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# Chapter NR 182

## METALLIC MINING WASTES


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**Note:** Corrections in this chapter made under s. 13.93 (2m) (b) 7., Stats., Register, March, 1998, No. 507.

**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. 293.01 (9) and (18), Stats.

**(2)** To the extent that prospecting and mining wastes are identified by the department as hazardous under s. 291.05 (1), 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 chs. NR 600 to 685, 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. 293.43, Stats., the department shall designate those mining and prospecting wastes which are identified by the department as hazardous under s. 291.05 (1), 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), 182.04 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 500 to 590 and 600 to 685.

**(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. 281.41, Stats., and/or permitted under ch. 283, Stats., nor to sites used solely for the disposal of liquid industrial wastes which have been approved under s. 281.41, Stats., and/or permitted under ch. 283, 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. 281.15, Stats;

(b) Comply with s. 283.21 (1), Stats., relating to toxic pollutants;

(c) Comply with all applicable regulations promulgated under ch. 283, 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. 283.31 (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 ch. 285, 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 ch. 293, Stats., and the rules and regulations promulgated pursuant thereto.

**(9)** Pursuant to s. 293.13 (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. 254.34 (1) (a) and 254.36, 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.

**(10)** Mining wastes used in the reclamation or construction of facilities and structures on mining or prospecting sites or for backfilling an underground mine or a prospecting excavation shall be exempt from the requirements of ch. 289, Stats., and this chapter but shall comply with the review and approval requirements of ch. 293, Stats., and ch. NR 131 or 132.

**(11)** Surface mines which are backfilled with mining waste shall be subject to the requirements of this chapter except for ss. NR 182.07 and 182.11 to 182.14.

**History:** Cr. Register, August, 1982, No. 320, eff. 9−1−82; cr. (10) and (11), Register, October, 1988, No. 394, eff. 11−1−88; correction in (2) and (4) made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1995, No. 477.

**NR 182.04 Definitions.** The following special definitions are applicable to the terms used in this chapter:

**(1)** "Active dam" means a dam and associated settling area into which tailings or wastewater, or both, are being introduced for purposes of clarification or which has not been reclaimed in an approved manner.

**(2)** "Applicant" means a person who has applied for a solid waste license pursuant to this chapter.

**(3)** "Background concentration" means the concentration of a substance in groundwater or surface water as determined by monitoring at locations which are not to be affected by the mining site.

**(4)** "Baseline concentration" means the concentration of a substance in groundwater or surface water as determined by monitoring before mining operations.

**(5)** "Closure" means those actions taken by the owner or operator of a solid waste site or facility to prepare the site for long−term care and to make it suitable for other uses.

**(6)** "Closure plan" means a written report and supplemental engineering plans detailing those actions that will be taken by the owner or operator to effect proper closure of a solid waste disposal site or facility.

**(7)** "Closing" means the time at which a solid waste disposal site or facility ceases to accept wastes, and includes those actions taken by the owner or operator of the facility to prepare the site for any required long−term care and make it suitable for other uses.

**(8)** "Completeness" means a determination by the department that the minimum submittal requirements as established by this chapter for a plan or report have been met.

**(9)** "Construct" means to engage in a program of on−site construction, including but not limited to site clearing, grading, dredging or landfilling.

**(10)** "Construction observation report" means a written report submitted under the seal of a registered professional engineer advising that a solid waste disposal site or facility has been constructed in substantial compliance with a department approved plan of operation.

**(11)** "Critical habitat areas" mean any habitat determined by the department to be critical to the continued existence of any endangered species listed in ch. NR 27.

**(12)** "Department" means the department of natural resources.

**(13)** "Design capacity" means the total volume in cubic yards of solid waste which could be placed in a waste site, including the volume of cover material utilized in the facility, but not including final cover or topsoil.

**(14)** "Disposal" means the discharge, deposit, injection, dumping or placing of any mining or prospecting waste into or on any land or water so that such waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.

**(15)** "Establish" means to bring a solid waste disposal site or facility into existence.

**(16)** "Expand an existing site or facility" means to dispose of solid waste on land not previously licensed, to dispose of solid waste not in accordance with a department issued plan approval, if one exists, or to dispose of solid waste in a manner significantly different from past operations.

**(17)** "Facility" or "facilities" means any land or appurtenances thereto used for the storage or disposal of mining wastes, but does not include land or appurtenances used in the production or transportation of mining wastes, such as the concentrator, haul roads, or tailings pipelines, which are permitted under ch. NR 131 or 132.

**(18)** "Feasibility report" means a report for a specific solid waste disposal site or facility that describes the site, surrounding area, and proposed operation in terms of land use, topography, soils, geology, groundwater, surface water, proposed waste quantities and characteristics, and preliminary site or facility design concepts.

**(19)** "Fill area" means the area proposed to receive or which is receiving direct application of solid waste.

**(20)** "Floodplain" means the land which has been or may be hereafter covered by flood water during the regional flood as defined in ch. NR 116 and includes the floodway and the flood fringe as defined in ch. NR 116.

**(21)** "Freeboard" means the height of the crest of the dam above the adjacent liquid surface within the impoundment. The "design freeboard" means the minimum freeboard which would occur during the design flood.

**(22)** "Groundwater" means water in a zone of saturation located below the surface of land.

**(23)** "Groundwater quality" means the chemical, physical, biological, thermal, or radiological quality of groundwater at a site or within an underground aquifer.

**(24)** "Inactive dam" means a dam and associated settling area that is no longer actually being used for disposal of wastewater or tailings, or both, and which has been reclaimed in an approved manner.

**(25)** "Landfill" means a solid waste land disposal site or facility, not classified as a landspreading facility or a surface impoundment facility, where solid waste is disposed on land without creating nuisances or hazards to public health or safety, by utilizing the principles of engineering to confine the solid waste to the smallest practical area, to reduce it to the smallest practical volume, and to cover it with a layer of earth at such intervals as may be necessary.

**(26)** "Leachate" means water or other liquid that has been contaminated by dissolved or suspended materials due to contact with solid waste.

**(27)** "Long−term care" means the routine care, maintenance and monitoring of a solid waste land disposal facility following the closing of the facility.

**(28)** "Merchantable by−product" means all waste soil, rock, mineral, liquid, vegetation and other material directly resulting from or displaced by the mining, cleaning or preparation of minerals during mining operations which are determined by the department to be marketable upon a showing of marketability made by the operator, accompanied by a verified statement by the operator of his or her intent to sell such material within 3 years from the time it results from or is displaced by mining. It after 3 years from the time merchantable by−product results from or is displaced by mining such material has not been transported off the mining site, it shall be considered and regulated as refuse as defined in s. 293.01 (25), Stats., unless removal is continuing at a rate of more than 12,000 cubic yards per year.

**(29)** "Mining" or "mining operation" means all or part of the process involved in the mining of metallic minerals other than for exploration or prospecting, including commercial extraction, agglomeration, beneficiation, construction of roads, removal of overburden and the production of refuse.

**(30)** "Mining waste" means any refuse, sludge, or other discarded material, including solid, liquid, semi−solid or contained gaseous material, resulting from metallic mineral prospecting or mining, or from the cleaning or preparation of minerals during prospecting or mining operations. Typical mining wastes include, but are not limited to, tailings, waste rock, mine overburden, and waste treatment sludges. Mining waste does not include topsoil and mine overburden not disposed of in a waste site, but placed in a facility permitted under ch. NR 131 or 132, to be returned to the mine site or used in the reclamation process, and does not include merchantable by−products.

**Note:** For a more specific list of metallic mining wastes see s. NR 605.05 (1) (j) and (k).

**(31)** "Open dump" means a waste site which is not a sanitary landfill.

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**(32)** "Operator" means any person who is engaged in, or who has applied for or holds a permit to engage in prospecting or mining, whether individually, jointly or through subsidiaries, agents, employees or contractors.

**(33)** "Ore" means a naturally occurring material from which metallic minerals can be recovered at a profit.

**(34)** "Overburden" means any unconsolidated material that overlies bedrock.

**(35)** "Owner" means any person who operates, is engaged in, or who has applied for or holds a permit to engage in mining or prospecting whether individually, jointly or through subsidiaries, agents, employees or contractors.

**(36)** "Person" means an individual, trust, firm, cooperative, institution, joint stock company, corporation (including a government corporation), partnership, association, state, municipality, commission, political subdivision of a state, interstate body or federal or state department, agency, or instrumentality.

**(37)** "Plan of operation" means a report submitted for a solid waste disposal site or facility that describes its location, design, construction, sanitation, operation, maintenance, closing and long−term care.

**(38)** "Pollution" means the contaminating or rendering unclean or impure the air, land or waters of the state, or making the same injurious to public health, harmful for commercial or recreational use, or deleterious to fish, bird, animal or plant life.

**(39)** "Proof of financial responsibility" means a bond, deposit, proof of an established escrow account or trust account ensuring that sufficient funds will be available to comply with the closure and long−term care requirements of this chapter and the approved plan of operation.

**(40)** "Prospecting" means engaging in the examination of an area for the purpose of determining the quality and quantity of minerals, other than for exploration, but including the obtaining of an ore sample, by such physical means as excavating, trenching, construction of shafts, ramps, tunnels, pits and the production of refuse and other associated activities. "Prospecting" shall not include such activities when the activities are, by themselves, intended for and capable of commercial exploitation of the underlying ore body. However, the fact that prospecting activities and construction may have use ultimately in mining, if approved, shall not mean that prospecting activities and construction constitute mining within the meaning of sub. (29), provided such activities and construction are reasonably related to prospecting requirements.

**(41)** "Reclamation plan" means the proposal for the reclamation of the prospecting or mining site, including the closure of a solid waste disposal site or facility, which must be approved by the department under s. 293.45 or 293.49, Stats., and ch. NR 131 or 132 prior to the issuance of the prospecting or mining permit.

**(42)** "Registered professional engineer" means a professional engineer registered as such with the Wisconsin examining board of architects, professional engineers, designers and land surveyors.

**(43)** "Sanitary landfill" means a waste site conforming to the applicable requirements of this chapter.

**(44)** "Soil" means material that has been physically and chemically derived from the bedrock by nature.

**(45)** "Solid waste" means mining waste as defined in this chapter.

**(46)** "Statistically significant change" means an amount of change determined by the use of statistical tests for measuring significance at the 95% confidence level.

**(47)** "Storage" means the temporary placement of waste in such a manner as to not constitute ultimate disposal, for a period not to exceed 18 months.

**(48)** "Tailings" means waste material resulting from the washing, concentration or treatment of crushed ore.

**(49)** "Termination" means the final actions taken by an owner or operator of a solid waste land disposal site or facility when formal responsibilities for long−term care cease.

**(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. An underground mine or a prospecting excavation which is backfilled with mining waste in accordance with a prospecting permit or a mining permit issued under ch. NR 131 or 132 is not a waste site. A surface mine which is backfilled with mining waste is subject to this chapter as set forth in s. NR 182.02, and for surface mines the mine pit and any land or appurtenances thereto used for the storage of mining waste may be considered a single waste site.

**(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; am. (54), Register, October, 1988, No. 394, eff. 11−1−88.

**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. 289.30 (6), Stats., or, if applicable, s. 291.25, 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. 289.41 (1m) (g), Stats. The license shall be issued for terms of 5 years with a fee of $250 per license period.

**Table 1**

**PLAN REVIEW FEES***

| 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 |

*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.** 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:

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

**(1i)** A letter detailing the desired department action or response.

**(1p)** 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:

(a) *Preparation.* The submittal shall be under the seal of a registered professional engineer.

(b) *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.

(c) *Format.* All submittals shall include:

1. The required technical information as specified in this chapter.

2. Maps, figures, photographs and tables where applicable to clarify information or conclusions. The visuals shall be legible. All maps, plan sheets, drawings, isometrics, cross−sections and aerial photographs shall meet the following requirements:

a. Generally be no larger than 24 inches x 36 inches and no smaller than 81/2 inches x 11 inches.

b. Be of appropriate scale to show all required details in sufficient clarity.

c. Be numbered, referenced in the narrative, titled, have a legend of all symbols used, contain horizontal and vertical scales, where applicable, and specify drafting or origination dates.

d. Use uniform scales as much as practical.

e. Contain a north arrow.

f. Use USGS datum as basis for all elevations.

g. Plan sheets showing site construction, operation or closure topography, shall also show original topography.

h. Plan sheets for land disposal sites and facilities shall indicate a survey grid based on monuments established in the field.

i. All cross−sections shall show survey grid location and be referenced to major plan sheets.

3. An appendix listing names of references, all necessary data, procedures and calculations.

**(2)** Unless otherwise specified in this chapter, no person shall operate or maintain a solid waste disposal site or facility without a license from the department.

(a) A submittal for licensing of any solid waste disposal site or facility shall include:

1. The license fee specified in s. NR 182.05 in check or money order payable to the department.

2. A completed copy of the appropriate application form.

3. For all land disposal sites and facilities with plans of operation approved under this chapter, proof of financial responsibility as specified in ss. NR 182.16 and 182.17.

(b) The department shall notify the owner or operator of its intent to review the license and plan of operation, including monitoring data, to determine compliance at a frequency as determined necessary by the department, but no more frequently than annually. Upon such notification, the owner shall within 30 days remit the periodic review fee as specified in s. NR 182.05 in check or money order payable to the department.

**(3)** In the event overlap exists between information required in reports or applications under this chapter, such as the feasibility report and plant of operation, and reports or applications required under other chapters, such as the mining permit application under ch. NR 132, and an environmental impact report under ch. NR 150, such different reports and applications, or portions thereof, may, at the applicant's discretion, be cross−referenced without the necessity of repetition, or may, to the extent practicable, be combined.

**History:** Cr. Register, August, 1982, No. 320, eff. 9−1−82; correction made under s. 13.93 (2m) (b) 1., Stats., Register, September, 1995, No. 477.

**NR 182.07 Location criteria. (1)** No person shall establish, construct, operate, maintain, or permit the use of property for a waste site within the following areas, except pursuant to an exemption granted under s. NR 182.19:

(a) Within areas identified in s. 293.01 (28), Stats., and in s. NR 131.03 (22) or 132.03 (25). In addition to s. 293.01 (28) (a), Stats., the presence of endangered and threatened species as designated by the department under s. 29.604, Stats., shall be considered.

(b) Within 1,000 feet of any navigable lake, pond or flowage.

(c) Within 300 feet of a navigable river or stream.

(d) Within a floodplain.

(e) Within 1,000 feet of the nearest edge of the right−of−way of any of the following: any state trunk highway, interstate or federal primary highway; the boundary of any state or federal park; the boundary of a scenic easement purchased by the department or the department of transportation; the boundary of a designated scenic or wild river; a scenic overlook designated by the department by rule; or a bike or hiking trail designated by the United States congress or the state legislature; unless, regardless of season, the site is visually inconspicuous due to screening or being visually absorbed due to natural objects, compatible natural plantings, earth berm or other appropriate means, or unless, regardless

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of season, the site is screened so as to be as aesthetically pleasing and inconspicuous as is feasible.

(f) Within 1,200 feet of any public or private water supply well.

(g) Within an area which contains known mineral resources at the time of initial application which are likely to be mined in the future and lie within 1,000 feet of the surface.

(h) Within 200 feet of the property line.

(i) Within an area where the department after investigation finds that there is a reasonable probability that disposal of solid waste within such an area will result in a violation of surface water quality criteria and standards as specified in chs. NR 102 to 104.

(j) Within an area where the department finds there is a reasonable probability that disposal of mining waste within such an area will cause groundwater quality enforcement standards to be attained or exceeded beyond the design management zone specified in s. NR 182.075.

**(2)** Any proposal to establish a site or facility shall comply with the standards and procedures in s. NR 132.06 (4), relating to the minimization of disturbance to wetlands.

**History:** Cr. Register, August, 1982, No. 320, eff. 9−1−82; am. (1) (j), Register, May, 1998, No. 509, eff. 6−1−98**; correction in (1) (a) was made under s. 13.93 (2m) (b) 7., Stats.**

**NR 182.075 Groundwater standards. (1)** GROUNDWATER QUALITY. (a) *Applicability.* Notwithstanding the applicability provisions of s. NR 140.03, under the authority of s. 293.15 (11), Stats., mining waste facilities regulated under this chapter and other facilities situated on a prospecting site regulated under ch. NR 131 or a mining site regulated under ch. NR 132, approved after June 1, 1998, shall comply with ch. NR 140.

(b) *Design management zones.* 1. The horizontal distance to the boundary of the design management zone for mining waste facilities regulated under this chapter shall be 1,200 feet from the outer waste boundary, unless reduced pursuant to s. NR 140.22 (3), or at the boundary of property owned or leased by the applicant, whichever distance is less. The outer waste boundary shall be the outermost limit at which waste from a facility has been stored or disposed of, or permitted or approved for storage or disposal.

2. The horizontal distance to the boundary of the design management zone for a metallic mineral surface mine or surface prospecting excavation shall be 1,200 feet from the edge of the mine or prospecting excavation, unless reduced pursuant to s. NR 140.22 (3), or at the boundary of property owned or leased by the applicant, whichever distance is less.

3. The horizontal distance to the boundary of the design management zone for an underground metallic mineral mine or prospecting excavation shall be 1,200 feet from the maximum outer edge of the underground prospecting or mine workings adjacent to the ore body as projected to the land surface, unless reduced pursuant to s. NR 140.22 (3), or at the boundary of property owned or leased by the applicant, whichever distance is less.

4. The horizontal distance to the boundary of the design management zone for facilities, other than the prospecting excavation, mine and mining waste facility, situated on a prospecting site regulated under ch. NR 131 or a mining site regulated under ch. NR 132 shall be as specified in Table 4 of ch. NR 140, if listed, or 150 feet from the edge of the facility, unless expanded or reduced pursuant to s. NR 140.22 (3), or at the boundary of property owned or leased by the applicant, whichever distance is less.

(c) *Mandatory intervention boundary.* The horizontal distance to the mandatory intervention boundary for a metallic mining waste facility or a surface or underground metallic mineral mine or prospecting excavation shall be 150 feet from the outer waste boundary, the outer edge of the mine or prospecting excavation, or the outer edge of the underground workings as projected to the land surface, unless the boundary of the design management zone is within 300 feet of the outer waste boundary, mine, prospecting excavation, or underground prospecting or mine workings. In no case may the mandatory intervention boundary extend more than one half the distance from the outer waste boundary, mine, prospecting excavation or underground prospecting or mine workings to the boundary of the design management zone. The mandatory intervention boundary shall apply as specified in s. NR 182.075 (1s) and (1u).

**(1p)** For any substance for which there is not an enforcement standard and preventive action limit in ch. NR 140, the waste site, mine and other facilities on a mining site may not cause concentrations which have a substantial deleterious impact on a current beneficial use or a significant future beneficial use, of groundwater, such as drinking, irrigation, aquaculture, maintenance of livestock, or maintenance of aquatic and terrestrial ecosystems, as designated at a hearing held pursuant to s. 293.43, Stats.

**(1s)** CONTINGENCY PLAN. (a) At the hearing conducted under s. 293.43, Stats. the department shall determine the adequacy of the contingency plan submitted by the applicant which specifies the action which will be taken if an analysis of groundwater samples requires a response under ss. NR 140.24 to 140.27 and 182.13 (2) (g). The contingency plan shall provide that the response protocol include a comparison of the observed sampling results to the results of the original predictive modeling, completed as part of the mine permitting process, and updated predictive modeling performed subsequent to the start of operation. If the comparison indicates that the observed sampling results are consistent with the design and expected performance of the facility, and the sampling results indicate that an enforcement standard or a preventive action limit has not been exceeded beyond the mandatory intervention boundary, the operator may recommend a no response action in accordance with s. NR 140.24.

(b) 1. If a preventive action limit or an enforcement standard has been exceeded beyond the mandatory intervention boundary, the department shall require a response in accordance with s. NR 140.24, but may not approve a no action response under s. NR 140.24 (5).

2. If a response under s. NR 140.24 (5) has previously been taken, and if subsequent monitoring results are consistent with updated predictive modeling projections and indicate that the groundwater standards will not be attained or exceeded at the design management zone, the department may determine that no additional response is necessary.

3. Notwithstanding the provisions of s. NR 182.19, no exemption under s. NR 182.19 may be granted to subd. 1. of this subsection.

**(1u)** The following requirements are to be applied in conjunction with those of ss. NR 132.11 and 182.13. The department shall specify the parameters for groundwater analysis and may include those considered indicator parameters, those important parameters identified from the waste characterization studies, and others which might be appropriate under the specific conditions.

(a) The operator of a prospecting or mining site shall monitor groundwater quality at locations approved by the department along the mandatory intervention boundary and the boundary of the design management zone.

(b) The operator of a prospecting or mining site shall monitor groundwater quality at locations approved by the department within the mandatory intervention boundary and the design management zone.

(c) Intervention by the operator in accordance with the provisions of the contingency plan, developed in accordance with s. NR 182.09 (2) (d) and approved in accordance with ss. NR 182.08 (2) and 182.09 (1), shall be required, regardless of the holding of any hearing pursuant to sub. (1x), when analyses of samples from monitoring points within the design management zone or within the mandatory intervention boundary show a reasonable probability that, without intervention, there may be a violation of the established groundwater quality standards at the boundary of the design management zone. Criteria against which "reasonable

probability" shall be measured are the results of the predictive modeling submitted by the applicant as part of the feasibility report and other information available to the department.

(d) Additional monitoring locations and tests may be specified by the department so that the actual effects of the mining site on groundwater quality may be compared with the effects projected in the feasibility report, mining permit application and waste water engineering report.

(e) Groundwater shall be monitored at locations approved by the department in the vicinity of the prospecting or mining site on a monthly basis for at least 12 consecutive months during the initial site preparation and construction phase at the prospecting or mining site to determine baseline water quality. Parameters analyzed shall include those substances identified in ch. NR 140 and specified by the department for monitoring, 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 site.

(f) 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.

**(1x)** (a) If the department has reason to believe that a site is not in compliance with the requirements of this section, or if the department projects with reasonable probability that a site will not achieve such compliance at the boundary of the design management zone, it shall refer the matter to the department of justice pursuant to s. 293.95, Stats., or hold a class 2 contested case hearing pursuant to s. 293.15 (1), Stats., after giving 30 days notice to the persons identified in s. 293.43, 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 boundary of the design management zone. Pursuant to the hearing, the department:

1. Shall determine whether the same constitutes an immediate and substantial threat to public health and safety or the environment pursuant to s. 293.83, Stats., and, therefore, requires the issuance of a stop order;

2. Shall determine whether to cancel the mining or prospecting permit if the site is in violation of ch. 293, Stats., according to the provisions of s. 293.85, Stats.;

3. Shall determine if the noncompliance constitutes a grievous and continuous failure to comply with the approved plan of operation pursuant to s. 289.30 (7) or 289.31 (1), Stats., and, therefore, requires license revocation; and

4. Shall determine, if appropriate, if any other sanctions authorized by s. 293.15 (3) or 293.83, Stats., are necessary to assure compliance.

(b) 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) (d), 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; corrections made under s. 13.93 (2m) (b) 1. and 7., Stats., Register, September, 1995, No. 477; r. (intro.), (1g), (1m) and (1r), r. and recr. (1), and (1s) (b), renum. and am. (1p) (c) 4., to be (1p) and am. (1s) (a), (1u) (a), (b), (c), (d), (e), and (1x) (a), Register, May, 1998, No. 509, eff. 6−1−98**; correction in (2) (a) was made under s. 13.93 (2m) (b) 7., Stats.**

**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 may 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 identify 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. If the proposed waste site is a surface mine backfilled with mining waste, the feasibility report submittal provisions of this section may be satisfied by including the information required by this section in the mining permit application submitted pursuant to ch. NR 132 and issuance of the mining permit shall constitute approval of the feasibility report requirements and favorable determination of site feasibility. 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 132 or 150 or s. 23.11 (5), Stats.:

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http://docs.legis.wisconsin.gov/code/admin_code


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

(be) *Evaluation.* 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.

(bi) *Testing.* 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:

1. 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.

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

3. Particle size analyses of the wastes.

4. Chemical and physical characteristics testing shall be performed unless it is documented based on the analyses in subds. 2. and 3. 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:

a. 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.

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

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

5. 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.

6. 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.

7. 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.

(bo) *Summary.* A summary of the waste characterization as it relates to the handling, storage and disposal of the same shall be provided.

(bs) *Results.* 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.

3. Geology, including the nature and distribution of bedrock and unconsolidated deposits.

4. Hydrogeology, including depth to groundwater, flow directions, recharge and discharge areas, groundwater divides, aquifers and the identification of the aquifers used by all public and private wells within at least 1,200 feet of each proposed site.

5. Ground and surface water quality, and precipitation chemistry.

6. Climatology.

7. Identification of adjacent landowners.

8. Zoning.

9. Present land uses with particular emphasis on known recreational, historic, archaeological, scientific, cultural or scenic significance.

10. Present or proposed access roads and weight restrictions.

11. Factors identified in s. NR 182.07, location criteria.

12. Identification of aquatic and terrestrial ecosystems such as stream orders and classifications.

(d) *Site specific information.* Site specific information shall be included and field and laboratory investigations shall be performed to further define site physical, chemical and biological characteristics as provided below.

1. Field investigations shall be performed to define the site specific topography, soil types, depth to bedrock and groundwater. An existing site conditions plan sheet shall be prepared which shall be a detailed topographic survey of the area of investigation. All elevations shall be tied to USGS mean sea level datum. The map, if practicable, shall have a scale no greater than 1:2,400 with a contour interval of 0.1 to 4 feet. The plan shall illustrate the property boundaries, proposed waste facility and site boundaries, survey grid and north arrow, buildings, water supply wells, utility

lines, man−made features, soil boring locations, observation well locations and other pertinent information.

2. The number and depth of soil borings required depends on the relative homogeneity of the soils at the site, the size of the area, character of the wastes and the geotechnical design requirements for the waste site. The borings shall be located to sample adequately major geomorphic features such as ridges and lowlands. Each major soil layer encountered during the boring investigation shall be classified according to the unified soil classification system.

3. Boring logs shall be prepared for all borings. Each log shall include soil and rock descriptions, method of drilling, method of sampling, sample depths, date of boring, and water level measurements and dates. All elevations shall be referred to USGS mean sea level datum.

4. a. Soil samples shall be collected to adequately determine the geology and ensure proper design and monitoring of the site. Soil samples shall be collected at maximum 5−foot depth intervals, unless physical conditions such as soil homogeneity indicate that greater intervals would be adequate. Where appropriate, samples shall be collected using generally accepted undisturbed soil sampling techniques. All soil samples should be classified according to the unified soil classification system.

b. Soil tests including grain−size distribution and Atterburg limits shall be performed as required for classification and correlation purposes and to develop necessary geotechnical design parameters for the waste site. Samples shall not be composited for testing purposes.

c. Soil testing shall also include other physical, chemical, and biological testing as appropriate.

5. The hydraulic conductivity of the various soil strata shall be determined. In situ hydraulic conductivity testing procedures shall be used as appropriate to confirm laboratory values.

6. a. Water table observation wells and piezometers shall be constructed and monitored to provide data necessary to determine horizontal and vertical groundwater flow patterns in and around the proposed site. Soil samples shall be collected and analyzed as described in subd. 4. a. to c. from those observation wells, or the deepest well of a well nest, used to provide the data necessary to determine groundwater flow patterns in and around the proposed site or a sampled boring within 20 feet of such a well.

b. Well construction log information shall include the elevation of the ground surface, the top of the pipe, the bottom of each boring, the well seals, the screened interval, a description of well construction, and a boring log as required in subd. 3.

c. Upon completion, each well shall be developed by pumping until the water pump is cleared. Pumping may include air lift pumps.

d. Successive water level measurements in each well shall be made until stabilized readings are obtained.

7. a. A series of geologic cross−sections illustrating the following shall be prepared: existing topography, soil borings, soil classification, soil properties, interpreted soil stratigraphy, bedrock, well and boring locations and constructions and stabilized water level readings.

b. A water table map shall be constructed based on stabilized water level readings. The existing site conditions plan shall be used as a base for this map. Where significant, seasonal changes in groundwater levels shall be mapped.

c. When more than 2 well nests have been constructed, groundwater flow nets shall be prepared to illustrate horizontal and vertical flow. Where appropriate, this information may be illustrated on the geologic sections.

8. Site specific environmental information. a. An environmental characterization shall be prepared which describes the structure and functional relationships of potentially impacted ecosystems. All relevant data shall be compiled and analyzed.

b. A baseline monitoring program shall be conducted and the data reported consistent with the requirements of ss. NR 132.05 and 132.11. The baseline program shall address physical−chemical and biological monitoring. Physical−chemical parameters shall be selected based on transport and transformation mechanisms in the environment as well as other factors affecting the mobility and toxicity of pollutants. Biological parameters shall be selected based on the environmental characterizations, the degree of impact predicted, and the potentially affected organisms' sensitivity to contaminants.

c. A land use map showing plant communities, wildlife habitat, rare and endangered species sightings, archeological or historic sites, buildings, and areas of social importance shall be provided. The existing site conditions map shall be used as a base map.

d. Groundwater shall be monitored in the vicinity of the disposal site on a monthly basis for at least 12 consecutive months prior to disposing of waste at the site, in conjunction with the gathering of baseline data as specified in subd. 8. b.

e. A table shall be provided showing existing water quality of all potentially affected surface waters. The table shall include those surface waters identified under s. NR 182.07 (1). Important aquatic habitat, such as class II trout stream or state scenic river, shall be indicated.

f. Local climatological data shall be provided for seasonal precipitation, evaporation, air temperature and wind velocity and direction. This may be satisfied by either an annual record on the site or adequate data to correlate the site conditions to an existing observation station.

(e) *Proposed facility design.* Based on the conclusions resulting from the analysis of site data and waste characterizations, a proposed facility design shall be prepared. This shall consist of preliminary type, size and location, engineering plans, a general discussion of proposed operating procedures, and a proposed monitoring program. This section of the report shall include for each waste site:

1. A map, using the existing site conditions map as a base, which shows proposed access, lateral extent of filling, and phases of facility development.

2. A series of cross−sections showing present topography, proposed base grades and final grades, using the geological sections as a base.

3. Preliminary earth work balance calculations.

4. Proposed methods for leachate control.

5. Proposed operating procedures including method of site development, phasing, control of surface water, screening, access control and other special design features.

6. Material balances prepared from best available information showing the quantities of the wastes identified in par. (a). These material balances shall include:

a. The projected conditions existing at the end of a typical year of production;

b. The projected conditions existing before and after a significant change in operating practice of the mine waste site or facility, such as the shut down of a cell of a tailings disposal area and the start up of another;

c. The projected conditions existing at the end of operations;

d. The projected conditions existing at the end of reclamation.

7. 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.

8. A monitoring program shall be developed for the purpose of determining whether the proposed facilities meet all environmental standards. Program design and specifications should be based on potential variations in the quality and quantity of waste

materials, methods of processing, transport and disposal, and the variability of important environmental conditions.

9. The applicant shall submit information based on predictive modeling to demonstrate there is a reasonable certainty that the facility will not result in a violation of the groundwater quality standards, specified in ch. NR 140, beyond the design management zone. If any statistically significant change in baseline groundwater quality is predicted, the applicant shall prepare a specific assessment of any adverse environmental impacts reasonably expected to result. If it is expected, with reasonable certainty, that a preventive action limit will be exceeded beyond the design management zone, the applicant shall request an exemption under ss. NR 140.28 and 182.19 which shall include an assessment of why it is not technically and economically feasible to achieve the preventive action limit.

10. For expansion of existing facilities the report shall include an evaluation of the effectiveness of the existing site design and operation.

(f) *Water budget.* A preliminary water budget shall be prepared for 3 time periods: before construction, during active operation and after facility closure. Water budget calculations shall be made for 3 climatological situations depicting dry, wet and average precipitation − evaporation conditions based on climatologic records. The water budget shall describe the estimated amount and quality of seepage and discharge to surface and groundwater. Factors to be considered in preparation of the water budget are precipitation, slurry water input and return, evaporation, surface runoff, infiltration, evapotranspiration, soil and waste moisture holding capacity and groundwater flow velocities and volume.

(g) *Aesthetics.* The applicant shall analyze the impact of the waste disposal site on aesthetics and how such impact can be minimized.

(h) *Dam safety factors.* The applicant shall submit data regarding the safety factors of tailings pond embankments. On a case−by−case basis the following factors shall be considered:

1. Geology of the disposal site including type and homogeneity of the foundation.

2. Materials and methods to be used for embankment construction.

3. Engineering modifications to be included in the design.

4. Physical and chemical characteristics of the waste as deposited and predicted changes through time.

5. Endangerment to human safety.

6. Potential area to be affected in case of failure, considering land use and the surrounding environment.

7. Requirements as specified by the mine safety and health administration.

(i) *Contingency plan.* The applicant shall develop and describe 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 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. 293.37 (2) (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.

(L) *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. 293.43, 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. 293.43, 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 and constitute approval of the site for the purpose intended.

**History:** Cr. Register, August, 1982, No. 320, eff. 9−1−82; am. (2) (intro.) and (3) (c), Register, October, 1988, No. 394, eff. 11−1−88; correction in (2) made under s. 13.93 (2m) (b) 1., Stats., Register, September, 1995, No. 477; **am. (2) (e) 9., Register, May, 1998, No. 509, eff. 6−1−98.**

**NR 182.09 Plan of operation. (1)** No person may 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 may establish, construct, operate, maintain, close, provide long−term care for, or terminate a site except in accordance with the approved plan of operation. No person may submit a plan of operation for a facility prior to the time the person submits a feasibility report for that facility. A person may submit a plan of operation with the feasibility report or at any time after the feasibility report is submitted. If the proposed waste site is a surface mine backfilled with mining waste, the plan of operation submittal provisions of this section may be satisfied by including the information required by this section in the mining permit application submitted pursuant to ch. NR 132 and issuance of the mining permit shall constitute approval of the plan of operation requirements.

**(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. 293.43, 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 materi-

als, 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 subd. 2. 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 are as required by ss. 289.30 (4) and 289.41, Stats., coordinated with s. 293.51, 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 section 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; am. (1) Register, October, 1988, No. 394, eff. 11−1−88.

**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 inspection, but shall not in themselves constitute compliance. A complete file describing the items inspected and their condition shall be maintained by the owner.

**(3)** Prior to licensing, the department will review and inspect all waste sites to ensure that they were constructed according to the approved plan of operation. A written report shall be made of such review and inspection and placed in the applicant's file.

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

**NR 182.11 Minimum design and operation requirements. (1)** In addition to all other requirements of this chapter, no person shall construct, establish, operate or maintain a waste site except in conformance with the conditions attached to the feasibility approval pursuant to the hearing under s. 293.43, Stats., the approved plan of operation and the following minimum requirements:

(a) In addition to the provisions of ss. NR 182.08 (2) (e) and (k), and 182.11, no waste shall be deposited in such a manner that the waste or leachings therefrom will result in a violation of any ground or surface water quality criteria or standards as specified in chs. NR 102 through 104 or in this chapter.

(b) Surface water drainage shall be diverted away from and off the active fill area.

(c) Access to the facility, particularly the active disposal area, shall be restricted through the use of fencing, natural barriers or other methods approved by the department.

(d) The entire perimeter of the active disposal site shall be made accessible for inspection and earth moving equipment required for emergency maintenance.

(e) Any area to be utilized for the disposal of solid waste or borrow areas shall first be stripped of all topsoil to insure that adequate amounts are available for closure or other measures approved by the department to protect topsoils consistent with environmental considerations and reclamation shall be taken, unless the department determines that such action will be environmentally undesirable.

(f) Effective means shall be taken to control dust resulting from the site or facility to the degree required by s. NR 415.04.

(g) All soil borings and monitoring wells shall be backfilled when abandoned using procedures approved by the department.

(h) Provisions for back−up equipment in the event of critical operating equipment breakdown shall be made.

(i) Design and operation specifications for mine waste facilities shall include contingencies for emergency conditions. Such contingencies may include emergency power supplies, equipment redundancies or temporary holding facilities.

(j) Any disposal site designed with a liner or situated in sufficiently low permeability soils to either partially or totally contain leachate shall be designed with a leachate management system which can effectively remove leachate, prevent surface seeps and promote adequate settlement to permit final reclamation.

(k) Only waste types and sources listed on the license or otherwise approved by the department in writing shall be disposed or stored.

(L) All surface water drainage ditches, culverts and other drainage control structures shall be designed for a 100−year, 24−hour rainfall event.

(m) The final slopes of a completed waste site shall be no less than 2% and no greater than 33% unless the site or facility is specifically designed for a final use compatible with other slopes.

(n) All sites shall have a final cover designed to minimize infiltration and subsequent leachate production unless an alternate cover is approved in the reclamation plan or unless it is determined as a result of a hearing pursuant to s. 293.43, Stats., that such cover is not necessary to comply with the environmental standards of this chapter.

(o) Provisions shall be made for collection and treatment of leachate for all sites designed to contain leachate.

(p) A waste site shall be located, designed, constructed, and operated so that any liner system or naturally occurring soil barrier is compatible with all disposed or stored mining waste.

(q) Sufficient freeboard measured from the inside crest shall be provided so as to contain the 100−year, 24−hour rainfall event and to prevent overtopping by waves during this design storm, or a minimum of 5 feet of freeboard shall be provided.

(r) Drainage or filter bed material shall be selected and designed to promote drainage, reduce the potential for piping, and be stable under leaching conditions.

(s) Material used in earth embankments or drainage or filter bed material shall be free of vegetation, organic soils, frozen soils, and other extraneous matter which could affect the compactibility, density, permeability or shear strength of the finished embankment.

(t) Embankment materials or drainage or filter bed materials shall be compacted to 95% of the maximum dry density as determined by the standard proctor compaction test (ASTM D−698), or to a greater density as required by the embankment height. The material shall be compacted in lifts of 6 to 8 inches in thickness. If waste rock is approved by the department for use outside an earth core, compaction and crushing of such waste rock may not be required.

**Note:** Copies of the reference cited above are available for inspection at the offices of the department of natural resources, the secretary of state's office and the office of the revisor of statutes and may be obtained from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Penn. 19103.

(u) Emergency spill areas shall be provided near the tailings pipeline in case of power or pipeline failure. Tailings pipelines should be self draining to the tailings area or to an emergency spill area or both. In some cases such as a long pipeline over rough country, several spill areas may have to be provided.

**(2)** The following requirements indicate certain parameters and concepts that should be considered by the applicant when planning, constructing and operating a mill and a mine waste site. Application of these parameters and concepts shall be dependent on the specific design, the nature of the waste, the composition of any leachate associated with the waste and the hydrogeologic conditions existing at the disposal site.

(a) When practicable, on a site specific basis, a mine waste site should be located in the same watershed as the mining surface facilities.

(b) Where practicable, on a site specific basis, a mine waste facility should be located so that tailings pipelines do not cross any major watercourse or pass through any wetland where such crossing would be inconsistent with the provisions of ch. NR 132. In general, tailings pipelines should be as short as practicable.

(c) Upstream rainfall catchment areas should be minimized.

(d) The outside crest of the dam should be higher than the inside crest in order to force runoff on the crest to the inside of the dam.

(e) Where practicable, waste disposal facility design should consider staged reclamation.

(f) Those mining wastes which will not be used for reclamation purposes and which present a significant risk of environmental pollution should be marketed provided the products and by−products of such marketing will not result in a greater potential for environmental pollution, a market for a particular waste is reasonably available, and the costs for disposing of such waste exceeds the costs for its marketing. The department shall make specific findings of fact and conclusions of law on the marketability of such wastes.

(g) Mining waste disposal should minimize the discharge of environmental pollutants to the groundwaters of the state.

**(3)** High priority should be given to the selection of a design and operating procedure for the mine, mill and waste disposal sites which will provide for the reclamation of all disturbed sites and minimize the risk of environmental pollution. When practicable, facilities and practices should be selected which:

(a) Minimize production of mining waste through the design and operation of the mining facility.

(b) Provide for the segregation of hazardous from non−hazardous waste.

(c) Provide for eventual underground backfill of waste, in the event of underground mining, with particular emphasis on segregated hazardous materials.

**History:** Cr. Register, August, 1982, No. 320, eff. 9−1−82; correction in (1) (f) made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1995, No. 477.

**NR 182.12 Inspections. (1)** Personnel or agents of the department may accompany employees of the owner on any routine inspection required by these rules, or conduct inspections of their own on the mine waste facilities licensed under this chapter at any other time which is reasonable under the circumstances involved. Personnel or agents of the department may also examine any routine inspection reports and shall be furnished copies thereof upon request.

**(2)** A qualified representative of the owner of a mine waste facility licensed pursuant to this chapter shall, at least weekly except as hereinafter provided, visually inspect the following:

(a) The active sites or facilities including dams for possible damage or structural weakening;

(b) Waste handling and monitoring equipment and readings to ensure normal operation and measurements;

(c) Fences or barriers for possible damage;

(d) The buffer area around the facility for possible environmental damage related to its operation;

**(3)** The observations made in each visual inspection shall be recorded in the facility's operating log as set forth in these rules.

**(4)** Active dam sites shall be inspected monthly by a qualified representative of the owner. The findings on each inspection shall be recorded and filed with the department. Items to be noted on the inspections shall include, but not be limited to:

(a) Condition of vegetation on the dam and within 50 feet from the outside base;

(b) Piezometric levels within the mass of the dam;

(c) Condition of soil surfaces on top and slopes of the dam and within 50 feet from the outside base;

(d) Condition of drainage ditches near the base;

(e) Liquid surface level and amount of freeboard; and

(f) Condition of spillways, conduits and water level control structures.

**(5)** Inactive dams shall be inspected quarterly by a qualified representative of the owner. The findings on each inspection shall be recorded and filed with the department. Such inspection shall include:

(a) Condition of soil surfaces on the crest, slopes and within 50 feet from the outside base;

(b) Determination of piezometric levels within the mass of the dam where such instrumentation has been determined to be necessary or required in the long−term care section of the plan of operation; and

(c) Condition of spillways, conduits and water level control structures.

**(6)** When a potentially defective condition is found during an inspection, the owner shall ensure that it is recorded and corrected at the earliest practicable time. A report of the condition shall be made to the department immediately and the actions proposed and taken for its correction shall be made to the department at the earliest practicable time. The department shall notify the owner, in writing, of the title, address and telephone number of the person to whom any report under this section shall be given, which notification shall specifically refer to this section and shall specify to whom reports are made both inside and outside of normal working hours. The department may confirm correction of the condition and specify any necessary additional corrective action. Any of the following items shall be considered as indicating a condition which requires prompt investigation and may require corrective action:

(a) Seepage on the outer face of the dam accompanied by boils, sand cones or deltas.

(b) Silt accumulations, boils, deltas or cones in the drainage ditches at dam bases.

(c) Cracking of soil surface on crest or either face of the dam.

(d) Bulging of the outside face.

(e) Seepage, damp area, or boils in vicinity of or erosion around a conduit through the dam.

(f) Any shrinkage of the crest or faces.

**(7)** The following conditions indicate potential defects and shall be closely checked on subsequent inspections for an active dam and necessitate an intermediate inspection of an inactive dam:

(a) Patches of overgrowth vegetation on the outside face or close to the base.

(b) Surface erosion, gullying or wave erosion on the inside of the dam.

(c) Surface erosion, gullying or damp areas on the outside of the dam, including the berm and the area within 50 feet from the outside base.

(d) Erosion below any conduit.

(e) Wet areas or soggy soil on the outside or in natural soil below dam.

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

**NR 182.13 Monitoring. (1)** GENERAL. The department may require the owner or operator of any solid waste disposal site or facility or any person who permits the use of property for such purposes, to conduct monitoring of groundwater, leachate, surface water or other physical features. In the alternative, the department may conduct its own monitoring or retain an independent contractor, at the expense of the owner or operator of any solid waste disposal site or facility or any person who permits the use of property for such purposes, to monitor groundwater, leachate, surface water or other physical features.

**(2)** GROUNDWATER AND LEACHATE MONITORING. The department shall require the installation of groundwater monitoring wells and may require installation of leachate monitoring wells, lysimeters, moisture probes, and similar devices, and associated water quality sampling and analysis programs to detect the effects of leachate on groundwater.

(a) The number of required wells shall be approved by the department based on the site size, waste types, site design and the hydrogeologic and geologic setting of the site. The number shall be adequate to yield samples representative of the groundwater quality both up and down gradient from the disposal site or facility.

(b) All monitoring wells shall be constructed utilizing a minimum 2−inch inside diameter PVC pipe or similar inert material and in such a manner as to prevent surface water from entering the well bore and inter−aquifer water exchange.

(c) The results of all water elevation measurement and sampling shall be submitted to the department within 60 days of sampling. All data shall be submitted on forms supplied by the department.

(d) Sampling frequency shall, at a minimum, be during the months of March, June, September and December unless an alternate schedule is agreed to by the department. An alternate schedule may be based on the hydrogeologic system's characteristics such as flow velocity, stratigraphy, etc., and fluctuations in quality as defined by background or baseline sampling and waste type.

(e) Sampling parameters shall be based on the results of the waste characterization and specified in the approved plan of operation. The quarterly analysis shall include parameters listed in subd. 1. with a comprehensive analysis, described in subd. 2., completed on every fourth sampling date.

1. The owner shall determine at a minimum the following on each sampling date:

a. Water level.

b. Field specific conductivity, micro−mhos/cm at 25ºC.

c. Field and lab pH.

d. Concentration of total dissolved solids, mg/liter.

e. The concentrations of the principal contaminant constituents, or indicators thereof, found in the largest quantity in the waste disposed of or stored in the site or facility. Toxicity of contaminants should be considered when parameters are selected.

2. A comprehensive analysis shall quantify the following:

a. Those characteristics listed in subd. 1.

b. The concentrations of other contaminants which would reasonably be expected to occur in leachate from the waste disposed of or stored in the site or facility.

(f) The methods of groundwater sample collection, preservation, and analysis shall be in accordance with the most recent edition of standard methods for the examination of water and wastewater published by the American public health association, or other methods approved in writing by the department.

**Note:** Copies of the reference cited above are available for inspection at the offices of the department of natural resources, the secretary of state's office and the office of the revisor of statutes and may be obtained from the American Public Health Association, Inc., 1790 Broadway, New York, N.Y. 10019.

(g) If the analyses of samples collected pursuant to pars. (d) and (e) indicate that the quality of the groundwater is statistically significantly different from either baseline or background, the owner shall:

1. Notify the department immediately.

2. Determine, if possible, the cause of the difference in quality such as the result of a spill, a design failure or an improper operation procedure.

3. Determine the extent of groundwater contamination or the potential for groundwater contamination.

4. Implement the applicable portion of the contingency plan and notify the department promptly of any additional remedial steps being taken.

(h) If for any reason a monitoring well or other monitoring device is destroyed or otherwise fails to properly function, the site operator shall immediately notify the department in writing. All such devices either shall be restored or properly abandoned and replaced with a functioning device within 60 days of notification of the department unless the owner is notified otherwise in writing by the department.

(i) The department may require the operator to sample public or private wells as part of a regular monitoring program or to determine the extent of groundwater contamination.

(j) No person shall begin construction of a solid waste disposal site or facility until baseline groundwater quality in accordance with the parameters in par. (e) 2. have been determined and results of such analyses submitted to the department.

**(3)** SURFACE WATER. The department may require the monitoring of surface water runoff, leachate seeps, sump pumpings, sedimentation ponds and other surface water discharges resulting from site operation and of surface waters which may be affected by such discharges.

**(4)** MONITORING PHYSICAL FEATURES. The department may require the monitoring of air quality, landfill settlement, berm or embankment stability, vegetation growth, drainage control structures, and may require monitoring of other chemical or biological conditions, if determined to be necessary to assess the impact of the disposal site on critical aquatic and terrestrial ecosystems.

**(5)** OPERATIONS REPORT. The department may require the owner or operator of any land disposal site or facility, or any person who permits the use of property for such purpose, to submit an operations report to assess the effectiveness and environmental acceptability of site operations. The contents of the report may include a discussion of confinement of the active area, analysis of leachate, and other monitoring, surface water control and erosion control, revegetation, settlement, volume utilized, leachate quantity and quality, slope stability, equipment performance, volume and type of disposed waste, and other relevant mine parameters.

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

**NR 182.135 Requirements for certified or registered laboratory.** Microbiological and radiological samples shall be analyzed by the state laboratory of hygiene or at a laboratory approved or certified by the department of agriculture, trade and consumer protection. Other laboratory test results submitted to the department under this chapter shall be performed by a laboratory certified or registered under ch. NR 149. The following tests are excluded from this requirement:

**(1)** Geotechnical and biological tests of soils,

**(2)** Air quality tests,

**(3)** Field pH tests,

**(4)** Field conductivity,

**(5)** Waste material and ore testing,

**(6)** Precipitation chemistry tests,

**(7)** Leachate−liner compatibility testing.

**Note:** The requirement in this section to submit data from a certified or registered laboratory is effective on August 28, 1986.

**History:** Cr. Register, April, 1986, No. 364, eff. 8−28−86.

**NR 182.14 Recordkeeping and reporting. (1)** (a) An owner of a mine waste disposal site or facility shall keep an operating log. This log shall, at all reasonable times, be open for inspection by any duly designated department employee.

(b) The following information shall be recorded promptly, as it becomes available, and maintained in the operating log until closure of the facility unless otherwise provided.

1. A record of each waste disposed of or stored on a weekly basis at the waste site or facility including the following:

a. A description of the type of each mining waste.

b. The quantity in units of volume or weight of pounds, tons, gallons, or cubic yards of each disposed of or stored waste, the method of treatment, disposal or storage used for each; and the dates of treatment, disposal or storage.

c. Locations, with respect to permanently surveyed benchmarks, where each is disposed of or stored.

d. Waste characterization and analyses, as specified in this chapter.

2. Monitoring data, as required in this chapter.

3. Summary reports and records of all incidents requiring initiation of a contingency plan as specified in this chapter or resulting in human health or environmental damage.

4. Records or results of visual inspections required under this chapter.

(c) An owner of a mine waste facility shall be required to retain all records of monitoring, analytical, and verification activities and data, including all original strip chart recordings and instrumentation, calibration and maintenance records until termination of owner responsibility, except to the extent that copies of such records have previously been provided to the department.

(d) A dam owner shall maintain in a permanent file the following construction records pertaining to said dam for future reference should they be needed.

1. Aerial photo of the construction site before construction.

2. Construction drawings and modifications thereof.

3. Construction specifications and modifications thereof.

4. Results of all soil tests on foundations and fill materials.

5. Logs of borings and engineering geology reports.

6. Copies of construction progress inspections pertinent to core trench, toe drain, internal drains, and other significant phases of the structure including, at the option of the applicant, photographs of various structural items.

7. Aerial stereo photos of the entire dam taken within 90 days after all construction is completed.

8. A description of and justification for all deviations or variances from the construction plans and specifications.

**(2)** (a) An owner of a mine waste disposal site or facility shall comply with the requirements under these rules in reporting incidents such as fires, explosions, discharges or releases of materials into the environment. In the event that a facility has an accidental or emergency discharge, a fire, an explosion or other unplanned or unpredicted event which has the potential for damaging human health or the environment or exceeds any limit which operator

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http://docs.legis.wisconsin.gov/code/admin_code


shall follow the procedures set forth in the contingency plan and shall report such incidents to the department, county, township, and tribal government officials identified in the plan immediately after the operator has discovered the event.

(b) The operator shall report to the department by telephone any condition listed under s. NR 182.12 (6) and par. (a) at the earliest practicable time. A written report of said condition shall be submitted within 5 days. The department shall notify the owner, in writing, of the title, address, and telephone number of the person to whom any report under this section shall be given, which notification shall specifically refer to this section and shall specify to whom reports are made both inside and outside of normal business hours.

(c) Duplicate copies of all records required in sub. (1) (b), (c) and (d) shall be turned over to the department upon closure of the facility, except to the extent that copies of such records have previously been provided to the department.

(d) An owner of a mine waste disposal site or facility shall forward to the department at the end of each reporting quarter 3 copies of the monitoring data developed pursuant to the requirements of this chapter during the reporting quarter.

(e) The owner shall submit an annual summary report containing statistical summaries of annual and cumulative project data. The data summaries shall be compared to waste characterization, leachate characterizations, effluent predictions, and baseline and background water quality data as contained in the feasibility report or plan of operation. The report shall also include the results of verification procedures and present the error associated with each parameter presented. Information from unimpacted control stations should include a discussion on whether the baseline values should be modified due to natural variability and what the new values would be. At a frequency determined by the department, the report shall periodically include updated results of predictive groundwater modeling by incorporating currently available data into the original predictive model, submitted as part of the feasibility report.

(f) An owner of a mine waste disposal site or facility shall notify the department prior to cessation of disposal operations or prior to final facility closure as specified in this chapter.

**(3)** Nothing herein shall be construed to require preparation, reconstruction, retention, or submittal of records or reports relating to mining operations or waste disposal therefrom carried on prior to the effective date of this chapter.

**History:** Cr. Register, August, 1982, No. 320, eff. 9−1−82; **am. (2) (e), Register, May, 1998, No. 509, eff. 6−1−98.**

**NR 182.15 Closure. (1)** The closure requirements of this chapter shall be incorporated in and made a part of the mining reclamation plan submitted pursuant to ch. NR 132 but shall be referenced in the plan of operation.

**(2)** Any person who maintains or operates a solid waste disposal site or facility shall, when the facility or a portion thereof reaches final grade, or when the department determines that closure is required, close it in accordance with the reclamation plan as referenced in the plan of operation.

**(3)** The owner or operator shall reestablish and develop the finished surface in any closed portion in accordance with the approved facility final use.

**(4)** At completion of closure, all closed facilities, or closed portions thereof, shall be reasonably secured so that injurious contact with waste by humans or animal life will be minimized, and so that discharges harmful to health will not occur.

**(5)** At the completion of the closure, all required equipment shall be provided and arrangements shall be made to continue postclosure monitoring as required in this chapter.

**(6)** At the completion of closure, the owner or operator shall submit to the department certification that the same has been accomplished in accordance with this chapter.

**(7)** The owner or operator of a facility shall file with the department a survey plan, certified by a registered professional land surveyor, indicating the type and location of mining wastes disposed of in the closed facility or closed portions thereof.

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

**NR 182.16 Financial responsibility for closure. (1)** The intent of this section is to coordinate the financial responsibility requirements of ch. NR 132 and this chapter as they affect closure of a mining site. Financial responsibility for closure shall be incorporated in the bond provided for reclamation and release of the same shall be processed according to reclamation procedures. A demonstration of financial responsibility by whatever means shall not be required twice for the same obligation regardless of whether the same is set forth in more than one chapter of the administrative code. No plan of operation for a waste containment facility may be approved unless the applicant submits, as hereinafter provided, a bond, deposit, proof of an established escrow account or trust account ensuring that the applicant and any successor in interest will comply with the closure requirements referenced in the plan and incorporated in and made part of the reclamation plan.

**(2)** The closure requirements of this chapter shall be incorporated in and made part of the reclamation plan submitted pursuant to s. 293.37 (2) (b), Stats. and s. NR 132.08 but shall be referenced in the plan of operation submitted pursuant to s. NR 182.09. The financial responsibility requirements of sub. (1) shall be fulfilled by increasing or otherwise adjusting the amount of the reclamation bond which the department requires to be submitted pursuant to s. 293.51, Stats., and s. NR 132.09 (2) (a) so as to reflect the projected costs of closure. Release of the amount bonded to ensure closure according to the reclamation plan shall be processed pursuant to the provisions of s. 293.63, Stats., and s. NR 132.12 relating to the release of reclamation bonds.

**History:** Cr. Register, August, 1982, No. 320, eff. 9−1−82; reprinted to restore dropped copy, Register, July, 1984, No. 343.

**NR 182.17 Financial responsibility for long−term care. (1)** DEFINITIONS. (a) "Actual dollar inpayments" means equal annual payments made by the facility owner into a long−term care account.

(b) "Approved mining waste facility" means an approved waste facility which is part of a mining site, as defined under s. 293.01 (12), Stats., used for the disposal of waste resulting from mining as defined under s. 293.01 (9), Stats., or prospecting, as defined under s. 293.01 (18), Stats.

(c) "Certificate of deposit" means a certificate issued by a bank or financial institution acknowledging receipt of a specified sum of money in a special kind of time deposit, drawing interest and requiring written notice for withdrawal.

(d) "Closure period" means the 90−day period after the facility ceases to accept waste, unless otherwise specified in the approved plan of operation.

(e) "Equal annual outpayments" means estimated payments for long−term care which are the same amount in each year of the period of owner responsibility for the long−term care of the facility.

(f) "Interest bearing accounts" means escrow accounts, trust accounts or cash deposits with the department.

(g) "Non−interest bearing accounts" means letters of credit, performance bonds or forfeiture bonds.

(h) "Real dollar inpayments" means payments made by the facility owner, which increase each year at the rate of inflation, into a long−term care account.

(i) "Unequal annual outpayments" means estimated payments for long−term care which are higher in the early years of the period of owner responsibility for long−term care than they are later in the long−term care period after the facility has stabilized.

(j) "U.S. government securities" includes treasury bills, treasury bonds, treasury certificates, treasury notes, and treasury stocks guaranteed by the federal government.

**(2)** APPLICABILITY. (a) *Purpose.* The intent of this section is to coordinate the financial responsibility requirements of ch. NR 132 and this chapter as they affect the long−term care of an approved mining waste facility as defined in s. 289.01 (4), Stats. The long−term care requirements of this chapter are to be incorporated in and made part of the mine reclamation plan. Financial responsibility for long−term care and release of the same, however, shall be made according to the provisions of this section. A demonstration of financial responsibility by whatever means shall not be required twice for the same obligation regardless of whether the same is set forth in more than one chapter of the administrative code. No plan of operation for a mining waste disposal facility may be approved unless the applicant submits, as part of the initial operating license application and annually thereafter for the period of active facility life, proof of financial responsibility ensuring that the applicant and any successor in interest will comply with the long−term care requirements referenced in the plan and incorporated in and made part of the reclamation plan.

(b) An owner of an approved mining waste facility shall be responsible for the long−term care of the facility for 30 years after closure. The long−term care requirements of this chapter shall be incorporated in and made part of the reclamation plan submitted under s. 293.37 (2) (b), Stats., and s. NR 132.08 but shall be referenced in the plan of operation submitted under s. NR 182.09. The financial responsibility requirements of par. (a) for such long−term care, however, shall be fulfilled by compliance with the provisions of any of sub. (3) (a) to (h).

(c) *Successors in interest.* Any person acquiring rights of ownership, possession or operation of a licensed facility shall be subject to all requirements of the license for the facility and shall provide any required proof of financial responsibility to the department in accordance with this section. The previous owner is responsible for long−term care, and shall maintain any required proof of financial responsibility, until the person acquiring ownership, possession or operation of the facility establishes any required proof of financial responsibility.

**(3)** METHODS OF PROVIDING PROOF OF FINANCIAL RESPONSIBILITY. The owner shall specify, as part of the plan of operation submittal, which method of providing proof of financial responsibility will be used for long−term care. To provide proof of financial responsibility, the applicant shall use one of the following methods:

(a) *Performance or forfeiture bond.* 1. If the owner chooses to submit a bond, it shall be in the amount determined according to sub. (5) (b) conditioned upon faithful performance by the owner and any successor in interest, of all long−term care requirements of the approved plan of operation. The bond shall be delivered to the department as part of the initial operating license application. Bond forms shall be supplied by the department.

2. Bonds shall be issued by a surety company authorized to do surety business in this state. At the option of the owner a performance bond or a forfeiture bond may be filed. The department shall be the obligee of the bond. Surety companies may have the opportunity to complete the long−term care of the facility in lieu of cash payment to the department if the owner or any successor in interest fails to carry out the long−term care requirements of the approved plan of operation. The department shall mail notification of its intent to use the funds for that purpose to the last known address of the owner. If the owner submits a written request for a hearing to the secretary of the department within 20 days after the mailing of the notification, the department shall, prior to using the funds, hold a hearing for the purpose of determining whether or not the long−term care requirements of the approved plan of operation have been carried out.

3. Each bond shall provide that, as long as any obligation of the owner for long−term care remains, the bond may not be canceled by the surety, unless a replacement bond or other proof of financial responsibility under this section is provided to the department by the owner. If the surety proposes to cancel a bond, the surety shall provide notice to the department in writing by registered or certified mail not less than 90 days prior to the proposed cancellation date. Not less than 30 days prior to the expiration of the 90−day notice period, the owner shall deliver to the department a replacement bond or other proof of financial responsibility under this section, in the absence of which all disposal operation shall immediately cease and the bond shall remain in effect as long as any obligation of the owner remains for long−term care.

4. If the surety company becomes bankrupt or insolvent or if its authorization to do business is revoked or suspended, the owner shall, within 30 days after receiving written notice, deliver to the department a replacement bond or other proof of financial responsibility under this section in the absence of which all disposal operations shall immediately cease and the bond shall remain in effect as long as any obligation of the owner remains for long−term care.

(b) *Deposit with the department.* An owner may deposit cash, certificates of deposit, or U.S. government securities with the department, the amount of the deposit shall be determined according to sub. (5) (a) and shall be submitted as part of the initial license application. Cash deposits placed with the department shall be segregated and invested in an interest bearing account. All interest payments shall be accumulated in the account. The department shall have the right to use part or all of the funds to carry out the long−term care requirements of the approved plan of operation if the owner fails to do so. The department shall mail notification of its intent to use funds for that purpose to the last known address of the owner. If the owner submits a written request for a hearing to the secretary of the department within 20 days after the mailing of the notification, the department shall, prior to using the funds, hold a hearing for the purpose of determining whether or not the long−term care requirements of the approved plan of operation have been carried out.

(c) *Escrow account.* If the owner establishes an escrow account, it shall be with a bank or a financial institution located within the state of Wisconsin which is examined and regulated by the state or a federal agency in the amount determined according to sub. (5) (a). The assets in the escrow account shall consist of cash, certificates of deposit, or U.S. government securities. All interest payments shall be accumulated in the account. A duplicate original of the escrow agreement with original signatures shall be submitted to the department as part of the initial operating license application. Escrow account forms shall be supplied by the department. The department shall be a party to the escrow agreement, which shall provide that there shall be no withdrawals from the escrow account except as authorized in writing by the department. The escrow agreement shall further provide that the department shall have the right to withdraw and use part or all of the funds in the escrow account to carry out the long−term care requirements of the approved plan of operation if the owner fails to do so. The department shall mail notification of its intent to use funds for that purpose to the last known address of the owner. If the owner submits a written request for a hearing to the secretary of the department within 20 days after the mailing of the notification, the department shall, prior to using the funds, hold a hearing

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for the purpose of determining whether or not the long−term care requirements of the approved plan of operation have been carried out.

(d) *Irrevocable trust.* If the owner creates an irrevocable trust, it shall be exclusively for the purpose of ensuring that the owner or any successor in interest will comply with the long−term care requirements of the approved plan of operation. The trust agreement shall designate the department as sole beneficiary. The trustee shall be a bank or other financial institution located within the state of Wisconsin which has the authority to act as a trustee and whose trust operations are regulated and examined by the state or a federal agency. The trust corpus shall consist of cash, certificates of deposit or U.S. government securities in the amount determined according to sub. (5) (a). All interest payments shall be accumulated in the account. A duplicate original of the trust agreement with original signatures shall be submitted to the department for approval as part of the initial operating license application. Trust forms shall be supplied by the department. The trust agreement shall provide that there shall be no withdrawal from the trust fund except as authorized in writing by the department. The trust agreement shall further provide that sufficient monies shall be paid from the trust fund to the beneficiary in the event that the owner or any successor in interest fails to complete the long−term care requirements of the approved plan of operation. The department shall mail notification of its intent to use funds for that purpose to the last known address of the owner. If the owner submits a written request for a hearing to the secretary of the department within 20 days after the mailing of the notification, the department shall, prior to using the funds, hold a hearing for the purpose of determining whether or not the long−term care requirements of the approved plan of operation have been carried out.

(e) *Letter of credit.* 1. If the owner chooses to submit a letter of credit, it shall be in the amount determined according to sub. (5) (b) conditioned upon faithful performance by the owner and any successor in interest, of all long−term care requirements of the approved plan of operation. The original letter of credit shall be delivered to the department as part of the initial operating license application. Letter of credit forms shall be supplied by the department.

2. Letters of credit shall be issued by a bank or financial institution which is examined and regulated by a federal agency, or in the case of a bank or financial institution located within the state of Wisconsin, which is examined and regulated by the state or a federal agency. The department shall be the beneficiary of the letter of credit.

3. Each letter of credit shall provide that as long as any obligation of the owner for long−term care remains, the letter of credit may not be canceled by the bank or financial institution, unless a replacement letter of credit or other proof of financial responsibility under this section is provided to the department by the owner. If the bank or financial institution proposes to cancel a letter of credit, the bank or financial institution shall provide notice to the department in writing by registered or certified mail not less than 90 days prior to the proposed cancellation date. Not less than 30 days prior to the expiration date of the 90−day notice period, the owner shall deliver to the department a replacement letter of credit or other proof of financial responsibility under this section, in the absence of which all disposal operations shall immediately cease and the letter of credit shall remain in effect as long as any obligation of the owner remains for closure or long−term care.

4. If the bank or financial institution becomes bankrupt or insolvent or if its authorization to do business is revoked or suspended, the owner shall, within 30 days after receiving written notice, deliver to the department a replacement letter of credit or other proof of financial responsibility under this section, in the absence of which all disposal operations shall immediately cease and the letter of credit shall remain in effect as long as any obligation of the owner remains for closure or long−term care.

5. The letter of credit shall further provide that the department shall have the right to withdraw and use part or all of the funds to carry out the long−term care requirements of the plan of operation if the owner fails to do so. The department shall mail notification of its intent to use the funds for that purpose to the last known address of the owner. If the owner submits a written request for a hearing to the secretary of the department within 10 days after mailing of the notification, the department shall, prior to using the funds, hold a hearing for the purpose of determining whether or not the long−term care requirements of the approved plan of operation have been carried out.

(f) *Net worth test.* 1. Only a company that meets the definition in s. 289.41 (1) (b), Stats., may use the net worth method of providing proof of financial responsibility.

2. The owner shall comply with the net worth test requirements of s. 289.41 (4) and (6), Stats., and the minimum security requirements of s. 144.443 (8), 1993−94 Stats., whichever is applicable.

**Note:** Section 144.443 (8), Stats., specifying minimum security requirements has been repealed.

3. Companies using the net worth test to provide proof of financial responsibility for more than one facility shall use the total cost of compliance for all facilities in determining the net worth to closure and long−term care cost ratio.

4. The department determinations under the net worth test shall be done in accordance with s. 289.41 (5), Stats.

(g) *Insurance.* 1. If the owner chooses to submit an insurance policy for long−term care, it shall be issued for the maximum risk limit determined according to sub. (5) (c). A certificate of insurance shall be delivered to the department as part of the initial operating license application. Certificate of insurance forms shall be supplied by the department.

2. At a minimum, the agent or broker shall be licensed as a surplus lines insurance agent or broker. The department shall determine the acceptability of a surplus lines insurance company to provide coverage for proof of financial responsibility. The department shall base this determination on any evaluations prepared in accordance with s. 618.41 (6) (d), Stats., by the office of the commissioner of insurance. The department shall be the beneficiary of the insurance policy.

3. The insurance policy shall provide that, as long as any obligation of the owner for long−term care remains, the insurance policy may not be canceled by the insurer unless a replacement insurance policy or other proof of financial responsibility under this section is provided to the department by the owner. If the insurer proposes to cancel an insurance policy, the insurer shall provide notice to the department in writing by registered or certified mail not less than 90 days prior to the proposed cancellation date. Not less than 30 days prior to the expiration of the 90−day notice period, the owner shall deliver to the department a replacement insurance policy or other proof of financial responsibility under this section, in the absence of which all disposal operations shall immediately cease and the policy shall remain in effect as long as any obligation of the owner remains for long−term care.

4. If the insurance company becomes bankrupt or insolvent or if the company receives an unfavorable evaluation under s. 618.41 (6) (d), Stats., the owner shall, within 30 days after receiving written notice, deliver to the department a replacement insurance policy or other proof of financial responsibility under this section in the absence of which all disposal operations shall immediately cease and the policy shall remain in effect as long as any obligation of the owner remains for long−term care.

5. The insurance policy shall further provide that funds, up to an amount equal to the maximum risk limit of the policy, will be available to the department to carry out the long−term care

requirements of the approved plan of operation if the owner fails to do so. The department shall mail notification of its intent to use the funds for that purpose to the last known address of the owner. If the insurer or owner submits a written request for a hearing to the secretary of the department within 20 days after the mailing of the notification, the department shall, prior to using funds, hold a hearing for the purpose of determining whether or not the long−term care requirements of the approved plan of operation have been carried out.

6. Each insurance policy shall contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditioned upon the consent of the insurer, provided such consent is not unreasonably refused.

**Note:** These forms may be obtained from the Department of Natural Resources, Bureau of Solid Waste Management, P. O. Box 7921, Madison, Wisconsin 53707 or any District Office.

(h) *Other methods.* The department shall consider other financial commitments made payable to or established for the benefit of the department to ensure the owner or operator will comply with the long−term care requirements of the approved plan of operation. The department shall review the request of any owner or operator to establish proof of financial responsibility to determine whether the proposed method provides a degree of assurance that is comparable to that provided by the methods listed in this section. The owner shall submit the request and all supporting information as part of the plan of operation.

**(4)** COST ESTIMATES. (a) For the purpose of determining the amount of proof of financial responsibility that is required in sub. (3), the owner shall estimate the annual cost of long−term care of the facility for the period of owner responsibility and submit the estimated long−term care costs together with all necessary justification to the department for approval as part of the plan of operation submittal. The costs shall be based on a third party performing the work and reported on a per unit basis. The source of estimates shall be indicated.

(b) At a minimum, long−term care costs shall include land surface care, gas monitoring; leachate pumping, transportation, monitoring and treatment; and groundwater monitoring, collection and analysis.

(c) The estimated rate of inflation shall be the latest percent change in the annual gross national product implicit price deflator published in the survey of current business by the bureau of economic analysis, U.S. department of commerce.

(d) The estimated annual rate of interest shall be the rate specified by the financial institution managing the fund or deposit.

**(5)** FORMULAS FOR CALCULATING THE AMOUNT OF THE PROOF OF FINANCIAL RESPONSIBILITY. The owner shall, as part of the plan of operation submittal perform the calculation of the formula for the chosen method of providing proof of financial responsibility for long−term care.

(a) *Deposits in escrow, trust or department accounts.* 1. Interest bearing accounts for long−term care. a. The following information used in calculating the amounts deposited to the long−term care account shall be specified in the plan of operation submittal: the rate of outpayment during the period of long−term care, expressed in equal annual outpayments or unequal annual outpayments, and the equal annual rate of inpayment, expressed as either real dollar inpayments or actual dollar inpayments.

b. When equal annual outpayments, actual dollar inpayments and a closure period are used, the formula shall be expressed as:

$$A = \left[ R(1+f)^{SL}\left(\frac{1+f}{1+i}\right)^{c}\left[\frac{1-\left(\frac{1+f}{1+i}\right)^{LTC}}{\left(\frac{1+i}{1+f}\right)-1}\right]\right] \div \left[(1+i)\left[\frac{(1+i)^{SL}-1}{i}\right]\right]$$

c. When equal annual outpayments, actual dollar inpayments and no closure period are used, the formula shall be expressed as:

$$A = \left[ R(1+f)^{SL}\left[\frac{1-\left(\frac{1+f}{1+i}\right)^{LTC}}{\left(\frac{1+i}{1+f}\right)-1}\right]\right] \div \left[(1+i)\left[\frac{(1+i)^{SL}-1}{i}\right]\right]$$

d. When unequal annual outpayments, actual dollar inpayments and a closure period are used, the formula shall be expressed as:

$$A = \left[\sum\left[R_x(1+f)^{SL}\left(\frac{1+f}{1+i}\right)^{x+c}\right]\right] \div \left[(1+i)\left[\frac{(1+i)^{SL}-1}{i}\right]\right]$$

e. When unequal annual outpayments, actual dollar inpayments and no closure period are used, the formula shall be expressed as:

$$A = \left[\sum\left[R_x(1+f)^{SL}\left(\frac{1+f}{1+i}\right)^{x}\right]\right] \div \left[(1+i)\left[\frac{(1+i)^{SL}-1}{i}\right]\right]$$

f. When equal annual outpayments, real dollar inpayments and a closure period are used, the formula shall be expressed as:

$$A = \left[ R(1+f)^{SL}\left(\frac{1+f}{1+i}\right)^{c}\left[\frac{1-\left(\frac{1+f}{1+i}\right)^{LTC}}{\left(\frac{1+i}{1+f}\right)-1}\right]\right] \div \left[(1+i)^{SL+1}\left[\frac{1-\left(\frac{1+f}{1+i}\right)^{SL}}{i-f}\right]\right]$$

g. When equal annual outpayments, real dollar inpayments and no closure period are used, the formula shall be expressed as:

$$A = \left[ R(1+f)^{SL}\left[\frac{1-\left(\frac{1+f}{1+i}\right)^{LTC}}{\left(\frac{1+i}{1+f}\right)-1}\right]\right] \div \left[(1+i)^{SL+1}\left[\frac{1-\left(\frac{1+f}{1+i}\right)^{SL}}{i-f}\right]\right]$$

h. When unequal annual outpayments, real dollar inpayments and a closure period are used, the formula shall be expressed as:

$$A = \left[\sum\left[R_x(1+f)^{SL}\left(\frac{1+f}{1+i}\right)^{x+c}\right]\right] \div \left[(1+i))^{SL+1}\left[\frac{1-\left(\frac{1+f}{1+i}\right)^{SL}}{i-f}\right]\right]$$

i. When unequal annual outpayments, real dollar inpayments and no closure period are used, the formula shall be expressed as:

$$A = \left[\sum\left[R_x(1+f)^{SL}\left(\frac{1+f}{1+i}\right)^{x}\right]\right] \div \left[(1+i))^{SL+1}\left[\frac{1-\left(\frac{1+f}{1+i}\right)^{SL}}{i-f}\right]\right]$$

in which:

| | | |
|---|---|---|
| A | = | the unknown inpayment for long−term care per year of active facility life |
| i | = | the estimated annual rate of interest |
| f | = | the estimated annual rate of inflation |
| SL | = | the estimated active life of the facility in years |
| R | = | the estimated annual costs |
| $R_x$ | = | the estimated unequal annual costs |
| x | = | the year of long−term care |

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LTC = the period of long−term care
c = the closure period as a fraction of one year
$\sum$ = the sum from year 1 through the last year of LTC

(b) *Bonds and letters of credit.* 1. Non−interest bearing accounts for long−term care. The rate of outpayment shall be as specified in sub. (5) (a), and the rate of inpayment shall be in equal actual dollar inpayments.

2. When equal annual outpayments are used, the formula shall be:

$$PB = \left[ R(1+f)^{SL+1+c} \left[ \frac{(1+f)^{LTC} - 1}{f} \right] \right] \div SL$$

When unequal annual outpayments are used, the formula shall be:

$$PB = \left[ \Sigma \left[ R_x (1+f)^{SL+x+c} \right] \right] \div SL$$

in which:

PB = the unknown bond or letter of credit amount for long−term care to increase per year of active facility life.
f = the estimated annual rate of inflation
SL = the estimated active life of the facility in years
R = the estimated annual costs
$R_x$ = the estimated unequal annual costs
LTC = the long−term care period
x = the year of long−term care
c = the closure period as a fraction of one year
$\sum$ = the sum from year 1 through the last year of LTC

(c) *Insurance.* 1. 'Long−term care.' a. The rate of outpayment shall be as specified in sub. (5) (a) 1.

When equal annual outpayments are used, the formula shall be:

$$INS = \left[ R(1+f)^{SL+1+c} \left[ \frac{(1+f)^{LTC} - 1}{f} \right] \right]$$

When unequal annual outpayments are used, the formula shall be:

$$INS = \left[ \Sigma \left[ R_x (1+f)^{SL+x+c} \right] \right]$$

in which:

INS = the unknown amount of the long−term care insurance
f = the estimated annual rate of inflation
SL = the estimated active life of the facility in years
R = the estimated annual costs
$R_x$ = the estimated unequal annual costs
LTC = the long−term care period
x = the year of long−term care
c = the closure period as a fraction of a year
$\sum$ = the sum of year 1 through the last year of LTC

**(6)** CHANGING METHODS OF PROOF OF FINANCIAL RESPONSIBILITY. The owner of an approved mining waste facility may change from one method of providing proof of financial responsibility under sub. (3) to another, but not more than once per year. A change may only be made on the anniversary of the submittal of the original method of providing proof of financial responsibility.

**(7)** ADJUSTMENT OF FINANCIAL RESPONSIBILITY. The owner of a facility for the land disposal of mining waste shall prepare a new long−term care cost estimate whenever a substantial change in the long−term care requirements in the approved plan of operation affects the cost of long−term care. Proof of the increase in the amount of all bonds, letters of credit, escrow accounts and trust accounts, or other approved methods established under this section shall be submitted annually to the department. The department may adjust the amount of the required proof of financial responsibility for long−term care based upon prevailing or projected interest and inflation rates and the latest cost estimates, and may annually require the owner to adjust the amount of proof of financial responsibility accordingly.

**(8)** ACCESS AND DEFAULT. Whenever on the basis of any reliable information, and after opportunity for a hearing, the department determines that an owner or operator of an approved mining waste facility is in violation of any of the requirements for long−term care specified in the approved plan of operation, the department and its designees shall have the right to enter upon the facility and carry out the long−term care requirements. The department may use part or all of the money deposited with it, or the money deposited in escrow or trust accounts, or performance or forfeiture bonds, or letters of credit, or funds accumulated under other approved methods to carry out the long−term care requirements.

**(9)** AUTHORIZATION TO RELEASE FUNDS. One year after closure, and annually thereafter for the period of owner responsibility, the owner, who has carried out all necessary long−term care during the preceding year, may make application to the department for reimbursement from an escrow account, trust account, or deposit with the department, or other approved methods, or for reduction of the bond, insurance or letter of credit equal to the estimated costs for long−term care for that year. The application shall be accompanied by an itemized list of costs incurred. Upon determination that the expenditures incurred are in accordance with the long−term care requirements anticipated in the approved plan of operation, the department may authorize in writing the release of funds or approve a reduction in the bond or letter of credit. Prior to authorizing a release of the funds or a reduction of the bond or letter of credit, the department shall determine that adequate funds exist to complete required long−term care work for the remaining period of owner responsibility. Determinations shall be made within 90 days of the application. Any funds remaining in an escrow account, trust account, or on deposit with the department at the termination of the period of owner responsibility shall be released to the owner.

**(10)** EARLY TERMINATION. (a) The owner of an approved mining waste facility may apply to the department for termination of its responsibility for long−term care at any time after the facility has been closed for at least 10 years. Within 30 days of the receipt of such application in writing, the department shall, using the procedures set forth in par. (b), provide notice to the public and to the owner and an opportunity for a hearing on the termination of its responsibility. In this proceeding the burden shall be on the applicant to prove by a preponderance of the evidence that additional long−term care is not necessary for adequate protection of public health or the environment.

(b) The department shall publish a class 1 notice under ch. 985, Stats., in the official newspaper designated under s. 985.04 or 985.05, Stats., or, if none exists, in a newspaper likely to give notice in the area of the facility. The notice shall invite the submission of written comments by any person within 30 days from the time the notice is published, and shall describe the method by which a hearing may be demanded under par. (c). Notice shall also be given under s. 293.43 (3) (b) 1. and 2., Stats.

(c) Within 30 days after the notice required under par. (b) is published, a written demand for a hearing on the matter may be filed by any county, city, village, town, tribal government or by any 6 persons. The demand shall indicate the interest of the municipality or persons who file it and state the reasons why the hearing is demanded. A hearing demanded under this paragraph shall be held within 60 days after the deadline for demanding a hearing and shall be conducted as provided in s. 227.44, Stats. The hearing shall be held in an appropriate place designated by the department in one of the counties, cities, villages or towns which are substan-

tially affected by the operation of the facility. Notice of the hearing shall be given under s. 293.43 (3) (b) 1. and 2., Stats., except the hearing may be scheduled upon 30 days notice.

(d) Within 120 days after posting notice of the pending termination or within 60 days after any hearing is adjourned, whichever is later, the department shall determine either that long−term care of the facility is no longer required, in which case the applicant shall be relieved of such responsibility; or that additional long−term care of the facility as specified in the plan of operation is still required, in which case further application under this subsection may not be permitted until at least 5 years have elapsed since the previous application.

**History:** Cr. Register, August, 1982, No. 320, eff. 9−1−82; am. Register, May, 1984, No. 314, eff. 5−1−84**; correction in (10) (c) was made under s. 13.93 (2m) (b) 7., Stats.**

**NR 182.18 Waste management fund. (1)** APPLICABILITY. (a) All owners or operators of licensed mining waste disposal facilities shall pay to the department a tonnage fee, for each ton of waste received and disposed of at the facility, or a minimum waste management fund base fee of $100, whichever is greater, until the facility no longer receives waste and begins closure activities, except as otherwise provided in s. 289.62 (1) (b), Stats. The department shall deposit all tonnage and waste management base fees into the waste management fund provided for in s. 25.45, Stats.

(b) For all mining waste facilities with a plan of operation approved under s. 289.30, Stats., after May 20, 1978, the owner shall be responsible for the long−term care of the facility for 30 years after facility closure. The fees to be paid by the owner or operator into the waste management fund shall be in accordance with sub. (3) (a) or (b), whichever fee is greater.

(c) For all mining waste facilities not approved as set forth in par. (b), the fees to be paid by the owner or operator into the waste management fund shall be those indicated in sub. (3) (a) or (b), whichever fee is greater. The owner or operator of a mining waste facility in existence on May 21, 1978 may, but will not be required to, seek approval of the facility's plan of operation under s. 289.30, Stats.

(d) For those companies which have provided proof of financial responsibility by the net worth method under s. 289.41 (4) and (6), Stats., the fees to be paid by the owner or operator into the waste management fund shall be in accordance with sub. (3) (c), if applicable, or sub. (3) (b), whichever fee is greater.

**(2)** CERTIFICATION. The owner or operator of a licensed mining waste site facility shall certify, on a form provided by the department, the amount of waste received and disposed of during the preceding reporting period. The department shall specify the term of the reporting period on the certification form. The department shall mail the certification form to the owner or operator every January. The certification form shall be completed and returned to the department with the appropriate fee within 45 days after mailing of the form by the department to the owner or operator. An owner or operator failing to submit the waste management certification form and appropriate fees within 45 days after mailing of the form to the owner or operator shall pay a late processing fee of $50.

**(3)** FEES. (a) The mining waste tonnage fees established in s. 289.62 (2), Stats., are summarized in table 2.

TABLE 2
WASTE MANAGEMENT FUND TONNAGE FEES

| Waste Type | | Fee |
|---|---|---|
| 1. | Hazardous tailing solids | 1.5¢/ton |
| 2. | Nonhazardous tailings solids or nonacid producing taconite tailings solids | 0.2¢/ton |
| 3. | Hazardous sludge | 1.0¢/ton |
| 4. | Nonhazardous sludge | 0.5¢/ton |
| 5. | Hazardous waste rock | 0.3¢/ton |
| 6. | Nonhazardous waste rock or non-acid producing taconite waste rock | 0.1¢/ton |
| 7. | Any prospecting or mining waste not specified in categories 1 to 6 above | 0.5¢/ton |

(b) As provided in s. 289.67 (3), Stats., the owner or operator shall pay to the department a waste management fund base fee of $100 for each calendar year.

(c) The facilities described in sub. (1) (d) shall increase the tonnage fees in par. (a) by 25%.

**(4)** USE OF FUND. Only an approved mining waste facility as defined in s. 289.01 (4), Stats., is eligible for use of the money accumulated in the waste management fund. The monies in the waste management fund shall be expended exclusively as set forth in 289.68 (1) to (6), Stats.

**(5)** DETERMINATION OF WASTE TONNAGES. (a) *Determination by owner or operator.* The owner or operator shall, subject to department approval, use one of the following methods for determining the number of tons of waste received and disposed of at the mining waste facility.

1. The owner or operator may use actual weight or volume records as recorded under s. NR 182.14 (1) (b) 1.b.

2. The owner or operator may establish by field measurement the volume of waste disposed and convert to a weight using an assumed compaction density.

(b) *Department estimates.* The department may estimate by waste category the number of tons received at a mining waste facility. The department's estimate shall appear on the certification form and shall be based on the number of tons received and reported on for the previous reporting period.

**(6)** WASTE MANAGEMENT FUND EXPENDITURES. (a) *Payments for long−term care after termination of owner responsibility.* The department shall determine the necessary maintenance requirements for the long−term care of an approved mining waste facility after the termination of the owner's responsibility. The department shall comply with s. 16.75, Stats., when applicable, for contracting services for the required long−term care maintenance of mining waste facilities.

(b) *Payments of related costs.* The department shall comply with s. 289.68 (4), Stats., prior to making any expenditures from the waste management fund under s. 289.41 (11) (b) 1., Stats.

(c) *Other payments.* The department may expend monies from the waste management fund in accordance with s. 289.68 (5) and (6), Stats.

**History:** Cr. Register, August, 1982, No. 320, eff. 9−1−82; am. Register, May, 1984, No. 341, eff. 5−1−84.

**NR 182.19 Exemptions and modifications. (1)** The department may grant exemptions from the requirements of this chapter and modifications to any license, plan of operation, or other authority issued under this chapter as provided in s. 289.30 (6) and 289.43, Stats., if such exemptions or modifications are consistent with the purposes of this chapter and ch. NR 132 and will not violate any applicable federal or state law or regulation.

**(2)** All requests for exemptions by the applicant shall be made at least 90 days before the hearing under s. 293.43, Stats., unless the condition which is the basis for the requested exemption is unknown to the applicant prior to that time or for good cause shown. If an applicant applies for an exemption less than 90 days before the hearing under s. 293.43, Stats., the portion of the hearing concerning that exemption request shall be held no earlier than 90 days after receipt of the application for the exemption. Requests for exemptions may be made by any party to the s. 293.43, Stats., hearing other than the applicant up to 30 days

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before the hearing. Any request for exemption made prior to the hearing under s. 293.43, Stats., shall be determined as part of that proceeding.

**(3)** The burden of proof for seeking an exemption or modification is upon the person seeking it.

**(4)** Any party to the hearing under s. 293.43, Stats., may request modifications and exemptions to make more stringent any provision of this chapter.

**(5)** Any application for a modification made after the hearing under s. 293.43, Stats., shall be determined by the following procedure:

(a) The application shall be in writing and shall include documentation justifying the need for the exemption or modification describing the alternatives and explaining why the exemption or modification was not sought before the s. 293.43, Stats., hearing.

(b) If the application involves an exemption or a modification from a requirement of this chapter, within 10 days of the application, the department shall publish a class 1 notice under ch. 985, Stats., in the official newspaper designated under s. 985.04 or 985.05, Stats., or, if none exists, in a newspaper likely to give notice in the area of the proposed exemption or modification. The notice shall invite the submission of written comments by any person within 10 days from the time the notice is published, and shall describe the method by which a hearing may be demanded. Notice shall also be given by mail as provided in s. 293.43 (3) (b) 1., Stats. Within 30 days after the notice is published, a written demand for a hearing on the matter may be filed by any county, city, village, town, tribal government or by any 6 persons. The demand shall indicate the interest of the municipality or persons who file it and state the reasons why the hearing is demanded. A hearing demanded under this paragraph shall be held within 60 days after the deadline for demanding a hearing, and shall be conducted as a class 1 proceeding under s. 227.44, Stats. The hearing shall be held in an appropriate place designated by the department in one of the counties, cities, villages or towns which are substantially affected by the operation of the facility. Within 45 days after giving notice, or within 30 days after any hearing is adjourned, whichever is later, the department shall determine whether the modification or exemption as requested shall be granted.

(c) If the application does not involve an exemption or a modification from a requirement of this chapter, the department shall issue a decision on the application within 45 days of the receipt of the application.

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

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