

CHAPTER 7045

MINNESOTA POLLUTION CONTROL AGENCY

HAZARDOUS WASTE DIVISION

HAZARDOUS WASTE

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DEFINITIONS, REFERENCES, PETITIONS, AND OTHER STANDARDS

7045.0020 DEFINITIONS.

[For text of subps 1 to 6b, see M R]

Subp 6c **Burner.** "Burner" means an owner or operator of an industrial furnace, industrial boiler, or utility boiler meeting the definition of industrial furnace in subpart 43b or boiler in subpart 6a.

[For text of subps 6d to 9b, see M R.]

Subp 9c **Commissioner.** "Commissioner" means the commissioner of the Minnesota Pollution Control Agency or the commissioner's designee. In federal regulations adopted by reference, the terms "regional administrator" and "director" mean "commissioner"

[For text of subps 9d to 10a, see M.R]

Subp 10b. **Construction commenced.** "Construction commenced" is related to the definition of "existing facility," and has the following meaning. A facility has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction and

A. a continuous on-site, physical construction program has begun, or

B the owner or operator has entered into contractual obligations, which cannot be canceled or modified without substantial loss, for physical construction of the facility to be completed within a reasonable time.

[For text of subps 11 and 12, see M R]

Subp 13 **Control equipment.** "Control equipment" means an "air containment treatment facility" or a "treatment facility" as defined in Minnesota Statutes, section 116 06, subdivision 3

[For text of subps 13a to 14, see M R.]

Subp 15 **Designated facility.** "Designated facility" means a hazardous waste treatment, storage, or disposal facility which

A (1) has received interim status,

(2) has received an agency permit,

(3) is subject to the requirements of part 7045 0125, subpart 5 or 6, or 9, item B, or part 7045 0685; or

[For text of subitem (4), see M R]

B has been designated on the manifest by the generator pursuant to part 7045 0261, or has been designated in the management plan required by part 7045 0230, and

[For text of item C, see M R]

[For text of subps 15a to 20, see M R]

Subp 20a **Drip pad.** "Drip pad" means an engineered structure consisting of a curbed, free-draining base, constructed of nonearthen materials and designed to convey preservative kickback or drippage from treated wood, precipitation, and surface water run-on to an associated collection system at wood preserving plants

[For text of subps 21 to 22a, see M R]

Subp 22b. **Existing drip pad.** "Existing drip pad" means a drip pad that

A is or was used to manage hazardous waste with the waste code of F032 and was constructed, or for which the owner or operator had a design and had entered into binding financial or other agreements for construction, before December 6, 1990; or

B is used to manage hazardous waste with the waste code of F034 or F035 and was constructed, or for which the owner or operator had a design and had entered into binding financial or other agreements for construction, before July 25, 1994.

Subp 22c. **Existing hazardous waste management facility or existing facility.** "Existing hazardous waste management facility" or "existing facility" means a facility which was in operation or for which construction commenced on or before November 19, 1980 See subpart 10b for definition of "construction commenced "

[For text of subps 23 to 30, see M R]

Subp. 31. **Generator.** "Generator" means any person, by site, whose act or process produces hazardous waste identified or listed in parts 7045.0102 to 7045.0143, or whose act first causes a hazardous waste to become subject to regulation "Generator" means all size generators including large quantity generators, small quantity generators, and very small quantity generators, unless specifically stated otherwise

[For text of subps 32 and 32a, see M R]

Subp 33. **Hazardous waste.** "Hazardous waste" has the meaning given in Minnesota Statutes, section 116 06, subdivision 11

[For text of subps 34 to 59, see M.R.]

Subp 59a **New drip pad.** "New drip pad" means a drip pad that

A is or was used to manage hazardous waste with the waste code of F032 and was constructed, or for which the owner or operator had or has a design and had or has entered into binding financial or other agreements for construction, on or after December 6, 1990; or

B. is used to manage hazardous waste with the waste code of F034 or F035 and was constructed, or for which the owner or operator had or has a design and had or has entered into binding financial or other agreements for construction, on or after July 25, 1994

Subp 59b **New tank system or new tank component.** "New tank system" or "new tank component" means a tank system or component that will be used for the storage or treat-

ment of hazardous waste and for which installation has commenced after August 8, 1988, or a tank system or component that is regulated as a new tank system or component under Code of Federal Regulations, title 40, section 260.10. However, for purposes of obtaining approval for a petition under part 7045.0075, subpart 7, a new tank system is one for which construction commences after the applicable effective dates of regulation as required in this subpart.

Subp. 59c **Nonwastewater.** "Nonwastewater" means hazardous waste that is not wastewater as defined in subpart 102c.

Subp. 59d **Off-specification used oil.** "Off-specification used oil" means a used oil fuel that exceeds any of the specification levels for the following constituents or has a flash point less than 100 degrees Fahrenheit:

Constituent	Allowable level
Arsenic, total	5 parts per million maximum
Cadmium, total	2 parts per million maximum
Chromium, total	10 parts per million maximum
Lead, total	100 parts per million maximum
Total Halogens	4,000 parts per million maximum

Subp. 59e **Onground tank.** "Onground tank" means a device meeting the definition of "tank" in subpart 90 and that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

[For text of subp. 60, see M.R.]

Subp. 60a **On-specification used oil.** "On-specification used oil" means used oil fuel that does not exceed the specification levels for the constituents in subpart 59c, and has a flash point equal to or greater than 100 degrees Fahrenheit.

[For text of subps. 61 to 65, see M.R.]

Subp. 66 **Person.** "Person" has the meaning given in Minnesota Statutes, section 116.06, subdivision 17.

[For text of subps. 67 to 70, see M.R.]

Subp. 70a **Pipeline interface material.** "Pipeline interface material" means off-specification fuel created by the mixing of fuel products of different specifications in a pipeline during transportation.

Subp. 71 **Point source.** "Point source" has the meaning given in Minnesota Statutes, section 115.01, subdivision 11, but does not include irrigation return flows.

[For text of subp. 71a, see M.R.]

Subp. 72 **Pretreatment unit.** "Pretreatment unit" means a device which

[For text of item A, see M.R.]

B receives and treats or stores an influent wastewater which is a hazardous waste as defined in parts 7045.0102 to 7045.0143, or generates and accumulates a wastewater treatment sludge which is a hazardous waste as defined in parts 7045.0102 to 7045.0143, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in parts 7045.0102 to 7045.0143, and

[For text of item C, see M.R.]

[For text of subps. 72a to 73c, see M.R.]

Subp. 73d **Record or record keeping.** "Record" or "record keeping" means storing information either in printed form or in a computer storage system or other electronic medium.

Subp. 73e **Recycle.** "Recycle" means the reclamation, reuse, or use of a hazardous waste.

Subp. 73f **Regional administrator.** "Regional administrator" means the regional administrator for the United States Environmental Protection Agency, Region V, Chicago, Illinois.

Subp. 73g **Replacement unit.** "Replacement unit" means a landfill, surface impoundment, or waste pile unit (1) from which all or substantially all of the waste is removed, and (2)

that is subsequently reused to treat, store, or dispose of hazardous waste. Replacement unit does not apply to a unit from which waste is removed during closure, if the subsequent reuse solely involves the disposal of waste from that unit and other closing units or corrective action areas at the facility, in accordance with an approved closure plan or EPA or state-approved corrective action.

[For text of subps 74 to 80a, see M R]

Subp 81 **Sewage.** "Sewage" has the meaning given in Minnesota Statutes, section 115 01, subdivision 17.

Subp 82 **Sewer system.** "Sewer system" has the meaning given in Minnesota Statutes, section 115 01, subdivision 18.

Subp 83. **Shoreland.** "Shoreland" has the meaning given in Minnesota Statutes, section 103F 205, subdivision 4, and rules adopted pursuant to that section.

Subp 84. **Sludge.** "Sludge" has the meaning given in Minnesota Statutes, section 116 06, subdivision 21.

[For text of subps 84a to 87, see M R]

Subp 87a. **Sump.** "Sump" means any pit or reservoir that meets the definition of "tank" and those troughs or trenches connected to it that serve to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities, except that as used in the landfill, surface impoundment, and waste pile rules, sump means any lined pit or reservoir that serves to collect liquids drained from a leachate collection and removal system or leak detection system for subsequent removal from the system.

[For text of subps 88 to 101, see M R]

Subp. 102 **Waste.** "Waste" has the meaning given in Minnesota Statutes, section 116 06, subdivision 23.

[For text of subps 102a to 102c, see M R]

Subp 103 **Wastewater treatment unit.** "Wastewater treatment unit" means a device which

[For text of item A, see M R.]

B receives and treats or stores an influent wastewater which is a hazardous waste as defined in parts 7045 0102 to 7045 0143, or generates and accumulates a wastewater treatment sludge which is a hazardous waste as defined in parts 7045.0102 to 7045 0143, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in parts 7045 0102 to 7045 0143, and

[For text of item C, see M.R]

[For text of subp 104, see M R]

Subp 105 **Waters of the state.** "Waters of the state" has the meaning given in Minnesota Statutes, section 115.01, subdivision 22.

[For text of subps 106 and 107, see M R]

Subp. 108 **Wetland.** "Wetland" has the meaning given to "wetlands" in Minnesota Statutes, section 103G 005, subdivision 18.

[For text of subp 109, see M R]

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1565, 18 SR 1751, 18 SR 1886, 18 SR 2195*

IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

7045.0102 MIXTURES OF WASTES.

[For text of subpart 1, see M.R.]

Subp. 2 **Mixtures of hazardous and nonhazardous wastes.** The mixing of a hazardous waste with a nonhazardous waste as described in this subpart constitutes treatment. Generators who mix hazardous and nonhazardous wastes on site must meet the requirements of part 7045 0211 for generators with on-site facilities.

[For text of items A to C, see M.R.]

D A mixture is a hazardous waste if it is a sewerage mixture of nonhazardous waste and any waste which is hazardous because it exhibits the characteristics of toxicity or lethality as defined in part 7045.0131 unless:

(1) prior to entering the sewer the resulting mixture no longer exhibits the characteristic of toxicity or lethality; and

(2) the sewerage of the mixture has been approved by the agency pursuant to parts 7045.0221 to 7045.0255

This provision does not apply to those mixtures defined as nonhazardous under item F

[For text of items E to H, see M.R.]

[For text of subp 3, see M.R.]

Statutory Authority: *MS s 116.07*

History: *18 SR 1565*

7045.0120 EXEMPTIONS AND SPECIAL REQUIREMENTS.

Subpart 1. **Exempt types of waste.** The following waste may be stored, labeled, transported, treated, processed, and disposed of without complying with the requirements of this chapter:

A household waste except as provided for under subpart 2, items A and B;

[For text of items B to M, see M.R.]

N pulping liquors (for example, black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless they are accumulated speculatively as defined in part 7045.0020, subpart 84a,

O spent sulfuric acid used to produce virgin sulfuric acid, unless it is accumulated speculatively as defined in part 7045.0020, subpart 84a;

[For text of items P to U, see M.R.]

Subp. 2 **Special requirements.** The following waste is exempt from the general requirements of this chapter if managed as specified

A waste collected as a result of a household hazardous waste management program under part 7045.0310;

B. spent or waste household batteries collected under part 7045.0686;

C waste collected as a result of a very small quantity generator hazardous waste collection program under part 7045.0320; and

D. feedstocks and by-products under part 7045.0125, subparts 5 and 6.

Statutory Authority: *MS s 116.07*

History: *18 SR 1565, 18 SR 2195*

7045.0125 MANAGEMENT OF WASTE BY USE, REUSE, RECYCLING, AND RECLAMATION.

[For text of subs 1 to 3a, see M.R.]

Subp. 4 **Management of specific hazardous wastes.** Management of the following wastes when recycled, is not subject to regulation under parts 7045.0205 to 7045.0695 and 7045.1300 to 7045.1380:

[For text of items A to E, see M.R.]

F. coke and coal tar from the iron and steel industry that contain EPA Hazardous Waste No. K087 listed under part 7045.0135, subpart 3, item Q, subitem (2), (decanter tank sludge from coking operations) from the iron and steel production process;

[For text of items G and H, see M.R.]

I oil that is reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, and is burned as a fuel without reintroduction to a refining process, if the reclaimed oil meets the used oil fuel specification under part 7045.0695, subpart 1, item B, subitem (1);

J petroleum coke produced from petroleum refinery hazardous wastes containing oil at the same facility at which the wastes were generated, unless the resulting coke product exhibits one or more of the characteristics of hazardous waste in part 7045.0131;

K nonwastewater splash condenser dross residue from the treatment of K061 in high temperature metals recovery units, provided it is shipped in drums, if shipped, and not land disposed before recovery, and

L. pipeline interface material, provided that the material is transported solely in a pipeline system as defined in Code of Federal Regulations, title 49, part 195, and is sent to a refinery for use as an ingredient in a refining process or to a facility for reclamation.

Subp 5. Requirements for use of hazardous waste as feedstock.

A Except as provided in items B to D, hazardous wastes that are shown to be recycled by being used in a manner specified in subitems (1) to (3), are not subject to regulation under parts 7045 0205 to 7045.0695 and 7045 1300 to 7045 1380 This subpart does not apply to wastes being accumulated speculatively as defined in part 7045.0020, subpart 84a, or being managed by use constituting disposal as regulated under part 7045 0665 or burning for energy recovery, as regulated in part 7045 0692 Hazardous wastes are considered to be used as feedstock if they are.

[For text of subitems (1) to (3), see M R]

B A generator of hazardous waste for use as feedstock is subject to the following generator requirements

[For text of subitems (1) to (3), see M R]

(4) the generator must maintain records at the licensed site for at least three years confirming that the hazardous waste was received at the designated facility as indicated in the management plan required by part 7045.0230, and

[For text of subitem (5), see M R]

[For text of items C and D, see M R]

Subp 6 Requirements for reclamation of specific hazardous waste.

A. A by-product or a sludge that is hazardous only because it exhibits a characteristic of hazardous waste as defined in part 7045 0131 and is reclaimed is subject to only the following requirements

[For text of subitems (1) to (3), see M R.]

B This subpart does not apply to hazardous wastes being accumulated speculatively as defined in part 7045.0020, subpart 84a, or being managed by use constituting disposal, as regulated under part 7045 0665 or being burned for energy recovery as regulated by part 7045 0692

Subp. 7. **Generator requirements.** Unless exempted specifically in this part or part 7045 0695, a generator of hazardous waste that is destined for recycling is subject to the requirements of parts 7045 0205 to 7045.0320

Subp. 8 **Transporter requirements.** Unless exempted specifically in this part or part 7045.0695, transporters of hazardous waste destined for recycle are subject to the requirements of parts 7045.0351 to 7045 0397.

Subp 9 **Facility requirements.** Unless exempted specifically in this part or parts 7045 0692 and 7045 0695, owners or operators of facilities which recycle hazardous waste are subject to the following requirements:

[For text of items A to C, see M.R.]

[For text of subp 12, see M R]

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1565, 18 SR 1886, 18 SR 2195*

7045.0133 EXEMPTION FROM REGULATION DUE TO LETHALITY.

Subpart 1. **In general.** A generator's waste that exhibits the characteristics of lethality as described in part 7045 0131, subpart 6, may be exempted from regulation under parts 7045 0102 to 7045 1380 if the generator can demonstrate to the satisfaction of the agency that the waste is not capable of posing a present or potential hazard to human health and the environment if the waste were to be improperly treated, transported, stored, disposed, or managed under routine waste management methods

Subp 2. **Factors to be considered.** In demonstrating that a waste should be exempt from regulation under parts 7045 0102 to 7045 1380, the generator must present information related to the following factors

[For text of items A to G, see M R]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0135 LISTS OF HAZARDOUS WASTES.

[For text of subpart 1, see M R]

Subp 2 **Hazardous wastes from nonspecific sources.** Hazardous wastes from non-specific sources are listed with the generic hazardous waste number and hazard code in items A to BB

[For text of items A to X, see M R]

Y F035, wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol This listing does not apply to wastewaters which have not come into contact with process contaminants (T),

Z F037, petroleum refinery primary oil/water/solids separation sludge Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries Such sludges include, but are not limited to, those generated in oil/water/solids separators; tanks and impoundments, ditches and other conveyances, sumps, and stormwater units receiving dry weather flow Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from noncontact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in subpart 2a, including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units, and K051 wastes are not included in this listing (T),

AA F038, petroleum refinery secondary (emulsified) oil/water/solids separation sludge Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries Such wastes include, but are not limited to, all sludges and floats generated in induced air flotation units, tanks and impoundments, and all sludges generated in dissolved air flotation units Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from noncontact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges, and floats generated in one or more additional units as defined in subpart 2a, including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units, and F037, K048, and K051 wastes are not included in this listing (T), and

BB F039, leachate resulting from the treatment, storage, or disposal of more than one restricted waste classified as hazardous under part 7045 0131 and this part Leachate resulting from the management of one or more of the following EPA hazardous wastes and no other hazardous wastes retains its EPA hazardous waste numbers: F020, F021, F022, F023, F026, F027, or F028 (T)

Subp 2a. Listing-specific definitions.

A For the purposes of the F037 and F038 listings, "oil/water/solids" is defined as oil and/or water and/or solids

B (1) For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following four treatment methods: activated sludge, trickling filter, rotating biological contactor for the continuous accelerated biological oxidation of wastewaters, or high-rate aeration High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes and enhance biological activity, the unit employs a minimum of six horsepower per million gallons of treatment volume, and either (a) the hydraulic retention time of the unit is no longer than five days, or (b) the hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the toxicity characteristic

(2) Generators and treatment, storage, and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage, and disposal facilities must maintain, in their operating or other on-site records, documents and data sufficient to prove that (a) the unit is an aggressive biological treatment unit as defined in this subpart, and (b) the sludges sought to be exempted from the definitions of F037 or F038 were actually generated in the aggressive biological treatment unit

C. (1) For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement

(2) For the purposes of the F038 listing (a) sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement, and (b) floats are considered to be generated at the moment they are formed in the top of the unit.

[For text of subs 3 to 5, see M.R.]

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1886*

7045.0139 BASIS FOR LISTING HAZARDOUS WASTES.

[For text of subpart 1, see M.R.]

Subp 2. **Constituents.** The constituents which are the basis for listing the wastes identified in part 7045.0135, subparts 2 and 3 are listed in items A and B.

A Constituents of wastes identified in part 7045.0135, subpart 2, are listed in subitems (1) to (28)

[For text of subitems (1) to (24), see M.R.]

(25) F035 Arsenic, chromium, lead,

(26) F037. Benzene, benzo(a)pyrene, chrysene, lead, chromium,

(27) F038 Benzene, benzo(a)pyrene, chrysene, lead, chromium, and

(28) F039: Constituents for which treatment standards are specified for multisource leachate, wastewaters, and nonwastewaters under part 7045 1358

[For text of item B, see M.R.]

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1886*

STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE

7045.0206 GENERATOR SIZE DETERMINATION.

[For text of subpart 1, see M.R.]

Subp 2 **Large quantity generator.** A large quantity generator is a generator who, in a calendar month, generates 1,000 kilograms of hazardous waste or more

Subp 3 **Small quantity generator.** A small quantity generator is a generator who, in a calendar month, generates more than 100 kilograms and less than 1,000 kilograms of hazardous waste

Subp 4 **Very small quantity generator.** A very small quantity generator is a generator who, in a calendar month, generates 100 kilograms of hazardous waste or less.

Subp 4a **Acute hazardous waste generation and spill cleanup.** A generator of acute hazardous waste is a large quantity generator if, in a calendar month, that person generates.

A more than one kilogram of acute hazardous waste, or

B more than 100 kilograms of any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill of any acute hazardous waste into or on any land or water

A generator who generates less than the amounts in items A and B of acute hazardous waste in a calendar month shall determine his or her generator size under subparts 2 to 4. Hazardous waste quantity determinations under subparts 2 to 4 shall include the amount of acute hazardous waste generated.

[For text of subps 5 and 6, see M.R.]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0208 HAZARDOUS WASTE MANAGEMENT.

[For text of subpart 1, see M.R.]

Subp. 1a **Abandonment.** A generator must not dispose of or abandon hazardous waste or arrange for the disposal of hazardous waste at a location other than as provided under subpart 1.

[For text of subp 2, see M.R.]

Subp. 3 **Effect on liability.** Nothing in subparts 1 and 2 is intended to restrict, enlarge, or affect, in any way, any liability the generator may have to correct the mismanagement of the hazardous waste or pay for damages or alleviate any pollution caused by the mismanagement of the hazardous waste

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0214 EVALUATION OF WASTES.

Subpart 1 **General requirement.** Any person who produces a waste within the state of Minnesota or any person who produces a waste outside the state of Minnesota that is managed within the state of Minnesota, must evaluate the waste to determine if it is hazardous within 60 days of initially generating the waste. The generation start date must be recorded and available for inspection. Waste that is not evaluated within 60 days of the generation start date must be managed as a hazardous waste and the person who produces the waste must be considered a generator until the waste is determined to be nonhazardous under parts 7045.0214 to 7045.0218. A material is determined to be a waste in accordance with the conditions specified under the definition of other waste material in part 7045.0020. Any waste evaluated and exempted under part 7045.0075 or 7045.0120 does not need to be re-evaluated under this part. If the waste is determined to be hazardous, the generator must refer to parts 7045.0075, 7045.0450 to 7045.0685, and 7045.1300 to 7045.1380 for possible exclusions or restrictions relating to management of the specific waste

[For text of subp 2, see M.R.]

Subp. 3. **Wastes generated by treatment, storage, or disposal.** Wastes generated by treatment, storage, or disposal of hazardous waste are as follows:

[For text of items A to D, see M.R.]

E Nonwastewater residues, such as slag, resulting from high temperature metals recovery processing of K061 waste, in units identified as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth furnace/electric furnace combinations, or industrial furnaces, as defined in part 7045.0020, subpart 43b, that are disposed of in solid waste disposal units, provided that these residues meet the generic exclusion levels identified below for all constituents, and exhibit no characteristics of hazardous waste. Testing requirements must be incorporated in a facility's waste analysis plan or a generator's self-implementing waste analysis plan. At a minimum, composite samples of residues must be collected and analyzed quarterly and/or when the process or operation generating the waste changes. The generic exclusion levels are:

Constituent	Maximum for any single composite sample (mg/l)
Antimony	0.063
Arsenic	0.055
Barium	6.3
Beryllium	0.0063
Cadmium	0.032
Chromium (total)	0.33
Lead	0.095

Mercury	0 009
Nickel	0 63
Selenium	0 16
Silver	0 30
Thallium	0.013
Vanadium	1 26

For each shipment of K061 high temperature metals recovery residues sent to a solid waste disposal unit that meets the generic exclusion levels for all constituents, and does not exhibit any characteristic, a notification and certification must be sent to the commissioner. The notification must include the following information:

- (1) the name and address of the solid waste disposal unit receiving the waste shipment,
- (2) the EPA hazardous waste number and treatability group at the initial point of generation, and
- (3) the treatment standards applicable to the waste at the initial point of generation.

The certification must be signed by an authorized representative and must state as follows. "I certify under penalty of law that the generic exclusion levels for all constituents have been met without impermissible dilution and that no characteristic of hazardous waste is exhibited. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

Statutory Authority: *MS s 116 07, 116.37*

History: *18 SR 1565, 18 SR 1886*

7045.0215 TIMING OF WASTE EVALUATION.

Subpart 1 **Individual wastes; combined wastes.** Waste evaluation must be of the individual waste prior to any mingling or combining with other wastes. If wastes are subsequently mingled or combined, except for wastes that are mingled or combined in a sewer system, the generator must also evaluate the waste resulting from the mingling or combining within 60 days of the act of mingling or combining. Failure to do so means that the commingled or mixed waste must be managed as a hazardous waste and the person who produces the waste must be considered a generator until the waste is determined to be nonhazardous under parts 7045.0214 to 7045.0218.

[For text of subs 2 and 3, see M.R.]

Statutory Authority: *MS s 116.07*

History: *18 SR 1565*

7045.0230 CONTENT OF LICENSE APPLICATION.

Subpart 1. **Information required.** Except as provided in subpart 1a, an application must be on a form provided by the commissioner and must include the following information.

[For text of items A to D, see M.R.]

E a management plan for each hazardous waste and oil produced that includes the following information:

[For text of subitems (1) to (5), see M.R.]

(6) the names of the designated facilities to be involved in the management of the hazardous waste and, as applicable, the numbers of the Hazardous Waste Facility Permits issued by the agency for those designated facilities located in the state of Minnesota, or the addresses and identification numbers of those designated facilities located outside the state of Minnesota, and

(7) the methods of treatment and/or disposal proposed for each hazardous waste;

[For text of subitems (8) and (9), see M.R.]

[For text of item F, see M.R.]

[For text of subps 1a and 4, see M R]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565, 18 SR 2195*

7045.0240 SUBMITTAL OF LICENSE APPLICATION.

Subp 3 **License application submittal.** Each generator who is producing hazardous waste in Minnesota must submit a license application to the commissioner within 75 days of first producing a hazardous waste. The generator must at all times manage the waste in full compliance with parts 7045 0205 to 7045 0320. The generator must not treat, dispose of, or relinquish control of the waste until at least 15 days after the application is received by the commissioner. The date of receipt is the postmark date if mailed or the agency date of receipt if hand delivered. In the period between 15 days after the generator's license application receipt and the commissioner's action under part 7045 0245, the generator may treat, dispose of, and relinquish control of the hazardous waste as provided in part 7045 0208 until written response to the generator's license application is received under part 7045 0245. After the commissioner acts on the license application, the generator must manage the waste according to the license conditions and the requirements of this chapter or the generator must cease producing the waste if the license application is denied.

A generator who has notified the commissioner of the generator's waste under this chapter before April 1, 1992, need not submit a license application under this part. A license will be issued by the commissioner after the submittal and approval of the generator's next scheduled report and payment of generator fees under chapter 7046.

[For text of subp 4, see M R]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0243 TERM AND CONDITIONS OF LICENSE.

[For text of subps 1 and 2, see M R]

Subp 3 **General conditions.** Each license must include the general conditions described in items A to J and the commissioner shall incorporate these conditions into all licenses either expressly or by specific reference to this part.

[For text of items A to F, see M R]

G If the licensee begins generation of a hazardous waste that was not included on the license application and is therefore not authorized under the existing license, the licensee must submit an amended application providing information required in part 7045 0230 within 75 days of first producing the new hazardous waste. The generator must at all times manage the new waste in full compliance with parts 7045 0205 to 7045 0320. The generator must not treat, dispose of, or relinquish control of the new waste until at least 15 days after the amended license application is received by the commissioner. The date of receipt is the postmark date if mailed or the agency date of receipt if hand delivered. In the period between 15 days after receipt and the commissioner's action under part 7045 0245, the generator may treat, dispose of, and relinquish control of the new waste as provided in part 7045 0208 until written response to the generator's amended license application is received under part 7045 0245. After the commissioner acts on the amended license application, the generator must manage the new waste according to the amended license conditions and the requirements of this chapter or the generator must cease producing the new waste if the amended license application is denied.

[For text of items H to J, see M R]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0248 LICENSE RENEWAL APPLICATION.

Subpart 1 **Applicability.** A licensed generator must submit a license renewal application to the commissioner on forms provided by the commissioner. A generator must submit the application by a date specified by the commissioner. Except as provided in subpart 2, the application must contain the following information for each hazardous waste produced during the preceding calendar year:

[For text of items A to D, see M R]

E for each hazardous waste and oil produced during the reported calendar year the following information.

[For text of subitems (1) to (6), see M R]

(7) the methods of treatment and/or disposal for each hazardous waste, and

[For text of subitem (8), see M R]

[For text of items F to H, see M R.]

[For text of subp 2, see M R]

Subp 3 **Recycled waste.** A generator of waste that is recycled according to part 7045 0125, and is exempt from the requirements of parts 7045.0261 and 7045.0265, must include as part of the application required under subpart 1 or 2

[For text of items A and B, see M R]

[For text of subps 4 and 5, see M R]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0250 LICENSE REVOCATION.

Subpart 1 **Justification to revoke.** Any one of the following constitutes justification for the commissioner to revoke a license

[For text of item A, see M R.]

B licensee failure to disclose fully the facts relevant to issuance of the license or submittal of false or misleading information to the commissioner, or

[For text of item C, see M R]

[For text of subps 2 and 3, see M R]

Subp. 4 **Revocation without reissuance.** The commissioner shall give notice to the licensee of a proposal to revoke a license without reissuance. The notice must state that within 30 days of the receipt of the notice the licensee may request that a contested case hearing be held on the proposed action. If the licensee requests a contested case hearing, the agency shall hold the hearing in accordance with the rules of the Office of Administrative Hearings, parts 1400.5100 to 1400 8401

Statutory Authority: *MS s 116.07*

History: *18 SR 1565*

7045.0275 MANAGEMENT OF HAZARDOUS WASTE SPILLS.

Subp 2 **Spills; duty to report.** Any person in control of a hazardous waste that spills, leaks, or otherwise escapes from a container, tank, or other containment system, including its associated piping, shall immediately notify the agency if the hazardous waste may cause pollution of the air, land resources, or waters of the state. The person shall use the appropriate Minnesota duty officer's 24-hour telephone number:

A. (612) 649-5451 for Twin Cities' local calling area and outside Minnesota,

B (800) 422-0798 for greater Minnesota;

C (612) 297-5353 for TDD for Twin Cities' local calling area and outside Minnesota, or

D. (800) 627-3529 for TDD for greater Minnesota

[For text of subp 3, see M.R]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0292 ACCUMULATION OF HAZARDOUS WASTE.

Subpart 1. **Large quantity generator.** A large quantity generator may accumulate hazardous waste on site without a permit or without having interim status if

[For text of item A, see M R]

B. the waste is placed in containers which meet the standards of part 7045 0270, subpart 4, and are managed in accordance with part 7045.0626, in tanks provided the genera-

tor complies with the requirements of part 7045 0628 except part 7045 0628, subpart 9, item C, and subpart 12, or for wood preserving operations on drip pads, provided the generator complies with part 7045 0644 and maintains records containing a description of procedures that will be followed to ensure that all wastes are removed from drip pads and associated collection systems at least once every 90 days, and maintains documentation of the quantities, dates, and times of each waste removal. These records relating to drip pads must be maintained at the licensed site and must be easily available for agency inspection;

C tanks and containers are clearly labeled with the waste accumulation start date, which must be visible for inspection, or for tanks or containers that are not used as shipping containers, the generator may maintain a clearly designated and legible log of transactions which includes accumulation start dates, clearly identifies each tank or container, and is available for inspection,

D outdoor storage areas are protected from unauthorized access and inadvertent damage from vehicles or equipment,

E containers that hold free liquids are placed on a containment surface that is impermeable to the wastes stored and, if outside, is curbed,

F all waste containers and tanks are labeled with the words "Hazardous Waste" and a description that clearly identifies their contents to employees and emergency personnel, and

G. the requirements of parts 7045 0558, 7045 0562, subparts 1 and 2, 7045 0566 to 7045 0576, and 7045 1315, subpart 1, item D are fulfilled regarding personnel training, ignitable, reactive, or incompatible waste, preparedness and prevention, contingency planning, and waste analysis for restricted wastes

Subp 2 **Accumulation start date.** A generator's accumulation start date begins when the generator initiates accumulation in a container or tank. The accumulation start date for satellite accumulation is provided for in subpart 8, item D

Subp. 5 **Small quantity generator.** A small quantity generator may accumulate up to 3,000 kilograms of hazardous waste that is not acute hazardous waste on site without a permit or without having interim status if

[For text of item A, see M R]

B the waste is placed in containers which meet the standards of part 7045 0270, subpart 4, and are managed in accordance with part 7045 0626, in tanks provided the generator complies with the requirements of part 7045 0629, or for wood preserving operations on drip pads, provided the generator complies with part 7045 0644 and maintains records containing a description of procedures that will be followed to ensure that all wastes are removed from drip pads and associated collection systems at least once every 180 days, and maintains documentation of the quantities, dates, and times of each waste removal. These records relating to drip pads must be maintained at the licensed site and must be easily available for agency inspection,

C tanks and containers are clearly labeled with the waste accumulation start date, which must be visible for inspection; or for tanks or waste containers that are not used as shipping containers, the generator may maintain a clearly designated and legible log of transactions which includes accumulation start dates, clearly identifies each tank or container, and is available for inspection,

D. outdoor storage areas are protected from unauthorized access and inadvertent damage from vehicles or equipment,

E. containers that hold free liquids are placed on a containment surface that is impermeable to the waste stored and, if outside, is curbed;

F. all waste containers and tanks are labeled with the words "Hazardous Waste" and a description that clearly identifies their contents to employees and emergency personnel,

G the generator meets the requirements of parts 7045 0566, relating to preparedness and prevention; 7045 0568, relating to the arrangements with local authorities for emergencies; and 7045.1315, subpart 1, item D, relating to waste analysis for restricted wastes; and

H the generator complies with the following requirements

[For text of subitems (1) to (4), see M.R.]

Subp 6 **Very small quantity generator.** A very small quantity generator may accumulate up to 1,000 kilograms of hazardous waste that is not acute hazardous waste on site without a permit or without having interim status if

A all accumulated hazardous waste when disposed of is treated on site in compliance with part 7045 0211 or shipped off site in compliance with part 7045 0208,

B the waste is placed in containers which meet the standards of part 7045 0270, subpart 4, and are managed in accordance with part 7045 0626, in tanks provided the generator complies with the requirements of part 7045 0629, or for wood preserving operations on drip pads, provided the generator complies with part 7045 0644 and maintains records containing a description of procedures that will be followed to ensure that all wastes are removed from drip pads and associated collection systems at least once every 180 days, and maintains documentation of the quantities, dates, and times of each waste removal. These records relating to drip pads must be maintained at the licensed site and must be easily available for agency inspection,

C tanks and containers are clearly labeled with the waste accumulation start date, which must be visible for inspection, or for tanks or containers that are not used as shipping containers, the generator may maintain a clearly designated and legible log of transactions which includes accumulation start dates, clearly identifies each tank or container, and is available for inspection,

D outdoor storage areas are protected from unauthorized access and inadvertent damage from vehicles or equipment,

E containers that hold free liquids are placed on a containment surface that is impermeable to the waste stored and, if outside, is curbed,

F all waste containers and tanks are labeled with the words "Hazardous Waste" and a description that clearly identifies their contents to employees and emergency personnel,

G. the generator meets the requirements of part 7045 0566, relating to preparedness and prevention, and part 7045 0568, relating to the arrangements with local authorities for emergencies, and

H if the generator accumulates at any one time more than 1,000 kilograms of hazardous waste, the generator becomes a small quantity generator and is subject to regulation under subpart 5. For generators in this circumstance, all accumulated hazardous waste must be treated on site in compliance with part 7045 0211 or shipped off site in compliance with part 7045 0208 within 180 days of the date the 1,000 kilogram limit is reached.

Subp 7 **Acute hazardous waste accumulation.** A small quantity generator or a very small quantity generator who generates acute hazardous waste may accumulate that waste on site indefinitely until one kilogram of acute hazardous waste or 100 kilograms of residue, contaminated soil, water, or other debris resulting from the cleanup of a spill of an acute hazardous waste into or on any land or water, is accumulated. From the date the applicable limit is reached, the entire quantity of waste must be treated on site in compliance with part 7045 0211 or shipped off site in compliance with part 7045 0208 within 90 days. A generator accumulating wastes under this subpart must meet the requirements in items A and B.

A For the period preceding the accumulation start date, the generator must comply with subpart 5, items B to H.

[For text of item B, see M.R.]

Subp 8 **Satellite accumulation.** Items A to D apply to all generators of hazardous waste.

A A generator may, without a permit or interim status and without complying with subparts 1 to 7, accumulate as much as 55 gallons of hazardous waste or one quart of acute hazardous waste listed in part 7045 0135, subpart 4, item E, per waste stream per each point of generation provided the generator complies with items B to D.

B The generator must

(1) comply with part 7045 0626, subparts 2 to 4 and 6,

(2) clearly label each container with the words "Hazardous Waste" and a description that clearly identifies its contents to employees and emergency personnel,

(3) comply with parts 7045 0566 and 7045 0568,

(4) provide that outdoor satellite accumulation areas are protected from unauthorized access and inadvertent damage from vehicles or equipment, and

(5) provide that containers that hold free liquids are placed on a containment surface that is impermeable to the waste stored and, if outside, is curbed

C In addition, the generator must

(1) for a container or containers located within the immediate working area of the specific process producing the waste, provide direct control and visual inspection of the satellite accumulation area by persons directly responsible for the specific process producing the waste; or

(2) for a container or containers not located in the immediate working area, inspect the containers and areas where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors and keep a written record of the dates and findings of these inspections

D. On the date on which the volume limit prescribed in item A is reached, the generator must

(1) clearly label the container or containers with that date (that date is then the accumulation start date),

(2) within three days thereafter, transfer the entire satellite container's or containers' contents to the hazardous waste storage area and comply with subparts 1 to 7, as applicable, and

(3) during the three-day period for compliance, continue to comply with items B and C

[For text of subp 9, see M R.]

Subp 10 **Time extension.** One extension may be granted for up to 30 days by the commissioner if hazardous waste must remain on site for longer than the maximum allowable time under subparts 1 to 9, as applicable, due to unforeseen, temporary, and uncontrollable circumstances. A request for an extension must be submitted in writing to the commissioner and must include

A the amount and type of waste to be stored over the maximum allowable number of days,

B the date the stored waste will exceed the maximum allowable number of days,

C the location of the waste needing an extension,

D the reason for the extension request, and

E documentation of the generator's effort to ship the waste off site within the applicable time limit

[For text of subp 11, see M R.]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565, 18 SR 1751*

7045.0294 RECORD KEEPING.

[For text of subps 1 to 3, see M R.]

Subp 3a **Training records.** A generator must keep training records required under part 7045 0292, subparts 1, item G, and 5, item G, on current personnel until closure of the licensed site. Training records on former employees must be kept for at least three years from the date of the employee's termination. Personnel training records may accompany personnel transferred within the same company.

[For text of subp 4, see M R.]

Subp 5 **Location of records.** The records required in subparts 1 to 3a must be located at the licensed site. The records must be easily available for agency inspection.

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

STANDARDS APPLICABLE TO TRANSPORTERS OF HAZARDOUS WASTE

7045.0365 TRANSFER FACILITY REQUIREMENTS.

[For text of subps 1 and 2, see M R]

Subp 3 **Storage of 1,000 kilograms or more.** A transporter who stores 1,000 kilograms or more of hazardous waste at any time shall comply with the following requirements:

[For text of item A, see M.R.]

B part 7045.0292, subpart 1, items D and E,

[For text of items C to J, see M.R.]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0395 HAZARDOUS WASTE DISCHARGES.

[For text of subps 1 and 2, see M R]

Subp 3 **Notification.** An air, rail, highway, or water transporter who has discharged hazardous waste must.

A Immediately notify the agency if the hazardous waste may cause pollution of the air, land, or waters of the state. The person shall use the appropriate Minnesota duty officer's 24-hour telephone notification service

(1) (612) 649-5451 for Twin Cities' local calling area and outside Minnesota,

(2) (800) 422-0798 for greater Minnesota,

(3) (612) 297-5353 for TDD for Twin Cities' local calling area and outside Minnesota, or

(4) (800) 627-3529 for TDD for greater Minnesota;

[For text of items B to D, see M R]

[For text of subps 4 and 5, see M.R.]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

FACILITY STANDARDS

7045.0452 GENERAL FACILITY STANDARDS.

[For text of subps 1 to 4, see M R]

Subp 5 **General inspection requirements.** General inspection requirements include the following.

[For text of items A and B, see M R]

C The frequency of inspection may vary for the items on the schedule. However, it must be based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if the deterioration or malfunctions or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. The inspection schedule must include the terms and frequencies called for in parts 7045.0526, subpart 5, 7045 0528, subparts 4 and 7, 7045 0532, subpart 5, 7045.0534, subpart 6, 7045.0536, subpart 6; 7045 0538, subpart 5, 7045 0539, subpart 3, and 7045 0542, subpart 7; and the process vent and equipment leak standards in Code of Federal Regulations, title 40, sections 264.1033, 264 1052, 264 1053, and 264 1058, as amended, where applicable. The inspection schedule must be submitted with the permit application. The commissioner shall evaluate the schedule along with the rest of the application to ensure that it adequately protects human health and the environment. As part of this review, the commissioner may modify or amend the schedule as necessary.

[For text of items D and E, see M.R.]

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1886*

7045.0461 CONSTRUCTION QUALITY ASSURANCE PROGRAM.

Subpart 1. **Construction quality assurance program.** A construction quality assurance program is required for all surface impoundment, waste pile, and landfill units that are

required to comply with parts 7045 0532, subpart 3, items C and H, 7045 0534, subpart 3, items C and D, and 7045 0538, subpart 3, items C and K. The program must ensure that the constructed unit meets or exceeds all design criteria and specifications in the permit. The program must be developed and implemented under the direction of a construction quality assurance officer who is a registered professional engineer.

The construction quality assurance program must address the following physical components, where applicable:

- A foundations,
- B dikes;
- C low-permeability soil liners,
- D geomembranes (flexible membrane liners);
- E leachate collection and removal systems and leak detection systems, and
- F final cover systems

Subp 2 Written construction quality assurance plan. The owner or operator of units subject to the construction quality assurance program under subpart 1 must develop and implement a written construction quality assurance plan. The plan must identify steps that will be used to monitor and document the quality of materials and the condition and manner of their installation. The construction quality assurance plan must include:

A. Identification of applicable units, and a description of how they will be constructed.

B. Identification of key personnel in the development and implementation of the construction quality assurance plan, and construction quality assurance officer qualifications.

C. A description of inspection and sampling activities for all unit components identified in subpart 1, including observations and tests that will be used before, during, and after construction to ensure that the construction materials and the installed unit components meet the design specifications. The description must cover sampling size and locations, frequency of testing, data evaluation procedures, acceptance and rejection criteria for construction materials, plans for implementing corrective measures, and data or other information to be recorded and retained in the operating record under part 7045.0478.

Subp 3 Contents of program.

A. The construction quality assurance program must include observations, inspections, tests, and measurements sufficient to ensure:

(1) structural stability and integrity of all components of the unit identified in subpart 1,

(2) proper construction of all components of the liners, leachate collection and removal system, leak detection system, and final cover system, according to permit specifications and good engineering practices, and proper installation of all components (e.g. pipes) according to design specifications; and

(3) conformity of all materials used with design and other material specifications under parts 7045 0532, 7045 0534, and 7045 0538.

B. The construction quality assurance program shall include test fills for compacted soil liners, using the same compaction methods as in the full scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of parts 7045 0532, subpart 3, item C, subitem (1), unit (a), subunit ii, 7045 0534, subpart 3, item C, subitem (1), unit (a), subunit ii, and 7045 0538, subpart 3, item C, subitem (1), unit (a), subunit ii, in the field. Compliance with the hydraulic conductivity requirements must be verified by using in-situ testing on the constructed test fill. The commissioner may accept an alternative demonstration, in lieu of a test fill, where data are sufficient to show that a constructed soil liner will meet the hydraulic conductivity requirements of parts 7045 0532, subpart 3, item C, subitem (1), unit (a), subunit ii, 7045 0534, subpart 3, item C, subitem (1), unit (a), subunit ii, and 7045 0538, subpart 3, item C, subitem (1), unit (a), subunit ii, in the field.

Subp 4 Certification. Waste shall not be received in a unit subject to part 7045.0461 until the owner or operator has submitted to the commissioner by certified mail or hand deliv-

ery a certification signed by the construction quality assurance officer that the approved construction quality assurance plan has been successfully carried out and that the unit meets the requirements of parts 7045 0532, subpart 3, items C and H, 7045 0534, subpart 3, items C and D, and 7045 0538, subpart 3, items C and K, and the procedure in part 7001 0150, subpart 3, item M, has been completed. Documentation supporting the construction quality assurance officer's certification must be furnished to the commissioner upon request.

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1886*

7045.0464 ARRANGEMENTS WITH LOCAL AUTHORITIES FOR EMERGENCIES.

Subpart 1 **Arrangements required.** The owner or operator shall attempt to make the following arrangements, as appropriate for the type of waste handled at the facility and the potential need for the services of these organizations:

A arrangements to familiarize the police, fire departments, and emergency response teams with the location of storage and accumulation areas within the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes,

[For text of items B to D, see M R]

[For text of subp 2, see M R]

Subp. 3 **Record keeping.** The owner or operator shall document attempts under subpart 1 to make arrangements with local authorities in the operating record.

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0468 EMERGENCY PROCEDURES.

[For text of subpart 1, see M R]

Subp 2 **Notification of emergency.** Whenever the contingency plan is implemented, the emergency coordinator or designee when the emergency coordinator is on call, shall immediately activate internal facility alarms or communication systems, where applicable, to notify all facility personnel and notify appropriate state or local agencies with designated response roles with at least the information listed in subparts 3 and 4.

Subp 3 **Identification of released material.** Whenever the contingency plan is implemented, the emergency coordinator shall immediately identify the character, exact source, amount, and areal extent of any released materials. He or she may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.

Subp 4 **Assessment of hazards.** Concurrently, the emergency coordinator shall assess possible hazards to human health or the environment that may result from the event that required the implementation of the contingency plan. This assessment must consider both direct and indirect effects of the release, fire, or explosion, the effects of any toxic, irritating, or asphyxiating gases that are generated, and the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions.

Subp 5 **Report on released material.** If the emergency coordinator determines that the effects of an event requiring the contingency plan to be implemented could threaten human health or the environment outside the facility, the findings must be reported as provided in items A to C.

[For text of item A, see M R]

B The Minnesota duty officer must be immediately notified at the appropriate 24-hour telephone number:

- (1) (612) 649-5451 for Twin Cities' local calling area and outside Minnesota,
- (2) (800) 422-0798 for greater Minnesota,
- (3) (612) 297-5353 for TDD for Twin Cities' local calling area and outside

Minnesota, or

- (4) (800) 627-3529 for TDD for greater Minnesota

C Notice must be given to the National Response Center using its 24-hour toll-free telephone number, (800) 424-8802. The report must include

[For text of subitems (1) to (6), see M R]

Subp 6 **Duty to notify.** The emergency coordinator shall immediately notify the Minnesota duty officer if the released hazardous waste may cause pollution of the air, land resources, or waters of the state. The emergency coordinator shall use the appropriate Minnesota duty officer's 24-hour telephone number

A (612) 649-5451 for Twin Cities' local calling area and outside Minnesota,

B (800) 422-0798 for greater Minnesota,

C (612) 297-5353 for TDD for Twin Cities' local calling area and outside Minnesota, or

D (800) 627-3529 for TDD for greater Minnesota

Subp 7 **Containment measures.** During an event that requires the implementation of the contingency plan, the emergency coordinator shall take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers

Subp 8 **Facility monitoring.** If the facility stops operations in response to an event requiring the implementation of the contingency plan, the emergency coordinator shall monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0470 POST EMERGENCY REQUIREMENTS.

Subpart 1 **Cleanup.** Immediately after an event requiring the implementation of the contingency plan, the emergency coordinator shall provide for treating, storing, or disposing of recovered waste, contaminated soil or water, or any other material that results from a release, fire, or explosion at the facility in a manner approved by the commissioner. Unless the owner or operator can demonstrate that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it in accordance with all applicable requirements of parts 7045 0102 to 7045 0397. The emergency coordinator shall ensure that in the affected area or areas of the facility no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed, and all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed

[For text of subps 2 and 3, see M R]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0478 OPERATING RECORD.

[For text of subps 1 and 2, see M R]

Subp 3 **Record information.** The information in items A to S must be recorded, as it becomes available, and maintained in the operating record until closure of the facility

[For text of items A to G, see M R]

H Monitoring, testing, or analytical data and corrective action where required by parts 7045 0461, 7045.0484, 7045 0528, subparts 2, 4, 5, and 7, 7045 0532, subparts 4a, 4b, and 5, 7045.0534, subparts 4a, 5, 5a, and 6, 7045 0536, subparts 5, 6, and 8, 7045.0538, subparts 4a, 5, 5a, and 6, 7045 0539, subpart 3, and 7045 0542, subpart 7, and the process vent and equipment leak test methods and procedures and record keeping requirements in Code of Federal Regulations, title 40, sections 264 1034(c) to (f), 264 1035, 264 1063(d) to (i), and 264 1064, as amended

[For text of items I to S, see M R]

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1886*

7045.0488 CLOSURE ACTIVITIES.*[For text of subps 1 to 3, see M R]*

Subp 4 **Certification of closure.** Within 60 days after each hazardous waste management unit is closed, and within 60 days after final closure is completed, the owner or operator shall submit to the commissioner, by registered mail, certification by the owner or operator and by an independent registered professional engineer that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan

Documentation supporting the independent registered professional engineer's certification must be furnished to the commissioner upon request until the commissioner releases the owner or operator from the financial assurance requirements for closure under part 7045 0504, subpart 10

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0526 USE AND MANAGEMENT OF CONTAINERS.*[For text of subps 1 to 5, see M R]*

Subp 6 **Containment.** Requirements for containment systems are as described in items A to E

[For text of items A and B, see M R]

C Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system. If the collected material is a hazardous waste as defined in parts 7045 0102 to 7045 0143, it must be managed as a hazardous waste according to all applicable requirements of parts 7045 0205 to 7045 1030. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of the federal Water Pollution Control Act Amendments of 1972, United States Code, title 33, section 1342, as amended, through June 30, 1983.

*[For text of items D and E, see M R.]**[For text of subp 7, see M R]*

Subp 8 **Special requirements for incompatible wastes.** Incompatible wastes or incompatible wastes and material must not be placed in the same container, unless compliance with part 7045.0456, subpart 2, is achieved

Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material. As required by part 7045 0458, the waste analysis plan must include analyses needed to comply with these special requirements. Part 7045 0456, subpart 3, also requires waste analyses, trial tests, or other documentation to ensure compliance with part 7045 0456, subpart 2. As required by part 7045 0478, the owner or operator shall place the results of each waste analysis, trial test, and any other documented information in the operating record of the facility.

A storage container holding a hazardous waste that is incompatible with any waste or other materials located nearby must be adequately separated from the other materials or protected from them by means of a dike, berm, wall, or other device

[For text of subp 9, see M R.]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0528 TANK SYSTEMS.

Subpart 1 **Scope.** This part applies to owners and operators of facilities that use tank systems, including tank systems, sumps, and other such collection devices or systems used in conjunction with drip pads, as defined in part 7045 0020 and regulated under part 7045 0541, to treat or store hazardous waste, except as part 7045.0450, and items A and B provide otherwise

[For text of items A and B, see M R]

Statutory Authority: *MS s 116 07*

History: *18 SR 1751*

7045.0532 SURFACE IMPOUNDMENTS.

[For text of subps 1 and 2, see M R]

Subp 3 **Design and operating requirements.** Design and operating requirements are as follows:

[For text of items A and B, see M R]

C The owner or operator of each new surface impoundment unit on which construction commences after January 29, 1992, each lateral expansion of a surface impoundment unit on which construction commences after July 29, 1992, and each replacement of an existing surface impoundment unit that is to commence reuse after July 29, 1992, must install two or more liners and a leachate collection and removal system between such liners. "Construction commences" and "existing facility" are defined in part 7045.0020

(1)(a) The liner system must include

i a top liner designed and constructed of materials (e.g. a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and postclosure care period, and

ii a composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g. a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and postclosure care period. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least three feet (91 centimeters) of compacted soil material with a hydraulic conductivity of no more than 1×10^{-7} to the negative 7th power centimeters per second.

(b) The liners must comply with item A

(2) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and postclosure care period. The requirements for a leak detection system in this subitem are satisfied by installation of a system that is, at a minimum

(a) constructed with a bottom slope of one percent or more,

(b) constructed of granular drainage materials with a hydraulic conductivity of 1×10^{-1} to the negative 1st power centimeters per second or more and a thickness of 12 inches (30.5 centimeters) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-4} to the negative 4th power meters squared per second or more,

(c) constructed of materials that are chemically resistant to the waste managed in the surface impoundment and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes and any waste cover materials or equipment used at the surface impoundment,

(d) designed and operated to minimize clogging during the active life and postclosure care period, and

(e) constructed with sumps and liquid removal methods (e.g. pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump. The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(3) The owner or operator shall collect and remove pumpable liquids in the sumps to minimize the head on the bottom liner.

(4) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of groundwater.

[For text of items D to G, see M R]

H. An owner or operator may petition for alternate design and operating practices under part 7045.0075, subpart 12.

[For text of item I, see M R]

J The commissioner shall approve alternative design or operating practices to those specified in item C if the owner or operator demonstrates to the commissioner that such design and operating practices, together with location characteristics:

(1) will prevent the migration of any hazardous constituent into the ground-water or surface water at least as effectively as the liners and leachate collection and removal system specified in item C, and

(2) will allow detection of leaks of hazardous constituents through the top liner at least as effectively

K The owner or operator of any replacement surface impoundment unit is exempt from item C if

(1) the existing unit was constructed in compliance with the design standards of the United States Resource Conservation and Recovery Act, section 3004(o)(1)(A)(i) and (o)(5), and

(2) there is no reason to believe that the liner is not functioning as designed

[For text of subp 4, see M R]

Subp 4a Action leakage rate.

A The commissioner shall approve an action leakage rate for surface impoundment units subject to subpart 3, item C or H. The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.)

B To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under subpart 5, item E, to an average daily flow rate (gallons per acre per day) for each sump. Unless the commissioner approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and if the unit is closed in accordance with subpart 7, item B, monthly during the postclosure care period when monthly monitoring is required under subpart 5, item E.

Subp 4b Response actions.

A The owner or operator of surface impoundment units subject to subpart 3, item C or H, must have an approved response action plan before receipt of waste. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in item B.

B If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must

(1) notify the commissioner in writing of the exceedence within seven days of the determination,

(2) submit a preliminary written assessment to the commissioner within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned,

(3) determine to the extent practicable the location, size, and cause of any leak,

(4) determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks, and

(6) within 30 days after the notification that the action leakage rate has been exceeded, submit to the commissioner the results of the analyses specified in subitems (3) to

(5), the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the commissioner a report summarizing the results of any remedial actions taken and actions planned.

C To make the leak and/or remediation determinations in item B, subitems (3) to (5), the owner or operator must

(1)(a) assess the source of liquids and amounts of liquids by source,

(b) conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid, and

(c) assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) document why such assessments are not needed

Subp 5 **Monitoring and inspection.** Monitoring and inspection requirements are as follows

[For text of items A to D, see M R]

E Leak detection system sump monitoring

(1) An owner or operator required to have a leak detection system under subpart 3, item C or H, must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semiannually. If at any time during the postclosure care period the pump operating level is exceeded at units on quarterly or semiannual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(3) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the commissioner based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.

[For text of subp 6, see M R]

Subp 7 **Closure and postclosure care.** The requirements of closure and postclosure care are as follows

[For text of item A, see M R]

B If waste residues or contaminated materials are left in place at final closure, the owner or operator shall comply with the postclosure requirements contained in parts 7045.0490 to 7045.0496, including maintenance and monitoring throughout the postclosure care period specified in the permit under part 7045.0490. The owner or operator shall

[For text of subitem (1), see M R.]

(2) maintain and monitor the leak detection system in accordance with subparts 3, item C, subitems (3), unit (d), and (4), and 5, item E, and comply with all other applicable leak detection system requirements,

(3) maintain and monitor the leak detection system in accordance with subparts 3 and 4,

(4) maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of part 7045.0484, and

(5) prevent run-on and runoff from eroding or otherwise damaging the final cover

[For text of items C to E, see M R]

[For text of subps 8 to 10, see M R]

Statutory Authority: *MS s 116.07, 116.37*

History: *18 SR 1886*

7045.0534 WASTE PILES.

[For text of subps 1 and 2, see M R]

Subp 3 **Design and operating requirements.** Design and operating requirements are as follows

[For text of items A and B, see M.R.]

C The owner or operator of each new waste pile unit on which construction commences after January 29, 1992, each lateral expansion of a waste pile unit on which construction commences after July 29, 1992, and each replacement of an existing waste pile unit that is to commence reuse after July 29, 1992, must install two or more liners and a leachate collection and removal system above and between such liners. "Construction commences" and "existing facility" are defined in part 7045.0020

(1)(a) The liner system must include

i a top liner designed and constructed of materials (e.g. a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and postclosure care period, and

ii a composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g. a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and postclosure care period. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least three feet (91 centimeters) of compacted soil material with a hydraulic conductivity of no more than 1×10^{-7} to the negative 7th power centimeters per second

(b) The liners must comply with item A, subitems (1) to (3).

(2) The leachate collection and removal system immediately above the top liner must be designed, constructed, operated, and maintained to collect and remove leachate from the waste pile during the active life and postclosure care period. The commissioner will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 centimeters (one foot). The leachate collection and removal system must comply with subitem (3), units (c) and (d).

(3) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and postclosure care period. The requirements for a leak detection system in this subitem are satisfied by installation of a system that is, at a minimum

(a) constructed with a bottom slope of one percent or more,

(b) constructed of granular drainage materials with a hydraulic conductivity of 1×10^{-2} to the negative 2nd power centimeters per second or more and a thickness of 12 inches (30.5 centimeters) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} meters squared per second or more,

(c) constructed of materials that are chemically resistant to the waste managed in the waste pile and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the waste pile,

(d) designed and operated to minimize clogging during the active life and postclosure care period, and

(e) constructed with sumps and liquid removal methods (e.g. pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump. The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(4) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.

(5) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of groundwater

D The commissioner shall approve alternative design or operating practices to those specified in item C if the owner or operator demonstrates to the commissioner that such design and operating practices, together with location characteristics

(1) will prevent the migration of any hazardous constituent into the groundwater or surface water at least as effectively as the liners and leachate collection and removal systems specified in item C, and

(2) will allow detection of leaks of hazardous constituents through the top liner at least as effectively

E. The owner or operator of any replacement waste pile unit is exempt from item C if

(1) the existing unit was constructed in compliance with the design standards of the United States Resource Conservation and Recovery Act, section 3004(o)(1)(A)(i) and (o)(5), and

(2) there is no reason to believe that the liner is not functioning as designed

F The owner or operator shall design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 100-year storm

G The owner or operator shall design, construct, operate, and maintain a runoff management system to collect and control at least the water volume resulting from a 24-hour, 100-year storm

H Collection and holding facilities, such as tanks or basins, associated with run-on and runoff control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system

I If the pile contains any particulate matter which may be subject to wind dispersal, the owner or operator shall cover or otherwise manage the pile to control wind dispersal of hazardous waste

J The owner or operator of a waste pile shall submit to the agency with the permit application a plan for the treatment and disposal of runoff contained in the runoff management system and leachate which is removed from the waste pile

K An owner or operator may petition for alternate design or operating practices under part 7045 0075, subpart 12

L The agency shall specify in the permit all design and operating practices that are necessary to ensure that the requirements of items A to H are satisfied

Subp 4a Action leakage rate.

A The commissioner shall approve an action leakage rate for waste pile units subject to subpart 3, item C or D The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e g , slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system, and proposed response actions (e g , the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc)

B To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly flow rate from the monitoring data obtained under subpart 6, item C, to an average daily flow rate (gallons per acre per day) for each sump Unless the commissioner approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period

Subp 5a Response actions.

A. The owner or operator of waste pile units subject to subpart 3, item C or D, must have an approved response action plan before receipt of waste. The response action plan

must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in item B.

B. If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must

(1) notify the commissioner in writing of the exceedence within seven days of the determination,

(2) submit a preliminary written assessment to the commissioner within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned,

(3) determine to the extent practicable the location, size, and cause of any leak,

(4) determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed,

(5) determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks, and

(6) within 30 days after the notification that the action leakage rate has been exceeded, submit to the commissioner the results of the analyses specified in subitems (3) to (5), the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the commissioner a report summarizing the results of any remedial actions taken and actions planned.

C. To make the leak and/or remediation determinations in item B, subitems (3) to (5), the owner or operator must

(1)(a) assess the source of liquids and amounts of liquids by source;

(b) conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid, and

(c) assess the seriousness of any leaks in terms of potential for escaping into the environment, or

(2) document why such assessments are not needed.

Subp 6 Monitoring and inspection. Monitoring and inspection requirements are as follows

[For text of items A and B, see M R]

C. An owner or operator required to have a leak detection system under subpart 3, item C, must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

Subp 7 Closure and postclosure care. Closure and postclosure requirements are as follows

A. At closure, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components including liners, contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless they are shown to not be hazardous according to parts 7045.0102 to 7045.0143.

[For text of items B to D, see M R]

[For text of subp 8, see M R]

Subp 9. Special requirements for incompatible wastes. Incompatible wastes, or incompatible wastes and materials, must not be placed in the same pile unless compliance with part 7045.0456, subpart 2, is maintained.

A pile of hazardous waste that is incompatible with waste or other material located nearby must be adequately separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

Hazardous waste must not be piled on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to ensure compliance with part 7045.0456, subpart 2.

[For text of subp 10, see M R]

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1565, 18 SR 1886*

7045.0538 LANDFILLS.

[For text of subps 1 and 2, see M R]

Subp 3 **Design and operating requirements.** Design and operating requirements are as follows

[For text of items A and B, see M R]

C The owner or operator of each new landfill unit on which construction commences after January 29, 1992, each lateral expansion of a landfill unit on which construction commences after July 29, 1992, and each replacement of an existing landfill unit that is to commence reuse after July 29, 1992, must install two or more liners and a leachate collection and removal system above and between such liners "Construction commences" and "existing facility" are defined in part 7045 0020

(1)(a) The liner system must include

i a top liner designed and constructed of materials (e g a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and postclosure care period, and

ii a composite bottom liner, consisting of at least two components The upper component must be designed and constructed of materials (e g a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and postclosure care period The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur The lower component must be constructed of at least three feet (91 centimeters) of compacted soil material with a hydraulic conductivity of no more than 1×10^{-7} to the negative 7th centimeters per second

(b) The liners must comply with item A

(2) The leachate collection and removal system immediately above the top liner must be designed, constructed, operated, and maintained to collect and remove leachate from the landfill during the active life and postclosure care period The commissioner will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 centimeters (one foot) The leachate collection and removal system must comply with subitem (3), units (c) and (d)

(3) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and postclosure care period The requirements for a leak detection system in this subitem are satisfied by installation of a system that is, at a minimum

(a) constructed with a bottom slope of one percent or more,

(b) constructed of granular drainage materials with a hydraulic conductivity of 1×10^{-2} to the negative 2nd centimeters per second or more and a thickness of 12 inches (30 5 centimeters) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} meters squared per second or more,

(c) constructed of materials that are chemically resistant to the waste managed in the landfill and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the landfill,

(d) designed and operated to minimize clogging during the active life and postclosure care period, and

(e) constructed with sumps and liquid removal methods (e g pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer Each unit must have its own sump The design of each sump and

removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed

(4) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner

(5) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of groundwater

[For text of items D to J, see M.R.]

K. An owner or operator may petition for alternate design or operating practices under part 7045 0075, subpart 12

[For text of item L, see M.R.]

M. The commissioner shall approve alternative design or operating practices to those specified in item C if the owner or operator demonstrates to the commissioner that such design and operating practices, together with location characteristics.

(1) will prevent the migration of any hazardous constituent into the groundwater or surface water at least as effectively as the liners and leachate collection and removal systems specified in item C, and

(2) will allow detection of leaks of hazardous constituents through the top liner at least as effectively

N. The owner or operator of any replacement landfill unit is exempt from item C if

(1) the existing unit was constructed in compliance with the design standards of the United States Resource Conservation and Recovery Act, section 3004(o)(1)(A)(i) and (o)(5); and

(2) there is no reason to believe that the liner is not functioning as designed

[For text of subp 4, see M.R.]

Subp. 4a **Action leakage rate.**

A. The commissioner shall approve an action leakage rate for landfill units subject to subpart 3, item C or K. The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

B. To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under subpart 5, item C, to an average daily flow rate (gallons per acre per day) for each sump. Unless the commissioner approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the postclosure care period when monthly monitoring is required under subpart 5, item C.

Subp 5 **Monitoring and inspection.** Monitoring and inspection requirements are as follows:

[For text of items A and B, see M.R.]

C. (1) An owner or operator required to have a leak detection system under subpart 3, item C or K, must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semiannually. If at any time during the postclosure care period the pump operating level is exceeded at units on quarterly or semiannual recording schedules, the own-

er or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months

(3) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the commissioner based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.

Subp. 5a Response actions.

A The owner or operator of landfill units subject to subpart 3, item C or K, must have an approved response action plan before receipt of waste. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in item B.

B. If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must

(1) notify the commissioner in writing of the exceedance within seven days of the determination,

(2) submit a preliminary written assessment to the commissioner within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned,

(3) determine to the extent practicable the location, size, and cause of any leak;

(4) determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks, and

(6) within 30 days after the notification that the action leakage rate has been exceeded, submit to the commissioner the results of the analyses specified in subitems (3) to (5), the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the commissioner a report summarizing the results of any remedial actions taken and actions planned.

C To make the leak and/or remediation determinations in item B, subitems (3) to (5), the owner or operator must.

(1)(a) assess the source of liquids and amounts of liquids by source;

(b) conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid, and

(c) assess the seriousness of any leaks in terms of potential for escaping into the environment, or

(2) document why such assessments are not needed

[For text of subp 6, see M R]

Subp 7 Closure and postclosure care. Closure and postclosure care requirements are as follows

[For text of item A, see M.R]

B After final closure, the owner or operator shall comply with all postclosure requirements contained in parts 7045.0488 to 7045.0494 including maintenance and monitoring throughout the postclosure care period specified in the permit under part 7045.0488. The owner or operator shall

[For text of subitems (1) to (3), see M R]

(4) maintain and monitor the leak detection system in accordance with subparts 3, item C, subitems (3), unit (d), and (4), and 5, item C, and comply with all other applicable leak detection system requirements of this part,

(5) maintain and monitor the groundwater monitoring systems and comply with all other applicable requirements of part 7045.0484,

(6) prevent run-on and runoff from eroding or otherwise damaging the final cover,

(7) protect and maintain surveyed benchmarks used in complying with subpart 6, and

(8) survey the landfill at least annually to determine any effects from settling, subsidence, erosion, or other events

[For text of item C, see M R.]

[For text of subps 8 to 13, see M R.]

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1886*

7045.0541 DRIP PADS.

Subpart 1 **Federal regulations adopted by reference.** Owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation, and/or surface water runoff to an associated collection system are subject to the requirements of Code of Federal Regulations, title 40, part 264, subpart W, as amended. Existing drip pads and new drip pads are defined in part 7045.0020.

Subp 2. **Leak collection system requirements.** The requirement of Code of Federal Regulations, title 40, section 264.573(b)(3), as amended, to install a leak collection system applies only to:

A drip pads that are or were used to manage hazardous waste with the waste code of F032 that are constructed after December 24, 1992, except those for which the owner or operator had a design and entered into binding financial or other agreements for construction prior to December 24, 1992, and

B drip pads that are used to manage hazardous waste with the waste code of F034 or F035 that are constructed after July 25, 1994, except those for which the owner or operator had a design and entered into binding financial or other agreements for construction prior to July 25, 1994

Subp 3 **Indoor drip pads.** The owner or operator of any drip pad that is inside or under a structure that provides protection from precipitation so that neither runoff nor run-on is generated is not subject to regulation under Code of Federal Regulations, title 40, section 264 573(e) or 264 573(f), as amended, as appropriate.

Subp 4. **Incidental drippage in storage yards.** The requirements of Code of Federal Regulations, title 40, part 264, subpart W, as amended, are not applicable to the management of infrequent and incidental drippage in storage yards provided that the owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of such infrequent and incidental drippage. At a minimum, the contingency plan must describe how the owner or operator will do the following:

A. clean up the drippage;

B document the cleanup of the drippage,

C. retain documents regarding cleanup for three years, and

D manage the contaminated media in a manner consistent with chapters 7001 and

7045

Subp 5. **Exceptions to adopted federal regulations.** Where the federal regulations adopted in subpart 1 refer to other federal regulations, the other federal regulations referred to are superseded by their corresponding state rules; where no corresponding state rule exists, the federal regulations referred to do not apply

Subp 6 **Effective date.** This part is effective July 25, 1994.

Statutory Authority: *MS s 116.07*

History: *18 SR 1751*

INTERIM STATUS STANDARDS

7045.0556 GENERAL FACILITY STANDARDS.*[For text of subps 1 to 4, see M R]*

Subp. 5 **General inspection requirements.** General inspection requirements are listed in items A to E.

[For text of items A and B, see M R]

C The frequency of inspection may vary for the items on the schedule. However, it must be based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if the deterioration or malfunction or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. The inspection schedule must include the terms and frequencies called for in parts 7045 0626, subpart 5, 7045 0628, subparts 4, 5, and 7, 7045 0630, subpart 5, 7045 0632, subpart 9, 7045 0634, subpart 4, 7045 0638, subpart 2c, 7045 0640, subpart 4, and 7045 0642, subpart 4, and the process vent and equipment leak standards in Code of Federal Regulations, title 40, sections 264.1033, 264 1052, 264 1053, and 264 1058, as amended.

*[For text of items D and E, see M.R.]**[For text of subps 6 and 7, see M R]***Subp. 8. Construction quality assurance program.****A Construction quality assurance program**

(1) A construction quality assurance program is required for all surface impoundment, waste pile, and landfill units that are required to comply with parts 7045 0630, subpart 1a, item A, 7045 0632, subpart 4a, and 7045 0638, subpart 2, item A. The program must ensure that the constructed unit meets or exceeds all design criteria and specifications in the permit. The program must be developed and implemented under the direction of a construction quality assurance officer who is a registered professional engineer.

(2) The construction quality assurance program must address the following physical components, where applicable:

- (a) foundations,
- (b) dikes,
- (c) low-permeability soil liners,
- (d) geomembranes (flexible membrane liners),
- (e) leachate collection and removal systems and leak detection systems,

and

- (f) final cover systems

B Written construction quality assurance plan. Before construction begins on a unit subject to the construction quality assurance program under item A, the owner or operator must develop a written construction quality assurance plan. The plan must identify steps that will be used to monitor and document the quality of materials and the condition and manner of their installation. The construction quality assurance plan must include:

(1) identification of applicable units, and a description of how they will be constructed,

(2) identification of key personnel in the development and implementation of the construction quality assurance plan, and construction quality assurance officer qualifications; and

(3) a description of inspection and sampling activities for all unit components identified in item A, subitem (2), including observations and tests that will be used before, during, and after construction to ensure that the construction materials and the installed unit components meet the design specifications. The description must cover sampling size and locations, frequency of testing, data evaluation procedures, acceptance and rejection criteria for construction materials, plans for implementing corrective measures, and data or other information to be recorded and retained in the operating record under part 7045 0584.

C Contents of program

(1) The construction quality assurance program must include observations, inspections, tests, and measurements sufficient to ensure:

(a) structural stability and integrity of all components of the unit identified in item A, subitem (2),

(b) proper construction of all components of the liners, leachate collection and removal system, leak detection system, and final cover system, according to permit specifications and good engineering practices, and proper installation of all components (e.g. pipes) according to design specifications, and

(c) conformity of all materials used with design and other material specifications under parts 7045.0532, subpart 3; 7045.0534, subpart 3; and 7045.0538, subpart 3

(2) The construction quality assurance program shall include test fills for compacted soil liners, using the same compaction methods as in the full-scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of parts 7045.0532, subpart 3, item C, subitem (1), 7045.0534, subpart 3, item C, subitem (1), and 7045.0538, subpart 3, item C, subitem (1), in the field. Compliance with the hydraulic conductivity requirements must be verified by using in-situ testing on the constructed test fill. The test fill requirement is waived where data are sufficient to show that a constructed soil liner meets the hydraulic conductivity requirements of parts 7045.0532, subpart 3, item C, subitem (1), 7045.0534, subpart 3, item C, subitem (1), and 7045.0538, subpart 3, item C, subitem (1), in the field

D Certification The owner or operator of units subject to this subpart must submit to the commissioner by certified mail or hand delivery, at least 30 days prior to receiving waste, a certification signed by the construction quality assurance officer that the construction quality assurance plan has been successfully carried out and that the unit meets the requirements of parts 7045.0630, subparts 1a and 2, 7045.0632, subpart 4a, and 7045.0638, subpart 2. The owner or operator may receive waste in the unit after 30 days from the commissioner's receipt of the construction quality assurance certification unless the commissioner determines in writing that the construction is not acceptable, or extends the review period for a maximum of 30 more days, or seeks additional information from the owner or operator during this period. Documentation supporting the construction quality assurance officer's certification must be furnished to the commissioner upon request

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1886*

7045.0568 ARRANGEMENTS WITH LOCAL AUTHORITIES FOR EMERGENCIES.

Subpart 1 Arrangements required. The owner or operator shall attempt to make the following arrangements, as appropriate for the type of waste handled at the facility and the potential need for the services of these organizations:

A. arrangements to familiarize the police, fire departments, and emergency response teams with the location of storage and accumulation areas within the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes,

[For text of items B to D, see M R]

[For text of subp 2, see M R.]

Subp. 3 Record keeping. The owner or operator shall document attempts under subpart 1 to make arrangements with local authorities in the operating record

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0574 EMERGENCY PROCEDURES.

[For text of subpart 1, see M.R.]

Subp 2 Notification of emergency. Whenever the contingency plan is implemented, the emergency coordinator or designee when the emergency coordinator is on call, shall im-

mediately activate internal facility alarms or communication systems, where applicable, to notify all facility personnel and notify appropriate state or local agencies with designated response roles with at least the information listed in subparts 3 and 4

Subp. 3. Identification of released material. Whenever the contingency plan is implemented, the emergency coordinator shall immediately identify the character, exact source, amount, and areal extent of any released materials. He or she may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.

Subp. 4. Assessment of hazards. Concurrently, the emergency coordinator shall assess possible hazards to human health or the environment that may result from the event that required the implementation of the contingency plan. This assessment must consider both direct and indirect effects of the release, fire, or explosion; the effects of any toxic, irritating, or asphyxiating gases that are generated; and the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions

Subp. 5. Report on released material. If the emergency coordinator determines that the effects of an event requiring the contingency plan to be implemented could threaten human health or the environment outside the facility, the findings must be reported as provided in items A to C

[For text of item A, see M R]

B The Minnesota duty officer must be immediately notified at the appropriate 24-hour telephone number:

(1) (612) 649-5451 for Twin Cities' local calling area and outside Minnesota;

(2) (800) 422-0798 for greater Minnesota,

(3) (612) 297-5353 for TDD for Twin Cities' local calling area and outside Minnesota; or

(4) (800) 627-3529 for TDD for greater Minnesota.

C Notice must be given to the National Response Center using its 24-hour toll-free telephone number, (800) 424-8802. The report must include:

[For text of subitems (1) to (6), see M R]

Subp. 6. Duty to notify. The emergency coordinator shall immediately notify the Minnesota duty officer if the released hazardous waste may cause pollution of the air, land resources, or waters of the state. The emergency coordinator shall use the appropriate Minnesota duty officer's 24-hour telephone number

A. (612) 649-5451 for Twin Cities' local calling area and outside Minnesota;

B. (800) 422-0798 for greater Minnesota;

C (612) 297-5353 for TDD for Twin Cities' local calling area and outside Minnesota, or

D. (800) 627-3529 for TDD for greater Minnesota

Subp. 7. Containment measures. During an event that requires the implementation of the contingency plan, the emergency coordinator shall take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

Subp. 8. Facility monitoring. If the facility stops operations in response to an event requiring the implementation of the contingency plan, the emergency coordinator shall monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate

Statutory Authority: *MS s 116.07*

History: *18 SR 1565*

7045.0576 POST EMERGENCY REQUIREMENTS.

Subpart 1. Cleanup. Immediately after an event requiring the implementation of the contingency plan, the emergency coordinator shall provide for treating, storing, or disposing of recovered waste, contaminated soil or water, or any other material that results from a re-

lease, fire, or explosion at the facility in a manner approved by the commissioner. Unless the owner or operator can demonstrate that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it in accordance with all applicable requirements of parts 7045.0102 to 7045.0397. The emergency coordinator shall ensure that, in the affected area or areas of the facility, no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed, and all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed

[For text of subps 2 and 3, see M.R.]

Statutory Authority: *MS s 116.07*

History: *18 SR 1565*

7045.0584 OPERATING RECORD.

[For text of subps 1 and 2, see M.R.]

Subp 3 Record information. The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility

[For text of items A to G, see M.R.]

H Monitoring, testing, or analytical data, and corrective action where required by parts 7045.0556, subpart 8; 7045.0590, subparts 1, 6, 7, and 8; 7045.0592, subparts 1 and 7, 7045.0628, subparts 2, 4, 5, and 7; 7045.0630, subparts 2a, 3, and 5; 7045.0632, subparts 4b, 8, and 9; 7045.0634, subparts 4 and 6, item D, subitem (1), 7045.0636, 7045.0638, subparts 2a, 2b, and 2c; and 7045.0640, subpart 4, and the process vent and equipment leak test methods and procedures and record keeping requirements in Code of Federal Regulations, title 40, sections 264.1034(c) to (f), 264.1035, 264.1063(d) to (i), and 264.1064, as amended. As required by parts 7045.0590, subparts 6 and 7, and 7045.0592, subpart 7, monitoring data at disposal facilities must be kept throughout the postclosure period.

[For text of items I to P, see M.R.]

Statutory Authority: *MS s 116.07; 116.37*

History: *18 SR 1886*

7045.0596 CLOSURE ACTIVITIES.

[For text of subps 1 to 3, see M.R.]

Subp. 4 Certification of closure. Within 60 days after closure is completed for each hazardous waste management unit and within 60 days after final closure is completed, the owner or operator shall submit to the commissioner, by registered mail, certification by the owner or operator and by an independent registered professional engineer that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. Documentation supporting the independent registered professional engineer's certification must be furnished to the commissioner upon request until he or she releases the owner or operator from the financial assurance requirements for closure under part 7045.0612, subpart 9

Statutory Authority: *MS s 116.07*

History: *18 SR 1565*

7045.0610 COST ESTIMATE FOR FACILITY CLOSURE.

Subpart 1. Cost estimate requirements. The owner or operator shall prepare a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the closure plan in part 7045.0594 and applicable closure requirements in parts 7045.0626, subpart 8, 7045.0628, subpart 5; 7045.0630, subpart 6; 7045.0632, subpart 7; 7045.0634, subpart 6, 7045.0638, subpart 4; 7045.0640, subpart 5, and 7045.0642, subpart 5. The closure cost estimate must equal the cost of closure at the point in the facility's operating life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan. The closure cost shall be estimated as follows

A. The closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a

subsidiary of the owner or operator. The owner or operator may use costs for on-site disposal if it can be demonstrated that on-site disposal capacity will exist at all times through the life of the facility

[For text of items B and C, see M R]

[For text of subps 2 to 4, see M R]

Statutory Authority: *MS s 116.07*

History: *18 SR 1565*

7045.0626 USE AND MANAGEMENT OF CONTAINERS.

[For text of subps 1 to 5, see M R]

Subp 6 **Special requirements for incompatible wastes.** Incompatible wastes or incompatible wastes and materials must not be placed in the same container, unless compliance with part 7045 0562, subpart 2, is maintained.

Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material unless compliance with part 7045 0562, subpart 2, is maintained.

A storage container holding a hazardous waste that is incompatible with any waste or other materials located nearby must be adequately separated from the other materials or protected from them by means of a dike, berm, wall, or other device. The purpose of this requirement is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak

[For text of subps 7 and 8, see M R]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.0628 TANK SYSTEMS.

Subpart 1 **Scope.** This part applies to owners and operators of facilities that use tank systems, including tank systems, sumps, and other such collection devices or systems used in conjunction with drip pads, as defined in part 7045 0020 and regulated under part 7045 0644, to treat or store hazardous waste, except as items A and B and part 7045 0552 provide otherwise.

[For text of items A and B, see M R]

[For text of subps 2 to 12, see M R]

Statutory Authority: *MS s 116 07*

History: *18 SR 1751*

7045.0630 SURFACE IMPOUNDMENTS.

[For text of subpart 1, see M R]

Subp 1a **Design and operating requirements.** Design and operating requirements are as follows

A The owner or operator of each new surface impoundment unit on which construction commences after January 29, 1992, each lateral expansion of a surface impoundment unit on which construction commences after July 29, 1992, and each replacement of an existing surface impoundment unit that is to commence reuse after July 29, 1992, must install two or more liners and a leachate collection and removal system between such liners, and operate the leachate collection and removal system, in accordance with part 7045 0532, subpart 3, item C, unless exempted under part 7045 0532, subpart 3, item J or K. "Construction commences" and "existing facility" are defined in part 7045 0020

[For text of item B, see M R.]

[For text of subp 2, see M R]

Subp 2a Action leakage rate.

A The owner or operator of surface impoundment units subject to subpart 1a, item A, must submit a proposed action leakage rate to the commissioner when submitting the no-

tice required under subpart 1a, item B. Within 60 days of receipt of the notification, the commissioner will establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this subpart, or extend the review period for up to 30 days. If no action is taken by the commissioner before the original 60-day or extended 90-day review periods, the action leakage rate will be approved as proposed by the owner or operator.

B. The commissioner shall approve an action leakage rate for surface impoundment units subject to subpart 1a, item A. The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

C. To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under subpart 5, item B, to an average daily flow rate (gallons per acre per day) for each sump. Unless the commissioner approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and if the unit closes in accordance with subpart 6, item C, monthly during the postclosure care period when monthly monitoring is required under subpart 5, item B.

Subp 2b. Response actions.

A. The owner or operator of surface impoundment units subject to subpart 1a, item A, must submit a response action plan to the commissioner when submitting the proposed action leakage rate under subpart 2a. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in item B.

B. If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must

(1) notify the commissioner in writing of the exceedence within seven days of the determination;

(2) submit a preliminary written assessment to the commissioner within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) determine to the extent practicable the location, size, and cause of any leak,

(4) determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed,

(5) determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) within 30 days after the notification that the action leakage rate has been exceeded, submit to the commissioner the results of the analyses specified in subitems (3) to (5), the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the commissioner a report summarizing the results of any remedial actions taken and actions planned.

C. To make the leak and/or remediation determinations in item B, subitems (3) to (5), the owner or operator must.

(1)(a) assess the source of liquids and amounts of liquids by source,

(b) conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(c) assess the seriousness of any leaks in terms of potential for escaping into the environment, or

(2) document why such assessments are not needed

[For text of subs 3 and 4, see M R]

Subp 5. Monitoring and inspection.

A The owner or operator shall inspect

(1) the freeboard level at least once each operating day to ensure compliance with subpart 2, and

(2) the surface impoundment, including dikes and vegetation surrounding the dike, at least once a week to detect any leaks, deterioration, or failures in the impoundment. As required by part 7045 0556, subpart 5, the owner or operator shall remedy any deterioration or malfunction found

B The owner or operator shall determine leaks as follows

(1) An owner or operator required to have a leak detection system under subpart 1a, item A, must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semiannually If at any time during the postclosure care period the pump operating level is exceeded at units on quarterly or semiannual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months

(3) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the commissioner based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump The timing for submission and approval of the proposed pump operating level will be in accordance with subpart 2a, item A

Subp. 6 Closure and postclosure care. The requirements of closure and postclosure care are as follows:

[For text of items A to C, see M.R.]

D In addition to the requirements of parts 7045 0594 to 7045 0606 and 7045 0638, subpart 4, during the postclosure care period, the owner or operator of a surface impoundment in which wastes, waste residues, or contaminated materials remain after closure in accordance with item C shall:

[For text of subitem (1), see M R]

(2) maintain and monitor the leak detection system in accordance with subpart 5, item B, and comply with all other applicable leak detection system requirements,

(3) maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of part 7045 0590, and

(4) prevent run-on and runoff from eroding or otherwise damaging the final cover.

The closure requirements under part 7045 0638, subpart 4, will vary with the amount and nature of the residues remaining, if any, and the degree of contamination of the underlying and surrounding soil. The commissioner may vary postclosure requirements, according to part 7045 0602, subpart 1.

[For text of subs 7 and 8, see M R.]

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1886*

7045.0632 WASTE PILES.

[For text of subs 1 to 4, see M.R.]

Subp 4a. Design and operating requirements. The owner or operator of each new waste pile on which construction commences after January 29, 1992, each lateral expansion

of a waste pile unit on which construction commences after July 29, 1992, and each such replacement of an existing waste pile unit that is to commence reuse after July 29, 1992, must install two or more liners and a leachate collection and removal system above and between such liners, and operate the leachate collection and removal systems, in accordance with part 7045 0534, subpart 3, item C, unless exempted under part 7045 0534, subpart 3, item D or E, and must comply with the procedures of part 7045 0630, subpart 1a, item B "Construction commences" and "existing facility" are defined in part 7045.0020

Subp 4b Action leakage rates.

A The owner or operator of waste pile units subject to subpart 4a must submit a proposed action leakage rate to the commissioner when submitting the notice required under subpart 4a Within 60 days of receipt of the notification, the commissioner will establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this subpart, or extend the review period for up to 30 days If no action is taken by the commissioner before the original 60-day or extended 90-day review periods, the action leakage rate will be approved as proposed by the owner or operator

B The commissioner shall approve an action leakage rate for waste pile units subject to subpart 4a The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e g , slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system, and proposed response actions (e g , the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc)

C. To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly flow rate from the monitoring data obtained under subpart 9, to an average daily flow rate (gallons per acre per day) for each sump. Unless the commissioner approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period

[For text of subp 5, see M.R.]

Subp 6 Special requirements for incompatible waste. Incompatible wastes, or incompatible wastes and materials must not be placed in the same pile, unless part 7045.0562, subpart 2 is followed

A pile of hazardous waste that is incompatible with any waste or other material located nearby must be adequately separated from the other materials, or protected from them by means of a dike, berm, wall, or other device. The purpose of this requirement is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the contact or mixing of incompatible wastes or materials.

Hazardous wastes must not be piled on the same area where incompatible wastes or materials were previously piled, unless that area has been decontaminated sufficiently to ensure compliance with part 7045.0562, subpart 2

[For text of subp 7, see M.R.]

Subp 8 Response actions.

A The owner or operator of waste pile units subject to subpart 4a must submit a response action plan to the commissioner when submitting the proposed action leakage rate under subpart 4b The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded At a minimum, the response action plan must describe the actions specified in item B

B If the flow rate into the leak determination system exceeds the action leakage rate for any sump, the owner or operator must:

(1) notify the commissioner in writing of the exceedence within seven days of the determination,

(2) submit a preliminary written assessment to the commissioner within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) determine to the extent practicable the location, size, and cause of any leak,

(4) determine whether waste receipts should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed,

(5) determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks, and

(6) within 30 days after the notification that the action leakage rate has been exceeded, submit to the commissioner the results of the analyses specified in subitems (3) to (5), the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the commissioner a report summarizing the results of any remedial actions taken and actions planned.

C. To make the leak and/or remediation determinations in item B, subitems (3) to (5), the owner or operator must.

(1) document the following assessments

(a) assess the source of liquids and amounts of liquids by source,

(b) conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid, and

(c) assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) document why such assessments are not needed

Subp 9. **Monitoring and inspection.** An owner or operator required to have a leak detection system under subpart 4a must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

Statutory Authority: *MS s 116.07, 116 37*

History: *18 SR 1565; 18 SR 1886*

7045.0638 LANDFILLS.

[For text of subpart 1, see M.R.]

Subp. 1a [Repealed, 18 SR 1886]

Subp 2. **Design and operating requirements.** Design and operating requirements are as follows

A. The owner or operator of each new landfill unit on which construction commences after January 29, 1992, each lateral expansion of a landfill unit on which construction commences after July 29, 1992, and each replacement of an existing landfill unit that is to commence reuse after July 29, 1992, must install two or more liners and a leachate collection and removal system above and between such liners, and operate the leachate collection and removal systems, in accordance with part 7045.0538, subpart 3, item C, unless exempted under part 7045 0538, subpart 3, item M or N "Construction commences" and "existing facility" are defined in part 7045.0020

B The owner or operator of each unit referred to in item A must notify the commissioner at least 60 days before receiving waste. The owner or operator of each facility submitting notice must file a part B application within six months of the commissioner's receipt of the notice.

C. The owner or operator of any replacement landfill unit is exempt from item A if:

(1) the existing unit was constructed in compliance with the design standards of the United States Resource Conservation and Recovery Act, section 3004(o)(1)(A)(i) and (o)(5), and

(2) there is no reason to believe that the liner is not functioning as designed.

D The owner or operator shall design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm

E. The owner or operator shall design, construct, operate, and maintain a runoff management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

F. Collecting and holding facilities, such as tanks or basins, associated with run-on and runoff control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system

G The owner or operator of a landfill containing hazardous waste which is subject to dispersal by wind shall cover or otherwise manage the landfill so that wind dispersal of the hazardous waste is controlled. As required by part 7045 0564, the waste analysis plan must include analyses needed to comply with subparts 5, 6, and 7 As required by part 7045 0584, the owner or operator shall place the results of these analyses in the operating record of the facility.

Subp 2a Action leakage rate.

A The owner or operator of landfill units subject to subpart 2, item A, must submit a proposed action leakage rate to the commissioner when submitting the notice required under subpart 2, item B Within 60 days of receipt of the notification, the commissioner will establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this subpart, or extend the review period for up to 30 days If no action is taken by the commissioner before the original 60-day or extended 90-day review periods, the action leakage rate will be approved as proposed by the owner or operator

B The commissioner shall approve an action leakage rate for landfill units subject to subpart 2, item A The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e g , slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system, and proposed response actions (e g , the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc)

C To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under subpart 2c to an average daily flow rate (gallons per acre per day) for each sump Unless the commissioner approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the postclosure care period when monthly monitoring is required under subpart 2c, item B.

Subp 2b Response actions.

A. The owner or operator of landfill units subject to subpart 2, item A, must submit a response action plan to the commissioner when submitting the proposed action leakage rate under subpart 2a The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded At a minimum, the response action plan must describe the actions specified in item B

B. If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must

(1) notify the commissioner in writing of the exceedence within seven days of the determination,

(2) submit a preliminary written assessment to the commissioner within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) determine to the extent practicable the location, size, and cause of any leak;

(4) determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks, and

(6) within 30 days after the notification that the action leakage rate has been exceeded, submit to the commissioner the results of the analyses specified in subitems (3) to (5), the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the commissioner a report summarizing the results of any remedial actions taken and actions planned.

C To make the leak and/or remediation determinations in item B, subitems (3) to (5), the owner or operator must:

(1)(a) assess the source of liquids and amounts of liquids by source,

(b) conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid, and

(c) assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) document why such assessments are not needed.

Subp. 2c **Monitoring and inspection.**

A An owner or operator required to have a leak detection system under subpart 2, item A, must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period

B After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semiannually. If at any time during the postclosure care period the pump operating level is exceeded at units on quarterly or semiannual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months

C "Pump operating level" is a liquid level proposed by the owner or operator and approved by the commissioner based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump. The timing for submission and approval of the proposed pump operating level will be in accordance with subpart 2a, item A

[For text of subp 3, see M.R.]

Subp. 4 **Closure and postclosure.** Closure and postclosure requirements are as follows:

[For text of item A, see M R]

B. After final closure, the owner or operator shall comply with all postclosure requirements contained in parts 7045.0600 to 7045.0606 including maintenance and monitoring throughout the postclosure care period. The owner or operator must

[For text of subitem (1), see M R]

(2) maintain and monitor the leak detection system in accordance with part 7045.0538, subparts 3, item C, subitems (3), unit (d), and (4), and 2c, item B, and comply with all other applicable leak detection system requirements of this part,

(3) maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of parts 7045.0590 and 7045.0592,

(4) prevent run-on and runoff from eroding or otherwise damaging the final cover, and

(5) protect and maintain surveyed bench marks used in complying with part 7045 0638, subpart 3

[For text of subps 5 to 9, see M R]

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1886*

7045.0644 DRIP PADS.

Subpart 1 **Federal regulations adopted by reference.** Owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation, and/or surface water runoff to an associated collection system are subject to the requirements of Code of Federal Regulations, title 40, part 265, subpart W, as amended. Existing drip pads and new drip pads are defined in part 7045 0020

Subp 2 **Leak collection system requirements.** The requirement of Code of Federal Regulations, title 40, section 265 443(b)(3), as amended, to install a leak collection system applies only to

A drip pads that are or were used to manage hazardous waste with the waste code of F032 that are constructed after December 24, 1992, except those for which the owner or operator had a design and entered into binding financial or other agreements for construction prior to December 24, 1992, and

B. drip pads that are used to manage hazardous waste with the waste code of F034 or F035 that are constructed after July 25, 1994, except those for which the owner or operator had a design and entered into binding financial or other agreements for construction prior to July 25, 1994

Subp 3 **Indoor drip pads.** The owner or operator of any drip pad that is inside or under a structure that provides protection from precipitation so that neither runoff nor run-on is generated is not subject to regulation under Code of Federal Regulations, title 40, section 264 573(e) or 264 573(f), as amended, as appropriate

Subp 4 **Incidental drippage in storage yards.** The requirements of Code of Federal Regulations, title 40, part 264, subpart W, as amended, are not applicable to the management of infrequent and incidental drippage in storage yards provided that the owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of such infrequent and incidental drippage. At a minimum, the contingency plan must describe how the owner or operator will do the following

- A clean up the drippage,
- B. document the cleanup of the drippage,
- C retain documents regarding cleanup for three years, and
- D manage the contaminated media in a manner consistent with chapters 7001 and

7045

Subp 5 **Exceptions to adopted federal regulations.** Where the federal regulations adopted in subpart 1 refer to other federal regulations, the other federal regulations referred to are superseded by their corresponding state rules, where no corresponding state rule exists, the federal regulations referred to do not apply

Subp 6 **Effective date.** This part is effective July 25, 1994

Statutory Authority: *MS s 116 07*

History: *18 SR 1751*

COUNTY REGULATION OF HAZARDOUS WASTE MANAGEMENT

7045.1010 COUNTY ORDINANCES.

Subpart 1 **Agency approval.** A county that seeks agency approval of a hazardous waste ordinance under Minnesota Statutes, section 400 161, or a metropolitan county which seeks agency approval of a hazardous waste ordinance under Minnesota Statutes, section 473 811, subdivision 5b, shall submit a copy of the ordinance to the agency. The commissioner shall, within 30 days of receiving the ordinance, advise the county in writing whether

the ordinance is approved or suspended. If the commissioner suspends a county ordinance, the commissioner shall follow the procedure described in subpart 2. The commissioner shall approve a county ordinance that embodies and is consistent with the standards and requirements in this chapter.

[For text of subps 2 and 3, see M R]

Statutory Authority: *MS s 116.07*

History: *18 SR 1565*

LAND DISPOSAL RESTRICTIONS

7045.1305 DILUTION PROHIBITED AS A SUBSTITUTE FOR TREATMENT.

[For text of item A, see M R]

B Dilution of wastes that are hazardous only because they exhibit a characteristic in a treatment system that treats wastes subsequently discharged to a water of the United States pursuant to a permit issued under section 402 of the Clean Water Act (CWA), or that treats wastes for purposes of pretreatment requirements under section 307 of the CWA is not impermissible dilution for purposes of this part unless a method has been specified as the treatment standard in part 7045 1360, or unless the waste is a D003 reactive cyanide wastewater or nonwastewater.

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1886*

7045.1315 WASTE ANALYSIS FOR RESTRICTED WASTES.

Subpart 1 **Applicability.** Except as provided in part 7045 1330 or 7045 1358, if a waste is listed in part 7045 0135, the generator must test the waste, or test an extract using the test method described in Code of Federal Regulations, title 40, part 261, Appendix II, or use knowledge of the waste, to determine if the waste is restricted from land disposal. Except as specified in part 7045 1330, if a generator's waste exhibits one or more of the characteristics in part 7045 0131, the generator must test an extract using the test method in Code of Federal Regulations, title 40, part 268, Appendix IX, or use knowledge of the waste to determine if the waste is restricted from land disposal under this part.

[For text of items A to E, see M R]

F If a generator determines that the generator is managing a restricted waste that is excluded from the definition of hazardous or solid waste or exempt from hazardous waste regulation under Code of Federal Regulations, title 40, sections 261 2 to 261 6, subsequent to the point of generation, the generator must place a one-time notice stating the generation, subsequent exclusion from the definition of hazardous or solid waste, or exemption from the hazardous waste regulation, and the disposition of the waste on-site, in the generator's file.

[For text of items G to J, see M R]

Subp 2 **Testing of wastes.** Treatment facilities must test their wastes according to the frequency specified in their waste analysis plans under part 7045 0458 or 7045 0564. The testing must be performed as provided in items A to C.

[For text of items A to F, see M R]

G When the wastes are recyclable materials used in a manner constituting disposal subject to part 7045 0665, subpart 1, item B, subitem (3), regarding treatment standards and prohibition levels, the owner or operator of a treatment facility is not required to notify the receiving facility under item D. With each shipment of the wastes, the owner or operator of the recycling facility must submit the certification in item E, and a notice that includes the information in item D, except the manifest number, to the commissioner's delegated representative. The recycling facility also must keep records of the name and location of each entity receiving the hazardous waste-derived product.

[For text of subp 3, see M R]

Statutory Authority: *MS s 116 07*

History: *18 SR 1565*

7045.1335 WASTE SPECIFIC PROHIBITIONS; THIRD ONE-THIRD OF REGULATED WASTES.*[For text of subps 1 and 2, see M R]*

Subp 3 **Applicability as of May 8, 1992.** Effective May 8, 1992, the following wastes are prohibited from land disposal

[For text of items A to D, see M R]

E. the following wastes identified as hazardous based on a characteristic alone D004 (nonwastewaters); D009 (nonwastewaters); inorganic solids debris as defined in part 7045 0020, subpart 45a (which also applies to chromium refractory bricks carrying the EPA Hazardous Waste Nos K048-K052), and RCRA hazardous wastes that contain naturally occurring radioactive materials

[For text of subp 4, see M R]

Subp 5. **Contaminated soil or debris.** Effective May 8, 1993, debris that is contaminated with wastes listed in Code of Federal Regulations, title 40, part 268 10, 268 11, or 268 12, and debris that is contaminated with any characteristic waste for which treatment standards are established in parts 7045 1350 to 7045 1360 are prohibited from land disposal

[For text of subps 6 to 10, see M R]

Subp 11 **Applicability as of May 8, 1993.** Effective May 8, 1993, D006 lead materials stored before secondary smelting are prohibited from land disposal On or before March 1, 1993, the owner or operator of each secondary lead smelting facility shall submit to the commissioner the following, a binding contractual commitment to construct or otherwise provide capacity for storing such D008 wastes prior to smelting which complies with all applicable storage standards, documentation that the capacity to be provided will be sufficient to manage the entire quantity of such D008 wastes, and a detailed schedule for providing such capacity Failure by a facility to submit such documentation shall render such D008 managed by that facility prohibited from land disposal effective March 1, 1993 In addition, no later than July 27, 1992, the owner or operator of each facility must place in the facility record documentation of the manner and location in which such wastes will be managed pending completion of such capacity, demonstrating that such management capacity will be adequate and complies with all applicable hazardous waste requirements

Statutory Authority: *MS s 116 07, 116 37*

History: *18 SR 1886*

7045.1355 TREATMENT STANDARDS EXPRESSED AS CONCENTRATIONS IN WASTE EXTRACT.

Subpart 1 **Applicability.** Code of Federal Regulations, title 40, part 268 41, Table CCWE, identifies the restricted wastes and the concentrations of their associated constituents that may not be exceeded by the extract of a waste or waste treatment residual developed using the test method in Code of Federal Regulations, title 40, part 261, Appendix II, for the allowable land disposal of such wastes, with the exception of EPA Hazardous Waste Nos D004, D008, K031, K084, K101, K102, P010, P011, P012, P036, and U136, and the concentrations of their associated constituents which may not be exceeded by the extract of a waste or waste treatment residual developed using the test method in Code of Federal Regulations, title 40, part 261, Appendix II, for the allowable land disposal of such wastes. Code of Federal Regulations, title 40, part 268, Appendix II, provides agency guidance on treatment methods that have been shown to achieve the Table CCWE levels for the respective wastes This guidance is provided to assist generators and owners or operators in their selection of appropriate treatment methods. Compliance with these concentrations is required based on grab samples unless otherwise noted in Code of Federal Regulations, title 40, part 268 43, Table CCW.

Subp. 2 **Combined wastes.** When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue must meet the lowest treatment standard for the constituent of concern, except that mixtures of high and low zinc nonwastewater K061 are subject to the treatment standard for high zinc K061

[For text of subp 3, see M.R.]

Statutory Authority: *MS s 116 07, 116.37*

History: *18 SR 1886*

7045.1360 TREATMENT STANDARDS EXPRESSED AS SPECIFIED TECHNOLOGIES.

[For text of subps 1 to 8, see M.R.]

Subp 9 **Organometallic lab packs.** Hazardous waste with the following EPA Hazardous Waste Nos. may be placed in an organometallic lab pack: P001; P002, P003, P004, P005; P006, P007; P008; P009, P013; P014; P015, P016; P017; P018, P020; P022; P023, P024; P025, P026, P027; P028; P031; P034; P036, P037; P038; P039, P040; P041; P042, P043; P044, P045; P047, P048; P049; P050, P051; P054; P056, P057, P058; P059; P060, P062; P063, P064; P065, P066; P067; P068, P069; P070; P071, P072, P073; P074, P075; P077, P081; P082; P084; P085; P087; P088, P089, P092; P093; P094, P095; P096, P097, P098, P099, P101; P102; P103, P104, P105; P108; P109; P110; P112, P113; P114, P115; P116; P118; P119; P120; P122; P123, U001, U002; U003; U004; U005, U006; U007; U008; U009; U010, U011, U012; U014; U015; U016, U017, U018; U019; U020; U021; U022, U023; U024, U025; U026, U027, U028; U029; U030; U031, U032, U033; U034, U035; U036, U037; U038; U039, U041, U042; U043; U044; U045; U046; U047; U048, U049; U050, U051; U052, U053; U055, U056, U057; U058; U059; U060, U061; U062, U063; U064, U066; U067, U068; U069; U070; U071; U072; U073; U074; U075; U076; U077; U078; U079; U080, U081; U082; U083; U084; U085; U086; U087; U088, U089; U090; U091; U092, U093; U094; U095; U096; U097; U098; U099; U101; U102, U103; U105, U106; U107, U108; U109; U110; U111; U112; U113; U114, U115; U116; U117; U118; U119, U120, U121; U122; U123; U124; U125, U126; U127, U128, U129; U130, U131; U132; U133; U134, U135; U136, U137; U138, U140, U141; U142, U143; U144, U145; U146, U147; U148; U149; U150, U152; U153; U154; U155; U156, U157; U158, U159; U160; U161, U162; U163, U164, U165; U166; U167; U168; U169; U170, U171; U172, U173; U174, U176; U177, U178, U179; U180; U181; U182; U183, U184, U185; U186, U187; U188; U189, U190; U191; U192; U193; U194; U196; U197, U200; U201, U202; U203; U204; U205; U206; U207; U208, U209; U210; U211, U213, U214; U215, U216; U217, U218; U219; U220; U221; U222, U223; U225; U226; U227, U228; U234, U235; U236, U237; U238; U239; U240, U243; U244; U246, U247; U248; U249; U328; U353; U359; F001, F002, F003; F004; F005; F006; F010, F020; F021, F023; F024, F026; F027, F028; K001; K002; K008; K009, K010; K011; K013; K014; K015; K016; K017; K018; K019; K020; K021; K022, K023; K024; K025, K026; K027, K028, K029; K030, K031; K032, K033; K034, K035; K036, K037, K038; K039; K040; K041; K042, K043, K044; K045, K046; K047; K048; K049; K050; K051, K052; K054, K060; K061; K064; K065; K066; K069; K071; K073; K083, K084; K085; K086, K087; K093; K094; K095, K096; K097; K098; K099, K101; K102; K103, K104, K105, K111; K112, K113; K114, K115; K116; K117; K118; K123, K124; K125; K126; K136; D001, D002; D003, D004, D005; D006; D007; D008; D010; D011; D012; D013; D014, D015; D016; and D017.

Subp. 10 **Organic lab packs.** Hazardous wastes with the following EPA Hazardous Waste Nos. may be placed in an organic lab pack: P001; P002, P003, P004; P005, P006; P007, P008, P009; P013, P014; P015; P016; P017; P018; P020; P022; P023, P024; P025, P026; P027, P028; P031; P034; P036; P037, P038; P039, P040; P041, P042; P043, P044, P045; P046; P047; P048; P049; P050, P051; P054; P057; P058; P059; P060; P062, P063, P064; P065; P066; P067, P068; P069; P070; P071; P072, P073; P074, P075; P077; P081; P082; P084; P085; P087, P088; P089; P092; P093; P094; P095; P096; P097; P098; P099; P101; P102; P103; P104; P105, P108; P109; P110; P111, P112; P113; P114; P115; P116; P118; P119; P120; P122; P123; U001, U002, U003; U004, U005; U006, U007, U008; U009, U010, U011; U012; U014, U015; U016; U017, U018; U019, U020; U021; U022; U023, U024; U025; U026; U027; U028; U029; U030; U031; U033, U034; U035; U036; U037; U038; U039; U041, U042; U043, U044, U045; U046, U047, U048; U049; U050, U051; U052, U053, U055, U056; U057, U058, U059, U060, U061; U062; U063; U064, U066; U067, U068; U069; U070, U071; U072; U073; U074; U075, U076; U077; U078, U079; U080, U081, U082; U083, U084; U085; U086; U087; U088; U089; U090; U091, U092;

U093, U094, U095, U096, U097, U098, U099, U101, U102, U103, U105, U106, U107; U108, U109, U110, U111, U112; U113, U114; U115, U116, U117; U118, U119, U120, U121, U122, U123, U124, U125, U126, U127; U128, U129, U130, U131; U132, U133, U135, U137, U138, U140, U141; U142, U143, U147, U148, U149, U150, U153, U154, U155; U156, U157; U158, U159, U160, U161, U162; U163, U164, U165; U166, U167; U168, U169, U170, U171, U172; U173, U174, U176; U177; U178; U179; U180, U181; U182, U183, U184, U185; U186, U187, U188; U189, U190, U191, U192; U193, U194, U196, U197; U200, U201; U202, U203, U205, U206, U207, U208, U209, U210, U211, U213, U214; U218; U219, U220, U221, U222; U223; U225; U226, U227, U228, U234; U235; U236, U237; U238, U239, U240, U243; U244, U246, U247; U248, U249; U328; U353, U359, F001, F002, F003; F004, F005; F010, F020, F021; F023; F024, F026; F027, F028; K001, K009, K010, K011; K013, K014; K015, K016, K017, K018, K019, K020, K021, K022, K023, K024, K025; K026; K027, K029, K030, K031; K032; K033; K034, K035, K036; K037, K038; K039, K040; K041, K042, K043, K044, K045; K046, K047; K048, K049, K050, K051, K052, K054, K060, K065, K073, K083, K084, K085, K086, K087, K093; K094, K095, K096, K097, K098, K099, K101; K102, K103, K104; K105, K111, K112; K113, K114, K115, K116; K117, K118, K123; K124, K125, K126, K136, D001, D012, D013, D014, D015, D016; and D017

Subp 11 Recommended technologies to achieve deactivation of characteristics.

The treatment standard for many subcategories of the EPA Hazardous Waste Nos. D001, D002, D003, K044, K045, and K047 wastes is listed simply as "Deactivation to remove the characteristics of ignitability, corrosivity, and reactivity." EPA has determined that many technologies, when used alone or in combination, can achieve this standard. The following appendix presents a partial list of these technologies, using the five-letter technology codes established in subpart 3. Use of these specific technologies is not mandatory and does not preclude direct reuse, recovery, or the use of other pretreatment technologies, provided deactivation is achieved and these alternative methods are not performed in units designated as land disposal.

Waste Code/Subcategory	Nonwastewaters	Wastewaters
D001 Ignitable Liquids based on 261.21(a)(1) – Low TOC Non-wastewater Subcategory (containing 1% to <10% TOC)	RORG INCIN WETOX CHOXD BIODG	Not applicable
D001 Ignitable Liquids based on 261.21(a)(1) – Ignitable Waste-water Subcategory (containing <1% TOC)	Not applicable	RORG INCIN WETOX CHOXD BIODG
D001 Compressed Gases based on 261.21(a)(3)	RCGAS INCIN FSUBS ADGAS fol- lowed by INCIN ADGAS fol- lowed by (CHOXD, or CHRED)	Not applicable
D001 Ignitable Reactives based on 261.21(a)(2)	WTRRX CHOXD CHRED STABL INCIN	Not applicable

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D001 Ignitable Oxidizers based on 261.21(a)(4)	CHRED INCIN	CHRED INCIN
D002 Acid Subcategory based on 261.22(a)(1) with pH less than or equal to 2	RCORR NEUTR INCIN	NEUTR INCIN
D002 Alkaline Subcategory based on 261.22(a)(1) with pH greater than or equal to 12.5	NEUTR INCIN	NEUTR INCIN
D002 Other Corrosives based on 261.22(a)(2)	CHOXD CHRED INCIN STABL	CHOXD CHRED INCIN
D003 Water Reactives based on 261.23(a)(2), (3), and (4)	INCIN WTRRX CHOXD CHRED	Not applicable
D003 Reactive Sulfides based on 261.23(a)(5)	CHOXD CHRED INCIN STABL	CHOXD CHRED BIODG INCIN
D003 Explosives based on 261.23(a)(6), (7), and (8)	INCIN CHOXD CHRED	INCIN CHOXD CHRED BIODG CARBN
D003 Other Reactives based on 261.23(a)(1)	INCIN CHOXD CHRED	INCIN CHOXD CHRED BIODG CARBN
K044 Wastewater treatment sludges from the manufacturing and processing of explosives	CHOXD CHRED INCIN	CHOXD CHRED BIODG CARBN INCIN
K045 Spent carbon from the treatment of wastewaters containing explosives	CHOXD CHRED INCIN	CHOXD CHRED BIODG CARBN INCIN
K047 Pink/red water from TNT operations	CHOXD CHRED INCIN	CHOXD CHRED BIODG CARBN INCIN

Statutory Authority: *MS s 116.07, 116.37*

History: *18 SR 1565; 18 SR 1886*