended plan may not be put into effect until it has received approval from the department.

4. The department shall evaluate the management plans on the basis of recommendations in Wisconsin department of natural resources (DNR) technical bulletin no. 88 and any other pertinent information deemed appropriate to the review of sludge management plans.

(b) Sludge management plan requirements. The sludge management plan shall include but not be limited to the following:

1. Provision for interim sludge storage when normal disposal sites are unavailable or inaccessible, including:

a. Type of storage

b. Location of storage

c. Capacity of facility

d. Construction details

e. Property interest or contractual agreement allowing use of the facility

f. Future use of the storage facility

g. Evaluation of environmental effects

2. Description of sludge characteristics, including:

a. The type of wastewater treatment provided resulting in sludge generation

b. The type of sludge treatment prior to disposal

c. The physical and chemical characteristics of typical sludge samples taken at intervals specified in the WPDES permit. The parameters analyzed shall include all or parts of the following:

1) Physical (solids fraction, organic fraction, others)

2) pH

3) Nutrient content (nitrogen, phosphorous, potassium, others)

4) Metals content (As, Cd, Cr, Cu, Pb, Hg, Ni, Zn, others)

5) Salt content (chlorides, fluorides, sulfates, others)

6) Biological populations (total coliform, fecal coliform, virus, others)

7) Other parameters such as oils and greases, phenolics, pesticides, toxic substances.

8) Any other parameters deemed necessary by the department on a case-by-case basis.

d. The volume or quantity of sludge generated on a daily, monthly and annual basis.

3. Proposed mode of sludge transportation, including:

a. The transporter of the sludge.

b. The method of transportation.

c. The type of vehicle used for transportation of the sludge.

4. Information about the ultimate disposal site. a. If sludge will be disposed of at one or more licensed landfill sites, the amount to be disposed of at each site, the site names and license numbers, contractual agreements, and indication of approval from the solid waste management section.

b. If sludge will be disposed of on land areas (other than at licensed landfill sites) for each disposal site:

1) Soil test results at the site at intervals specified in the WPDES permits. The parameters analyzed shall include soil, pH, organic matter, available P, exchangeable K and any other parameters deemed necessary by the department on a case-by-case basis. Recommended soil additions such as lime, N, P_2O_5 and K_2O should be specified.

2) Copies of a soils map, plat map and a U.S.G.S. topographic map showing the location of the site.

3) A description of the crops to be grown or dominant vegetation on the disposal site.

4) Data on the geology, hydrology, areas for future expansion and adjacent land use.

5) The ownership of the site.

6) A description of the type of agreement covering use of land.

7) A description of the methods to be used to spread sludge on the land and incorporate it with the soil.

8) The applicator of the sludge.

9) An estimate of the total acreage to which sludge will be applied.

10) The maximum rate of application (tons/acre/year based on nitrogen or cadmium, whichever is lower) and the loading limit (tons/acre based on metal equivalents or cadmium whichever is lower).

11) The anticipated use of the site for 12 months after application of the sludge.

12) Any follow-up monitoring that is requested by the department.

c. The frequency of sludge disposal and the months in which it occurs.

d. Beginning with submission of the first plan, records shall be maintained for each site (other than at licensed landfill sites), including:

1) The amount of sludge applied (tons/acre).

2) The amount of nitrogen applied per year (lbs/acre).

3) The amount of cadmium applied per year (lbs/acre).

4) The total amount of metal equivalents applied (lbs/acre).

5) The location of the site on a plat map and the number of acres the sludge was applied to.

6) The site monitoring results.

7) A description of any adverse environmental, health or social effects that occurred due to sludge disposal.

8) A report of any action not in conformance with the approved plan.

SECTION 3 - Section NR 110.27 (7) is created to read:

(7) Sludge disposal. Sludge disposal shall be accomplished in accordance with the approved sludge management plans as specified in section NR 110.27(6). The following items shall be considered in the development of the management plan.

(a) Sanitary landfill. Burial of sewage sludge in a sanitary landfill shall meet the following requirements:

1. The sludge must be capable of being mixed well with the other refuse in the compaction process.

2. The sludge must be able to support compaction equipment.

3. The sludge must be capable of permanent confinement within the earth excavation.

(b) Surface application. Surface application disposal of raw sludge is generally not permitted. Surface application of digested sludge will be evaluated based on the justification provided in the sludge management plan.

(c) Transportation of sludges. 1. Liquid. Liquid sludge shall be transported in an enclosed watertight unit from treatment plant to disposal site.

2. Semi-solid cake. Sludge cake shall be transported in a covered water-tight unit to prevent leakage of sludge moisture released in transit. Provision shall be taken to prevent spillage of sludge from the vehicle while in transit and to prevent an odor nuisance while in transit.

The foregoing rules were approved and adopted by the State of Wisconsin Natural Resources Board on February 17, 1977.

The rules contained herein shall take effect upon publication.

Dated at Madison, Wisconsin 9 May 1977

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

By Anthony S. Earl

Anthony S. Earl, Secretary

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