

Chapter NR 182

REGULATION OF METALLIC MINING WASTES

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NR 182.01 Purpose. The purpose of this chapter is to identify metallic mining and prospecting wastes and to regulate the location, design, construction, operation, maintenance, closure and long-term care of the site and facilities for the storage and disposal of metallic mining and prospecting wastes. The rules consider the special requirements of metallic mining operations in the location, design, construction, operation and maintenance of sites and facilities for the disposal of metallic mining wastes as well as any special environmental concerns that will arise as the result of the storage and disposal of metallic mining wastes.

History: Cr. Register, August, 1982, No. 320, eff. 9-1-82.

NR 182.02 Applicability. (1) These rules govern all solid waste disposal sites and facilities for metallic mineral mining and prospecting operations as defined in s. 144.81 (5) and (12), Stats.

(2) To the extent that prospecting and mining wastes are identified by the department as hazardous under s. 144.62 (2) (a), Stats., the disposal of such wastes in a waste site governed by this chapter shall be governed and licensed under this chapter, and not under ch. NR 181, subject to amendment, if necessary, to comply with applicable federal regulations adopted pursuant to the resource conservation and recovery act of 1976, PL 94-580, or otherwise to adequately protect the environment. Prior to a hearing under s. 144.836, Stats., the department shall designate those mining and prospecting wastes which are identified by the department as hazardous under s. 144.62 (2) (a), Stats.

(3) Owners of sites utilized for the disposal of mining waste, where the mining operation was in existence on May 21, 1978 may seek approval of any feasibility study or plan of operation for such sites. Such sites shall be licensed after a determination by the department that the disposal of nonhazardous waste is being undertaken in an environmentally sound manner. Upon such determination, compliance with the licensing requirement shall be administered in a manner which does not require substantial structural modification of the existing site, expenditure which is not appropriate for the nonhazardous nature of the waste or interruption of the mining operation, provided however, that only ss. NR 182.01, 182.02 (1) to (5) and (7), 182.03 to 182.05, 182.12 to 182.15, 182.18 and 182.19 shall be applicable to such sites.

(4) Sites and facilities utilized for the storage, transportation, treatment and disposal of nonmining solid wastes, not covered by the definition of metallic mineral mining and prospecting wastes, shall comply with the provisions of chs. NR 180 and 181.

(5) The provisions of this chapter are not applicable to the design, construction or operation of industrial wastewater facilities, sewerage systems and waterworks treating liquid waste approved under s. 144.04, Stats., and/or permitted under ch. 147, Stats., nor to sites used solely for the disposal of liquid industrial wastes which have been approved under s. 144.04, Stats., and/or permitted under ch. 147, Stats., except for sites and facilities used for the ultimate disposal of metallic mining and prospecting waste.

(6) Any waste disposal site or facility licensed pursuant to this chapter shall be located, designed, constructed and operated in such a manner so as to:

(a) Comply with water quality standards issued pursuant to s. 144.025 (2) (b), Stats;

(b) Comply with s. 147.07 (1), Stats., relating to toxic pollutants;

(c) Comply with all applicable regulations promulgated under ch. 147, Stats., if any such facility has a point source discharge to the waters of the state including, but not limited to, any point source discharge from a leachate or surface water runoff collection system;

(d) Comply with s. 147.02 (2), Stats., and have the approval of the municipal authority for that discharge, if any such facility discharges to a publicly owned treatment works.

(7) Any waste disposal site or facility licensed pursuant to this chapter shall be located, designed, constructed and operated in such a manner so as to prevent air emissions from such facility causing a violation of standards or regulations promulgated pursuant to ss. 144.30 to 144.426, Stats.

(8) Any waste disposal site or facility licensed pursuant to this chapter shall be located, designed, constructed and operated in such a manner consistent with the requirements of ss. 144.80 to 144.94, Stats., and the rules and regulations promulgated pursuant thereto.

(9) Pursuant to s. 144.83 (2) (a), Stats., the department may classify prospecting and mining activities according to the type of minerals involved. The department recognizes that the minimum standards contained in this chapter may be insufficient in regulating uranium prospecting and mining operations and the disposal of radioactive waste resulting from these and other metallic mining operations. Accordingly, the department shall cooperate with the department of health and social services and the radiation protection council, pursuant to ss. 140.53 (1) (a) and 140.56 (4), to assist in defining the term "radioactive mining waste". The department shall continue its evaluation of disposal practices for such wastes and shall, if necessary, request that rules be adopted to regulate uranium prospecting and mining and radioactive wastes resulting from any metallic prospecting or mining operation.

History: Cr. Register, August, 1982, No. 320, eff. 9-1-82.

(50) "Topsoil" means natural loam, sandy loam, silt loam, silt clay loam or clay loam humus-bearing soils or other material that will easily produce and sustain dense growths of vegetation capable of preventing wind and water erosion of the material itself and other materials beneath.

(51) "USGS" means United States geological survey.

(52) "Waste rock" means consolidated rock which has been removed during mining or prospecting, but is not of sufficient value at the time of removal to constitute an ore.

(53) "Waste" means mining waste as defined in this chapter.

(54) "Waste site" or "waste sites and facilities" means any land or appurtenances thereto used for the storage or disposal of mining waste, but does not include land or appurtenances used in the production or transportation of mining waste, such as the concentrator, haul roads, or tailings pipelines, which are permitted under ch. NR 131 or 132. If mining wastes are backfilled or otherwise disposed of in an underground working in accordance with a mining permit issued under ch. NR 132, said underground working shall not be considered a waste site for purposes of this chapter, but shall be regulated under ch. NR 132.

(55) "Well nest" means 2 or more wells installed within 10 feet of each other at the ground surface and constructed to varying depths.

(56) "Wetland" means an area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions.

History: Cr. Register, August, 1982, No. 320, eff. 9-1-82.

NR 182.05 License periods and fees. (1) No person shall maintain or operate a waste site unless the person has obtained an operating license from the department, except as otherwise provided in this chapter. Applications shall be submitted on forms supplied by the department and shall be accompanied by the appropriate fees as shown in Table 1. License fees are not refundable. The license shall be issued for the design capacity specified in the determination of site feasibility unless the department establishes by a clear preponderance of the credible evidence that:

- (a) The site is not constructed in accordance with the approved plan;
- (b) The site poses a substantial hazard to public health or welfare, or
- (c) In-field conditions, not disclosed in the feasibility report or plan of operation, necessitate modifications of the plan to comply with standards in effect at the time of plan approval under s. 144.44 (3) (c), Stats., or, if applicable, s. 144.62, Stats.

(2) Any such license may be suspended or revoked for failure to pay the fees required hereunder, or for grievous and continuous failure to comply with the approved plan of operation, or if no plan of operation exists, for grievous and continuous failure to comply with the standards of this chapter applicable to such site under s. NR 182.02 (3). The department shall review the license and plan of operation to determine compliance annually or at such other intervals as it determines necessary, but no more frequently than annually. At the time of such review,

the operator shall pay review fees as shown in Table 1. Review fees are not refundable.

(3) No person shall establish or construct a waste site or facility prior to obtaining written approval from the department of plans describing site or facility feasibility and operation, or both except as otherwise provided in this chapter. The plan review fee specified in Table 1 shall accompany all plans submitted to the department for approval. Plan review fees are not transferable, proratable or refundable.

(4) Following closure of a site or facility, the owner or any successor in interest shall be required to have a license during the period of owner responsibility indicated in s. 144.441, Stats. The license shall be issued for terms of 5 years with a fee of \$250 per license period.

Table 1

PLAN REVIEW FEES (1)

Type	Feasibility Report	Plan of Operation
Storage	1500	1500
Land Disposal	4500	4500
Other	1500	1500

LICENSE FEES

Type	Initial License	Periodic Review Fee
Storage	1500	1500
Land Disposal	1500	1500
Other	1500	1500

- (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 revise or supplement a report or plan deemed incomplete 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 previously denied or withdrawn after having been determined to be complete.

History: Cr. Register, August, 1982, No. 320, eff. 9-1-82; r. and recr. table 1, Register, March, 1984, No. 339, eff. 4-1-84.

NR 182.06 General submittal requirements. (1) Unless otherwise specified in this chapter, all submittals for review and approval of any feasibility report, plan of operation, construction observation report or closure plan shall include the following:

(a) The review fee specified in s. NR 182.05 in check or money order payable to the department.

(b) A letter detailing the desired department action or response.

(c) Five copies of the plan or report prepared pursuant to the appropriate section of this chapter. Two copies shall be submitted to the department field office responsible for the area in which the site is located and 3 copies shall be submitted to the bureau of solid waste management in Madison. Review time starts when copies are received by the bureau. The plans and reports and all methods and procedures used to prepare them shall conform to the following:

1. Preparation. The submittal shall be under the seal of a registered professional engineer.

2. Investigation. All technical procedures used to investigate a solid waste disposal site or facility shall be in accordance with standard engineering procedures as approved by the department. Test procedures used shall be specified. Any deviation from a standard method shall be explained in detail with reasons provided.

5. Groundwater shall be monitored in the vicinity of the waste site on a monthly basis for at least 12 consecutive months prior to disposing of waste at the site to determine baseline water quality. Parameters analyzed shall include those identified in the state or national primary and secondary drinking water standards, indicator parameters as specified by the department, parameters identified as important in the waste material, and any other parameters deemed appropriate by the department for the specific conditions of the waste site.

6. Monitoring shall also be performed with respect to the quality of groundwater which is not affected by the site but which is in the aquifers near the site.

(e) 1. If the department has reason to believe that a site is not in compliance with the requirements of this section, or if the department has good reason to project with reasonable probability that a site will not achieve such compliance at the compliance boundary, it shall refer the matter to the department of justice pursuant to s. 144.98, Stats., or hold a class 2 contested case hearing pursuant to s. 144.83 (4), Stats., after giving 30 days notice to the persons identified in s. 144.836 (3) (b), Stats. Notice to the operators shall include the specific information on which the department has based its determination. The purpose of the hearing shall be to determine the existence and extent of noncompliance or, if noncompliance does not exist, whether a site will not achieve compliance at the compliance boundary. Pursuant to such hearing, the department:

a. Shall determine whether the same constitutes an immediate and substantial threat to public health and safety or the environment pursuant to s. 144.91 (4), Stats., and, therefore, requires the issuance of a stop order;

b. Shall determine whether to cancel the mining or prospecting permit if the site is in violation of ss. 144.80 to 144.94, Stats., according to the provisions of s. 144.83 (6), Stats.;

c. Shall determine if the noncompliance constitutes a grievous and continuous failure to comply with the approved plan of operation pursuant to s. 144.44 (3) (e) or (4) (a), Stats., and, therefore, requires license revocation; and

d. Shall determine, if appropriate, if any other sanctions authorized by s. 144.83 (4) (c) or 144.91 (1), Stats., are necessary to assure compliance.

2. A decision shall be issued with respect to a hearing held pursuant to subd. 1. within 30 days of its conclusion, and shall be in writing accompanied by findings of fact and conclusions of law. The findings of fact shall consist of a concise and separate statement of the ultimate conclusions upon each material issue of fact with recital of evidence.

(2) Groundwater quantity. (a) If the department finds that the proposed waste site will adversely affect or reduce the availability of water to any public utility, as defined in s. 196.01 (1), Stats., in furnishing water to or for the public, it shall either deny the license or grant a license under which it imposes such conditions as to location, depth, construction and ultimate use so that the water supply of any public utility engaged in furnishing water to or for the public will not be impaired.

(b) If the department finds that the waste site would cause unreasonable harm to any person through lowering the water table or reducing

artesian pressure, it shall deny the license or grant a license under which it imposes conditions whereby such unreasonable harm will be precluded.

(c) If the department finds that the waste site will have a direct and substantial effect upon a watercourse or lake, and that such water used by or coming from the site will:

1. Be put to an unreasonable use and will cause harm to an existing use of a watercourse or lake by a riparian proprietor or a nonriparian who holds a grant from a riparian proprietor of the grantor's right to use the water, or

2. Cause harm to a nonriparian exercising a right to use public or private waters created by government authority, permit, or license, or

3. Interfere with the exercise of a public right to use the waters; then the department shall deny the license or grant a license imposing conditions whereby such harm will be precluded.

(d) The department shall not deny the waste site license merely because operation of the site will interfere with or prevent the initiation of a new use of groundwater, or a new use of the water or a watercourse or lake by a riparian proprietor.

(e) For the purpose of par. (c), the determination of the reasonableness of the use of water depends on a consideration of the interests of the user, of any person harmed thereby, and of society. Factors which affect the determination include the following:

1. The purpose of the respective uses;
2. The suitability of the uses of the watercourse, lake or aquifer;
3. The economic value of the uses;
4. The social value of the uses;
5. The extent and amount of the harm caused;
6. The practicality of avoiding the harm by adjusting the use or method of use of one party or the other;
7. The practicality of adjusting the quantity of water used by each party;
8. The protection of existing values of water uses, land, investments and enterprises; and
9. The justice of requiring the user causing harm to bear the loss.

History: Cr. Register, August, 1982, No. 320, eff. 9-1-82.

NR 182.08 Feasibility report. (1) Any applicant is encouraged to contact the department during the early stages of project planning and development to determine what permits and approvals may be required and to assure that submissions are consistent with department requirements.

(2) No person shall establish or construct a waste site or expand an existing waste site not in operation as of May 21, 1978, without first obtaining approval of a feasibility report and a plan of operation from the department. The purpose of the feasibility report is to determine whether the site may be approved for the purpose intended and to iden-

tify any conditions which must be included in the plan of operation and in the license issued pursuant to this chapter. The feasibility report shall be submitted in accordance with s. NR 182.06 (1) and be consistent with ch. NR 132. The amount of regional and site specific information and data required for each waste site may vary and shall be based on the waste characterization, but shall, at a minimum, contain the following, unless such information is contained in submittal of documents required under ch. NR 150 or s. 23.11 (5), Stats.:

(a) *General facility information.* The following information shall be included: project title; name, address and phone number of the person who has been designated as the primary contact for departmental correspondence; owner of the proposed facility; site location; proposed licensed acreage; proposed facility life and range of disposal capacity; and estimated waste types and quantities to be contained.

(b) *Waste characterization and analysis.* 1. Applicants shall conduct a characterization and analysis of all mining wastes which may be disposed of or stored in the waste site.

2. Waste characterization and analysis shall identify the characteristics of the wastes which must be known to enable the applicant to comply with the requirements of these regulations. It shall be an evaluation of the quantities, variability, and physical, radiologic and chemical properties of a waste necessary for predicting potential environmental impact of waste handling, storage and disposal, and for determining the appropriate regulatory controls and specific disposal or storage design. Evaluation may include a review of the literature and results from similar existing facilities, materials, or studies.

3. Testing shall be performed on the representative samples of material available, on individual wastes from the mining and milling process, and on composite wastes where mixed storage or disposal of individual wastes is proposed. Where either physical or chemical segregation of a waste is proposed, each individual waste shall be tested. If the information relevant to the waste characterization is not known, and the overall costs of obtaining it are unreasonable or beyond the state-of-the-art, then the characterization shall include worst case analyses and associated probabilities. The major components of waste characterization and analysis shall include:

a. Identification of all wastes which will be disposed of or stored in the waste site. Identification shall include classification of waste types, estimation of the generation rates and volumes of each type, and an explanation of the ultimate disposition of each type.

b. Chemical, radiologic and mineralogic analyses of the wastes.

c. Particle size analyses of the wastes.

d. Chemical and physical characteristics testing shall be performed unless it is documented based on the analyses in subd. 3. b. and c. or past experience that there is no potential for significant environmental damage or the potential of a threat to public health, safety and welfare. This testing program shall include:

1) Determination of the acid producing characteristics of the wastes considering the acid producing content of the materials, the size, form of the acid producing material, and spatial distribution of its particles, the

neutralizing effect of host materials; and the quality of leachate produced by similar wastes.

2) Determination of the leaching potential of the wastes and determination of the composition of the resulting leachate.

3) An evaluation of the physical, radiologic and chemical properties of representative samples of wastes as may be required to develop storage or disposal plans.

e. The applicant shall describe in detail the testing and chain of custody methods employed in evaluating the waste characteristics, and shall provide to the department justification for the use of such methods. If the department cannot reasonably verify the methods utilized by the applicant or the results therefrom other than by independent testing, the department may require that the applicant provide representative samples to the department for such independent testing. Use of these samples shall recognize the effect of time upon the representativeness of sample analysis results.

f. Where prospecting samples are available, the applicant shall conduct, if required by the department, a field testing program to both supplement and verify literature survey and laboratory testing programs.

g. The applicant is encouraged to develop methods of waste handling that will result in the reuse or recovery of such materials. Accordingly, the feasibility report shall include a discussion of alternative methods of disposal of waste materials, including an analysis of the practicability of the reuse, sale, recovery, or processing of such wastes for other purposes.

4. A summary of the waste characterization as it relates to the handling, storage and disposal of the same shall be provided.

5. Results of the waste characterization and analysis combined with information from the evaluation of regional and site specific information, shall be used as part of the feasibility report and plan of operation phases of the project to: determine specific approaches for locating the waste site; determine and obtain appropriate site specific information, and develop appropriate design, construction, operation, monitoring and long-term care requirements for each category of waste.

(c) *Regional information.* A discussion of the regional site setting shall be included to provide a basis for comparison and interpretation of site specific information obtained through field investigations. The discussion should generally be limited to information available from state agency files and publications although some field verification and updating may be necessary. The term regional as used herein is intended to include that area which may affect or be affected by the proposed site. In most instances this will be the proposed site, and the area within a radius up to 5 miles from the site. The discussions should be supplemented by maps or cross-sections, where appropriate. The following items shall be addressed:

1. Topography.

2. Hydrology, including surface water drainage patterns and important hydrologic features such as navigable waters, springs, drainage divides and wetlands.

damage in the event of an accidental or emergency discharge or other condition not anticipated in the feasibility report which does not comply with the license conditions or other applicable standards.

(j) *Closure and long-term care.* An economic analysis, including an engineer's cost estimate, for site closing and long-term care, which may be provided by reference to the reclamation plan submitted pursuant to s. 144.85(3)(b), Stats., and s. NR 132.08.

(k) *Alternative design, location and operation submittals.* 1. Alternatives to the design and location of any new proposed waste site shall be identified and evaluated, including an economic analysis of each site which is both environmentally and economically feasible. Operation alternatives shall be discussed to the extent they have a significant impact on design and location alternatives.

2. In order to minimize the total adverse environmental impact, a viable site shall be chosen that would result in the least total overall adverse environmental impact. The site selection process shall include the identification and analysis of various alternatives so that a legitimate comparison between several of the most viable sites can be made, realizing that a comparison will be made between several sites, all of which may have some imperfections with regard to environmental acceptability and none of which, in some cases, may be found to be environmentally acceptable as a result of compliance with s. 1.11, Stats., and other applicable Wisconsin laws.

3. The applicant shall submit to the department the data on all proposed alternative waste sites and designs studied by the applicant.

(1) *Appendix.* The feasibility report shall have an appendix including:

1. Boring logs, soil tests, well construction data and water level measurements;

2. Methods and equations used in the analysis of the raw data;

3. References.

(3) (a) Within 60 days after a feasibility report is submitted, the department shall notify the applicant in writing whether the feasibility report is complete, or specify what information is needed if the report is incomplete. A favorable determination as to completeness does not mean that the report is adequate for the purpose of determining site feasibility under this chapter.

(b) Within 90 days after completion of the hearing under s. 144.836, Stats., the department shall issue a written determination on the adequacy of the feasibility report and of site feasibility, stating the findings of fact and conclusions of law upon which the determination is based. If a determination is made that the feasibility report is not adequate to make the determination of site feasibility, the department may defer decision until an amended feasibility report is filed and, if the department deems it necessary, a continuation of the hearing held pursuant to s. 144.836, Stats.

(c) The site may be found feasible if it meets the design, operation, location and environmental standards contained directly or by cross-reference in this chapter. Any determination made under this subsection may be conditioned upon the design, operational or other requirements

deemed necessary to be included in the plan of operation. A favorable determination issued under this subsection shall specify the design capacity of the proposed site, constitute approval of the site for the purpose intended, and entitle the applicant to submit a plan of operation.

History: Cr. Register, August, 1982, No. 320, eff. 9-1-82.

NR 182.09 Plan of operation. (1) No person shall establish or construct a waste site or expand an existing site until a plan of operation has been submitted in accordance with s. NR 182.06 and approved in writing by the department, except as otherwise provided herein. No person shall establish, construct, operate, maintain, close, provide long-term care for, or terminate a site except in accordance with the approved plan of operation. Only persons who have obtained a favorable determination of site feasibility from the department may submit a plan of operation for review and approval.

(2) All plans of operation for waste sites shall be consistent with the findings of fact and conclusions of law issued as a result of the hearing pursuant to s. 144.836, Stats., and the feasibility determination and conditions pursuant to s. NR 182.08 (3) and shall contain complete plans and specifications necessary for the construction, operation, closure, long-term care and termination of the project. All information shall be presented in a clear and understandable manner. The plan of operation shall contain, at a minimum, the following information:

(a) Engineering plans consisting of the following:

1. A title sheet indicating the project title, who prepared the plans, the person for whom the plans were prepared, a table of contents, and a location map showing the location of the site geographically and its relation to the mine - mill complex or associated sites and facilities.

2. An existing site conditions plan sheet indicating site conditions prior to development. The details and extent of coverage shall be the same as that required for the existing site conditions map in s. NR 182.08 (2) (d) 1.

3. A base grade plan sheet indicating site base grades or the appearance of the site if it were excavated in its entirety to the base elevation, before installation of any engineering modifications and prior to disposal of any wastes.

4. An engineering modifications plan sheet indicating the appearance of the site after installation of engineering modifications. More than one plan sheet may be required for complicated sites. This plan is required only for those facilities with engineering modifications.

5. A final site topography plan sheet indicating the appearance of the site at closing including the details necessary to prepare the site for reclamation and long-term care.

6. A series of phasing plan sheets showing the progression of site development through time. At a minimum, a separate plan shall be provided for initial site preparations for each subsequent major phase or new area where substantial site preparation and certification must be performed. Each plan shall include a list of construction items and quantities necessary to prepare the phase indicated.

7. A site monitoring plan sheet showing the location of all devices for the monitoring of leachate quality, leachate production, groundwater quality and levels in both the natural zone of saturation and that developed within the disposal site. This plan sheet shall include a table indicating the parameters to be monitored for and the frequency of monitoring before and during site development.

8. A long-term care plan sheet showing the site of the completion of closure and indicating those items anticipated to be performed during the period of long-term care for the site. The plan shall include a table listing of items and the anticipated schedule for monitoring and maintenance. In many instances this information can be presented on the final site topography sheet.

9. When applicable, the following information shall be presented on the appropriate plan sheet:

a. All information required for the existing site conditions map as described in s. NR 182.08 (2) (d) 1., unless including this information leads to confusion with the data intended for display.

b. A survey grid with baselines and monuments to be used for field control.

c. Limits of filling for each major waste type or fill area.

d. All drainage patterns and surface water drainage control structures both within the actual fill area and at the site perimeter. Such structures may include berms, ditches, sedimentation basins, pumps, sumps, culverts, pipes, inlets, velocity breaks, sodding, erosion matting, vegetation or other methods of erosion control.

e. The method of placing waste materials within each phase.

f. Ground surface contours at the time represented by the drawing. Spot elevations should be indicated for key features.

g. Areas to be cleared, grubbed and stripped of topsoil.

h. Borrow areas for liner materials, granular materials for filter beds, berms, roadway construction and cover materials.

i. All soil stockpiles including soils to be used for cover, topsoil, liner materials, filter bed materials and other excavation.

j. Access roads and traffic flow patterns to and within the active fill area.

k. All temporary and permanent fencing.

l. The methods of screening such as berms, vegetation or special fencing.

m. Leachate collection, control and treatment systems which may include pipes, manholes, trenches, berms, collection sumps or basins, pumps, risers, liners and liner splices.

n. Leachate and groundwater monitoring devices and systems.

o. Disposal areas for severe weather operations.

p. Support buildings, utilities, gates and signs.

- q. Special waste handling areas.
- r. Construction notes and references to details.
- s. Other appropriate site features.

10. A series of site cross-sections shall be drawn perpendicular and parallel to the site baseline at a maximum distance of 500 feet between cross-sections and at points of important construction features. The location of the cross-sections shall be shown on the appropriate plan sheet and the section labeled using the site grid system. Where applicable, each cross-section shall show: existing and proposed base and final grades; soil borings and monitoring wells which the section passes through or is adjacent to; soil types, bedrock and water table; leachate control, collection and monitoring systems; quantity of waste materials and area filled by each major waste type; drainage control structures; access roads and ramps on the site perimeter and within the active fill area; the filling sequence or phases, and other appropriate site features.

11. Detailed drawings and typical sections for, as appropriate, drainage control structures, tailings distribution systems, access roads, fencing, leachate control systems and monitoring devices, buildings, signs and other construction details.

(b) An operations manual consisting of the following information:

1. The operations manual shall identify the project title; engineering consultant; site owner, licensee and operator; proposed licensed acreage; site life and capacity; waste types and quantities to be disposed; and any exemptions applied for.

2. Specifications for site construction and operation shall be presented in the operations manual, including detailed instructions to the site operator for all aspects of site construction and operation. References to specifications on the plan sheet shall be pointed out as well as additional instruction included, where appropriate. The specifications shall include, at a minimum the following information:

a. Initial site preparations including specifications for clearing and grubbing, topsoil stripping, other excavations, berm construction, drainage control structures, leachate collection system, access roads and entrance, screening, fencing, groundwater monitoring and other special design features.

b. A certification plan for initial site preparations including a discussion of the field measurements, photographs to be taken, sampling and testing procedures to be utilized to verify that the in-field conditions encountered were the same as those defined in the feasibility report, and to document that the site was constructed according to the engineering plans and specifications submitted for department approval.

c. Typical daily operations including a discussion of the timetable for development, methods for determining waste types disposed of or excluded, typical waste handling techniques, hours of operation, traffic routing, drainage and erosion control, windy, wet and cold weather operations, fire protection equipment, manpower, methods for dust control, method of placing waste materials, monitoring, closure of filled areas, leachate control methods, critical backup equipment with names and telephone numbers where equipment may be obtained, and other special

design features. This information may be developed as a removable section to improve accessibility for the site operator.

d. Development of subsequent phases consisting of a discussion of those items in subpars. a. b. and c. as they relate to the development of subsequent phases of the site.

e. Site closing information consisting of a discussion of the anticipated sequence of events for site closing and a discussion of those actions necessary to prepare the site for long-term care and final use.

f. Long-term care information including a discussion of the procedures to be utilized for the inspection and maintenance of runoff control structures, settlement, erosion damage, leachate control facilities, leachate and groundwater monitoring, and other long-term care needs.

g. An economic analysis including an engineer's cost estimate for site closing and long-term care.

(c) A design report shall be submitted which shall include supplemental discussions and design calculations to facilitate department review and provide supplemental information on financial responsibility and long-term care as required by ss. 144.44 and 144.441, Stats., coordinated with s. 144.86, Stats., including the following information:

1. Design discussion. A discussion of the reasoning and logic behind the design of the major features of the site, such as traffic routing, base grade and relationships to subsurface conditions, anticipated waste types and characteristics, phases of development, liner design, facility monitoring, and similar design features shall be provided. A list of the conditions of site development as stated in the department determination of site feasibility and the measures taken to meet the conditions shall be included. A discussion of all calculations such as stockpile sizing estimates, estimate of site life and runoff and leachate volume estimates shall be included. The calculations shall be summarized with the detailed equations presented in the appendix.

2. Financial responsibility analysis. A detailed analysis in accordance with ss. NR 182.16 and 182.17 shall be made of the financial responsibility for closure and long-term care from the time of site closing to termination.

(d) A detailed contingency plan shall be submitted based on the contingency plan contained in the approved feasibility report.

1. The applicant shall develop a contingency plan to prevent or minimize human health or environmental damage in the event of an accidental or emergency discharge or other condition not anticipated in the feasibility report or plan of operation which does not comply with license conditions or other applicable standards. As a minimum, the contingency plan shall:

a. Follow the provisions of s. 211, spill prevention, control and counter-measures plan (SPCC) of the clean water act (PL 92-500, as amended).

b. For the various monitoring programs required by this chapter, indicate the levels which if exceeded require the operator to activate the contingency plan.

c. Include a provision for more concentrated and frequent monitoring in the area of any excessive measurement.

d. Describe possible accidental or emergency discharges or other unplanned events and identify the corresponding corrective action or alternative action to be implemented should the criteria for action be exceeded.

e. Identify the time necessary for successful completion of each of the identified actions.

2. A copy of the contingency plan shall be filed with the department and the county and township where the waste disposal facility is located. The plan shall be revised in cases of changed circumstances, changed regulations, or failure of the plan to be adequate in an emergency.

(e) An appendix shall be submitted which shall include any additional data not previously presented, calculations, material specifications, a copy of the property deed or lease, operating agreements, leachate treatment agreements, documents related to long-term care funding and other appropriate information. The appendix shall also include the measured baseline values for all parameters monitored, the spatial and temporal variability of these baseline values, and the error associated with the baseline values and the natural variability. For all parameters with variability or sample frequency problems which will make comparison with subsequent analyses less secure than expected or desired, there should be implemented an improved program to satisfy the desired levels of precision. Sufficient data, documentation of statistical procedures and summary statistics shall be provided to allow independent evaluation of baseline values.

(3) Within 30 days after a plan of operation is submitted, the department shall notify the applicant in writing that the plan is either complete or not complete, specifying the information which must be submitted before the report is deemed complete. The department shall determine if the plan of operation is complete by determining whether or not the minimum requirements of this subsection have been met. Additional plan of operation information may be required of the applicant after a determination that the plan of operation is complete only if the department establishes that a detailed review of the plan of operation indicates that the plan of operation is insufficient in the absence of such additional information.

(4) Prior to licensing the owner or operator shall submit proof that a notation of the existence of the site has been recorded in the office of the register of deeds in each county in which a portion of the site is located.

History: Cr. Register, August, 1982, No. 320, eff. 9-1-82.

NR 182.10 Construction and completion reports. (1) Construction of a waste site shall be substantially in accordance with the approved plan of operation.

(2) Sites and facilities shall be thoroughly inspected by the owner prior to their use and all associated structures shall be in substantial compliance with the plan of operation. A registered professional engineer shall document site construction and render an opinion whether the site has been constructed in substantial conformance with the plan of operation. Photographs, either aerial or ground, may be used to document this in-

Register, October, 1985, No. 358