

Chapter NR 670

MISCELLANEOUS UNIT STANDARDS

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NR 670.01 Purpose. The purpose of this chapter is to specify the requirements that apply to facilities not otherwise specified in chs. NR 600 to 685.

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91.

NR 670.02 Applicability. The requirements in this chapter apply to owners and operators of facilities that treat, store or dispose of hazardous waste in miscellaneous units. This chapter does not apply to solid waste facilities that treat, store or dispose of only:

- (a) Non-hazardous solid waste,
- (b) Metallic mining wastes resulting from a mining operation as defined in s. 144.81 (5), Stats.,
- (c) Polychlorinated biphenyls (PCBs), except where portions of this chapter are referenced in ch. NR 157, or
- (d) A combination of wastes described in pars. (a) to (c).

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NR 670.03 Definitions. The definitions in s. NR 600.03 apply to this chapter.

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NR 670.05 General. The requirements of this chapter apply to facilities not specifically covered by ch. NR 610, 615, 625, 630, 640, 645, 655, 660 or 665. Before any method of hazardous waste treatment, storage or disposal not otherwise provided for in ch. NR 610, 615, 625, 630, 640, 645, 655, 660 or 665 is established, the department shall require the applicant to conduct a feasibility study. If the proposal is determined by the department to be feasible, a plan of operation including complete plans, specifications and design data for the project detailing information as site preparation, operation, monitoring, closure and long-term care shall be submitted to and be approved in writing by the department prior to construction or operation. An initial plan review fee and operating license fee as specified in s. NR 680.45 shall be submitted for each proposal. Prior to operation of the facility, an operating license, variance or waiver is required. The facility and its operation shall conform to the department approved plan.

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NR 670.06 Feasibility and plan of operation report for miscellaneous treatment or storage units. No person may establish or construct a miscellaneous unit for the treatment or storage of hazardous waste, expand an existing facility or be issued an initial operating license under s. NR 680.32 without first obtaining approval of a feasibility and plan of operation report. The purpose of the feasibility and plan of operation report is to determine whether the site has potential for use as a miscellaneous unit and to identify and address any operating conditions which are necessary for the proper operation of the facility. Favorable feasibility determination and plan approval under this section does not guarantee final licensure. The feasibility and plan of operation report for a miscellaneous unit shall be submitted in accordance with s. 144.44, Stats., and ss. NR 680.05 (1) and 680.06 (3) and shall contain, at a minimum, the following information:

(1) A detailed description of the unit being used or proposed for use, including:

(a) Physical characteristics, materials of construction and dimensions of the unit;

(b) Detailed plans and engineering reports describing how the unit shall be located, designed, constructed, operated, maintained, monitored, inspected and closed to comply with ss. NR 670.07 and 670.08; and

(2) Detailed hydrologic, geologic and meteorologic assessments and land-use maps for the region surrounding the site that address and ensure compliance of the unit with s. NR 670.07. If the applicant can demonstrate to the satisfaction of the department that the facility does not violate s. NR 670.07, then preliminary hydrologic, geologic and meteorologic assessments shall suffice.

(3) Information on the potential pathways of exposure of humans or environmental receptors to hazardous waste or hazardous constituents including the potential magnitude and nature of exposures.

(4) For any treatment unit, a report on a demonstration of the effectiveness of the treatment based on laboratory or field data.

(5) Any additional information determined by the department to be necessary for evaluation of compliance of the unit with the performance standards of s. NR 670.07.

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NR 670.07 Feasibility report and plan of operation requirements for miscellaneous disposal units. No person may establish or construct a miscellaneous unit for the disposal of hazardous waste, expand an existing facility or be issued an initial operating license under s. NR 680.32 without first obtaining approval of a feasibility report describing the physical conditions of the proposed facility and subsequently obtaining approval of a plan of operation from the department. Unless otherwise approved, the feasibility report shall contain the information specified in s. NR 660.09 and the plan of operation shall contain the information specified in s. NR 660.10.

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NR 670.08 Miscellaneous unit standards. A miscellaneous unit shall be located, designed, constructed, operated, maintained and closed in a manner that shall ensure protection of human health and the environment. Licenses for miscellaneous units are to contain terms and provisions necessary to protect human health and the environment, including, but not limited to, as appropriate, design and operating requirements, detection and monitoring requirements and requirements for responses to releases of hazardous waste or hazardous constituents from the unit. License terms and provisions shall include those requirements of chs. NR 640 to 665, and ch. NR 680 that are appropriate. Protection of human health and the environment includes, but is not limited to:

(1) Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in the groundwater or subsurface environment, considering:

(a) The volume and physical and chemical characteristics of the waste in the unit, including its potential for migration through soil, liners or other containing structures;

(b) The hydrologic and geologic characteristics of the unit and the surrounding area;

(c) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater;

(d) The quantity and direction of groundwater flow;

(e) The proximity to and withdrawal rates of current and potential groundwater users;

(f) The patterns of land use in the region;

(g) The potential for deposition or migration of waste constituents into subsurface physical structures, and into the root zone of food-chain crops and other vegetation;

(h) The potential for health risks caused by human exposure to waste constituents; and

(i) The potential for damage to domestic animals, wildlife, crops, vegetation and physical structures caused by exposure to waste constituents;

(2) Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in surface water, or wetlands or on the soil surface considering:

(a) The volume and physical and chemical characteristics of the waste in the unit;

(b) The effectiveness and reliability of containing, confining and collecting systems and structures in preventing migration;

(c) The hydrologic characteristics of the unit and the surrounding area, including the topography of the land around the unit;

(d) The patterns of precipitation in the region;

(e) The quantity, quality and direction of groundwater flow;

(f) The proximity of the unit to surface waters;

(g) The current and potential uses of nearby surface waters and any water quality standards established for those surface waters;

(h) The existing quality of surface waters and surface soils, including other sources of contamination and their cumulative impact on surface waters and surface soils;

(i) The patterns of land use in the region;

(j) The potential for health risks caused by human exposure to waste constituents; and

(k) The potential for damage to domestic animals, wildlife, crops, vegetation and physical structures caused by exposure to waste constituents.

(3) Prevention of any release that may have adverse effects on human health or the environment due to migration of waste constituents in the air, considering:

(a) The volume and physical and chemical characteristics of the waste in the unit, including the waste's potential for the emission and dispersal of gases, aerosols and particulates;

(b) The effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air;

(c) The operating characteristics of the unit;

(d) The atmospheric, meteorologic and topographic characteristics of the unit and the surrounding area;

(e) The existing quality of the air, including other sources of contamination and their cumulative impact on the air;

(f) The potential for health risks caused by human exposure to waste constituents; and

(g) The potential for damage to domestic animals, wildlife, crops, vegetation and physical structures caused by exposure to waste constituents.

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NR 670.09 Monitoring, analysis, inspection, response, reporting and corrective action. Monitoring, testing, analytical data, inspections, response, and reporting procedures and frequencies shall ensure compliance with ss. NR 630.15, 630.20, 630.21, 630.22 and 670.06 and ch. NR 635 as well as compliance with any additional requirements necessary to protect human health and the environment as specified in the license.

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NR 670.10 Closure and long-term care. (1) The owner or operator of a facility that treats hazardous waste shall, at completion of closure, remove all hazardous waste and hazardous waste residues, including, but not limited to, ash and sludges, from the treatment process or equipment, discharge control equipment and discharge confinement structures. The department may require monitoring of ground or surface waters if the operation or design of the facility in relation to the hazard of wastes handled at the facility warrants monitoring.

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(2) A miscellaneous unit that is a disposal unit shall be maintained in a manner that complies with s. NR 670.06 during the long-term care period. If a treatment or storage unit has contaminated soils or groundwater that cannot be completely removed or decontaminated during closure, the unit shall also meet the requirements of s. NR 670.06 during the long-term care period. The long-term care plan under s. NR 685.05 and the closure plan under s. NR 685.06 shall specify the procedures that shall be used to satisfy this requirement.

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NR 670.11 Thermal treatment in other than incinerator. (1) GENERAL. Except as provided in s. NR 665.09 (20), the treatment facility standards contained in ch. NR 630 apply to facilities that thermally treat hazardous waste in devices other than incinerators and to facilities that treat hazardous wastes by some chemical, physical or biological means in other than surface impoundments. Except as provided in ss. NR 630.04 (27) to (34), no person may operate or maintain a hazardous waste treatment facility unless the person has obtained an interim license, operating license, variance or waiver from the department, in accordance with the requirements of ch. NR 680. Any person who will establish or construct a hazardous waste treatment facility shall contact the department to arrange for an initial site inspection.

(2) **MINIMUM REQUIREMENTS FOR FACILITY DESIGN AND OPERATION.**
(a) In addition to the waste analysis required by s. NR 630.12, the owner or operator shall sufficiently analyze any waste which has not been previously treated in the thermal process to enable the establishment of steady state or other appropriate operating conditions for a discontinuous process, including waste and auxiliary fuel feed, and to determine the type of pollutants which may be emitted. At a minimum, the analyses shall determine:

1. The heating value of the hazardous waste;
2. Halogen and sulfur content of the waste; and
3. Concentrations of heavy metals, such as lead, mercury, cadmium and chromium, unless the owner or operator has written documented data to show that the element is not present.

(b) Before adding hazardous waste to a thermal treatment process, the owner or operator shall bring the system to steady state or normal conditions of operation, including steady state operating temperature, using auxiliary fuel or other means, unless the process is a discontinuous, or batch, thermal treatment process which requires a complete thermal cycle to treat a discrete quantity of hazardous waste.

(c) Thermal treatment facilities shall be designed and operated to provide adequate temperature and residence time in the combustion chamber to assure complete processing. Thermal treatment facilities shall be equipped with necessary air pollution control equipment to produce a noncombustible residue, result in an odor free operation and meet state air pollution control regulations found in chs. NR 400 to 499.

(d) The owner or operator shall conduct, at a minimum, the following monitoring and inspections when thermally treating hazardous waste:

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1. Instruments which relate to temperature and emission control shall be monitored at least every 15 minutes. Appropriate corrections to maintain steady state or other appropriate thermal treatment conditions shall be made immediately, either automatically or by the operator. Instruments which relate to temperature and emission control include, but are not limited to, those measuring waste, feed, auxiliary fuel feed, treatment process temperature, and relevant process flow and level controls.

2. The stack plume and emissions, where present, shall be observed visually at least hourly for normal appearance, color and opacity. The operator shall immediately make any indicated operating corrections necessary to return any visual emissions to their normal appearance.

3. The complete thermal treatment process and associated equipment, such as pumps, valves, conveyors and pipes, shall be inspected at least daily for leaks, spills and fugitive emissions, and all emergency shutdown controls and system alarms shall be checked to assure proper operation.

(e) All hazardous waste, with the exception of waste in the process line, shall be stored in conformity with chs. NR 630 to 685.

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