

CHAPTER 7045
MINNESOTA POLLUTION CONTROL AGENCY
HAZARDOUS WASTE DIVISION
HAZARDOUS WASTE

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DEFINITIONS, REFERENCES, PETITIONS, AND OTHER STANDARDS

7045.0010 [Repealed by amendment, 9 SR 115]

7045.0020 DEFINITIONS.

Subpart 1. **Scope.** As used in this chapter, the following words shall have the meanings given them.

Subp. 1a. **Aboveground tank.** "Aboveground tank" means a device meeting the definition of "tank" in subpart 90 and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank, including the tank bottom, is able to be visually inspected.

Subp. 2. **Act.** "Act" means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, United States Code, title 42, sections 3259 and 6901 to 6986, as amended through June 30, 1983.

Subp. 2a. **Active life.** "Active life" of a facility means the period from the initial receipt of hazardous waste at the facility until the commissioner receives certification of final closure.

Subp. 3. **Active portion.** "Active portion" means that portion of a facility, other than a closed portion, where treatment, storage, or disposal operations are being or have been conducted after July 16, 1984.

Subp. 3a. **Acute hazardous waste.** "Acute hazardous waste" means waste listed as acute hazardous waste in part 7045.0135 or waste designated acute hazardous waste in part 7045.0129, subpart 3.

Subp. 4. **Agency.** "Agency" means the Minnesota Pollution Control Agency.

Subp. 4a. **Ancillary equipment.** "Ancillary equipment" means any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank, between hazardous waste storage and treatment tanks to a point of disposal on site, or to a point of shipment for disposal off site.

Subp. 5. **Aquifer.** "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

Subp. 6. **Authorized representative.** "Authorized representative" means the person responsible for the overall operation of a facility or an operational unit which is part of a facility, such as the plant manager, superintendent, or a person of equivalent responsibility.

Subp. 6a. **Boiler.** "Boiler" means an enclosed device using controlled flame combustion and having the characteristics specified in item A or B. If used oil or hazardous waste is to be used as a fuel in an industrial boiler or a utility boiler, these boilers must meet the additional criteria in items C and D.

A. (1) The unit must have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluid, or heated gases.

(2) The unit's combustion chamber and primary energy recovery sections must be of integral design (physically formed into one manufactured or assembled unit). A unit in which the combustion chamber and the primary energy recovery sections are joined only by ducts or connections carrying flue gas is not integrally designed; secondary energy recovery equipment (such as air preheaters or economizers) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. Process heaters which transfer energy directly to a process stream and fluidized bed combustion units are not precluded from being considered boilers under this definition solely because they are not of integral design.

(3) While in operation, the unit must maintain a thermal energy efficiency of at least 60 percent, calculated in terms of the recovered energy compared with the thermal value of the fuel.

(4) The unit must export and utilize at least 75 percent of the recovered energy, calculated on an annual basis. No credit shall be given for recovered heat used internally in the same unit for purposes such as preheating fuel or combustion air or the driving of induced or forced draft fans or feedwater pumps.

B. The unit is one which the commissioner has determined meets the criteria for a boiler after considering the standards in part 7045.0075, subpart 4.

C. An industrial boiler burning used oil or hazardous waste as a fuel must be located on the site of an establishment engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical processes.

D. A utility boiler burning used oil or hazardous waste as a fuel must be one that is used to produce electric power, steam, or heated or cooled air or other gases or fluids for sale.

Subp. 6b. **By-product.** "By-product" means a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms.

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 43a or boiler in subpart 6a.

Subp. 6d. **Cathodic protection.** "Cathodic protection" means the technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. A tank can be cathodically protected through the application of either galvanic anodes or impressed current.

Subp. 7. **Certification.** "Certification" means a statement of professional opinion based upon knowledge and belief.

Subp. 8. **Chemical composition.** "Chemical composition" means any of the following:

A. a standard chemical nomenclature such as those adopted by the International Union of Pure and Applied Chemistry or the Chemical Abstracts' Service;

B. a common chemical name when it is documented to the commissioner that the number of isomers, related compounds of similar chemical structure and property, etc., make chemical analysis or delineation impractical; or

C. a common chemical name of a mixture of components with similar properties, but not including a trade name.

Subp. 9. **Closed portion.** "Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements.

Subp. 9a. **Collector.** "Collector" means an initial transporter who receives used oil only from generators and does not market the used oil directly to a person who burns it for energy recovery.

Subp. 9b. **Combustible liquid.** "Combustible liquid" has the meaning given in Code of Federal Regulations, title 49, section 173.115.

Subp. 9c. **Commissioner.** "Commissioner" means the commissioner of the Minnesota Pollution Control Agency or the commissioner's designee.

Subp. 9d. **Compatible.** "Compatible" means the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another. For a secondary containment seal, the impermeability of the seal must be maintained upon contact with a stored substance. For substances, two or more substances, if mixed, must not create a new hazard.

Subp. 9e. **Component.** "Component" means either a tank or ancillary equipment of a tank system.

Subp. 10. **Confined aquifer.** "Confined aquifer" means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined ground water.

Subp. 10a. **Consignee.** "Consignee" means the ultimate treatment, storage, or disposal facility in a receiving country to which the hazardous waste will be sent.

Subp. 11. **Container.** "Container" means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

Subp. 12. **Contingency plan.** "Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

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.

Subp. 13a. **Corrosion expert.** "Corrosion expert" means a person who, by reason of knowledge of the physical sciences and the principles of engineering and mathematics, acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be certified as being qualified by the National Association of Corrosion Engineers (NACE) or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control on buried or submerged metal piping systems and metal tanks.

Subp. 13b. **Corrosion protection.** "Corrosion protection" means a method used to protect a metal tank, piping, or other components from corroding. Corrosion protection includes, but is not limited to, cathodic protection, keeping the metal of the tank from being in direct contact with other surfaces, and the application of coatings designed and maintained to prevent corrosion.

Subp. 14. **Demolition debris.** "Demolition debris" means concrete, blacktop, bricks, stone facing, concrete block, stucco, glass, structural metal, and wood from demolished structures.

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, 6, or 10, or subpart 9, item B, or part 7045.0685; or

(4) if located outside Minnesota, has been exempted from the requirements to obtain a permit by the United States Environmental Protection Agency, has either received an Environmental Protection Agency permit or a permit from an authorized state, or has interim status;

B. has been designated on the manifest by the generator pursuant to part 7045.0261, or has been designated on a shipping paper or management plan required by part 7045.0125; and

C. if located in an Environmental Protection Agency authorized state which has not yet obtained authorization to regulate the hazardous waste it is receiving as hazardous, must be a facility allowed by the receiving state to accept the waste.

Subp. 15a. **Detect and detection.** "Detect" and "detection" refer to the finding of statistically significant evidence of contamination as described in part 7045.0484, subpart 12, item F.

Subp. 16. **Dike.** "Dike" means an embankment or ridge of either natural or synthetic materials used to prevent the movement of liquids, sludges, solids, or other materials.

Subp. 17. [Repealed by Amendment, L 1987 c 186 s 15]

Subp. 18. **Discarded.** "Discarded" means abandoned by being:

A. disposed of;

B. burned or incinerated; or

C. accumulated, stored, or treated, but not recycled, before or in lieu of being disposed of, burned, or incinerated.

Subp. 19. **Disposal.** "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of waste into or on any land or water so that the waste or any constitu-

ent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

Subp. 20. Disposal facility. "Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure.

Subp. 21. Elementary neutralization unit. "Elementary neutralization unit" means a device which:

A. is used for neutralizing wastes which are hazardous wastes only because they exhibit the corrosivity characteristic defined in part 7045.0131, subpart 4, or are listed in part 7045.0135 only for this reason; and

B. meets the definition of tank, tank system, container, transport vehicle, or vessel.

Subp. 21a. EPA Acknowledgment of Consent. "EPA Acknowledgment of Consent" means the cable sent to EPA from the United States Embassy in a receiving country that acknowledges the written consent of the receiving country to accept the hazardous waste and describes the terms and conditions of the receiving country's consent to the shipment.

Subp. 21b. EPA identification number. "EPA identification number" means the number assigned by the Environmental Protection Agency to each generator, transporter, and treatment, storage and disposal facility.

Subp. 22. Equivalent method. "Equivalent method" means any testing or analytical method approved by the commissioner under part 7045.0075, subpart 1.

Subp. 22a. Exceed and exceeded. "Exceed" and "exceeded" refer to the finding of statistically significant evidence of increased contamination as described in part 7045.0484, subpart 13, item D.

Subp. 23. Existing portion. "Existing portion" means the land surface area of an existing waste management unit that is included in the original Part A permit application, and on which wastes have been placed before a permit has been issued.

Subp. 23a. Existing tank system or existing component. "Existing tank system" or "existing component" means a tank system or component that is used for the storage or treatment of hazardous waste that is in operation, or for which installation has commenced on or before August 8, 1988, or a tank system or component that is regulated as an existing tank system or component under Code of Federal Regulations, title 40, section 260.10. Installation will be considered to have commenced if the owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either (1) a continuous on-site physical construction or installation program has begun, or (2) the owner or operator has entered into contractual obligations, which cannot be canceled or modified without substantial loss, for physical construction of the site or installation of the tank system to be completed within a reasonable time.

Subp. 24. Facility. "Facility" means all contiguous land, structures, other appurtenances, and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units, such as one or more landfills, surface impoundments, or combinations thereof.

Subp. 24a. Final closure. "Final closure" means the closure of all hazardous waste management units at the facility in accordance with the approved facility closure plan and all applicable closure requirements.

Subp. 24b. Flammable liquid. "Flammable liquid" has the meaning given in Code of Federal Regulations, title 49, section 173.115.

Subp. 25. Flash point. "Flash point" means the minimum temperature at which a material gives off vapor in sufficient concentration to form an ignitable mixture with air near the surface of the material when in contact with a spark or flame.

Subp. 26. Food chain crops. "Food chain crops" means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

Subp. 27. Formation. "Formation" means a body of soil or rock characterized by a degree of lithologic homogeneity which is prevailing, but not necessarily tabular, and is mappable on the earth's surface or traceable in the subsurface.

Subp. 28. **Freeboard.** "Freeboard" means the vertical distance between the top of a tank or surface impoundment dike, and the surface of the waste contained therein.

Subp. 29. **Free liquids.** "Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

Subp. 30. **Garbage.** "Garbage" means discarded material resulting from the handling, processing, storage, preparation, serving, and consumption of food.

Subp. 31. **Generator.** "Generator" means any person, by site, whose act or process produces hazardous waste identified or listed in parts 7045.0100 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.

Subp. 32. **Ground water or underground water.** "Ground water" or "underground water" has the meaning given in part 7060.0300.

Subp. 32a. **Halogenated organic compounds or HOC's.** "Halogenated organic compounds" or "HOC's" means those compounds having a carbon-halogen bond that are listed under Appendix III of Code of Federal Regulations, title 40, part 268.

Subp. 33. **Hazardous waste.** "Hazardous waste" has the meaning given in Minnesota Statutes, section 116.06, subdivision 11.

Subp. 34. **Hazardous waste constituent.** "Hazardous waste constituent" means a constituent that caused the commissioner to list the waste in part 7045.0135 or a constituent listed in part 7045.0141.

Subp. 34a. **Hazardous waste fuel.** "Hazardous waste fuel" means a hazardous waste that is burned for energy recovery and includes fuel that is produced from hazardous waste by processing, blending, or other treatment, except for those blended fuels described in part 7045.0102, subpart 3.

Subp. 35. **Hazardous waste incinerator.** "Hazardous waste incinerator" means an enclosed device using controlled flame combustion, a purpose of which is to thermally break down hazardous waste and that neither meets the criteria for classification as a boiler nor is listed or can be classified as an industrial furnace.

Subp. 36. **Hazardous waste management.** "Hazardous waste management" means the total system for the identification, storage, collection, source separation, and removal of hazardous waste from public or private property, the transportation of the waste to a hazardous waste facility, and the processing, treatment, recovery, and disposal of the waste by approved methods in accordance with this chapter. Any reference to hazardous waste being managed shall refer to the foregoing.

Subp. 36a. **Hazardous waste management unit.** "Hazardous waste management unit" is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system, and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.

Subp. 37. **Hazardous waste number.** "Hazardous waste number" means the number assigned to each hazardous waste listed in part 7045.0135 and to each characteristic identified in part 7045.0131.

Subp. 37a. **Household.** "Household" has the meaning given in Minnesota Statutes, section 115A.96, subdivision 1, paragraph (a).

Subp. 37b. **Household battery.** "Household battery" means a disposable or rechargeable dry cell, generated by a household and commonly used as a power source for household products. "Household battery" includes nickel-cadmium, alkaline, mercuric oxide, silver oxide, zinc oxide, zinc-air, lithium, and zinc-carbon batteries, but excludes lead-acid batteries.

Subp. 37c. **Household hazardous waste.** "Household hazardous waste" has the meaning given in Minnesota Statutes, section 115A.96, subdivision 1, paragraph (b).

Subp. 37d. **Household hazardous waste collection site or collection site.** "Household hazardous waste collection site" or "collection site" as used in part 7045.0310 has the meaning established under Minnesota Statutes, section 115A.96, subdivision 1, paragraph (c).

Subp. 37e. **Household waste.** "Household waste" means any material including garbage, trash, and sanitary waste in septic tanks derived from households, including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas.

Subp. 38. **Identification number.** "Identification number" means the number assigned to each generator, transporter, and treatment, storage, or disposal facility.

Subp. 38a. **Impermeable.** "Impermeable" means unable to be passed through.

Subp. 39. **In operation.** "In operation" means a facility which is treating, storing, or disposing of hazardous waste.

Subp. 40. **Inactive portion.** "Inactive portion" means that portion of a facility which is not operated after July 16, 1984.

Subp. 40a. **Incidental burner.** "Incidental burner" means a person who burns some used oil fuel for purposes of processing other used oil or treating other used oil to produce used oil fuel for marketing. These persons are considered to be burning incidentally to processing.

Subp. 41. **Incompatible wastes.** "Incompatible wastes" means a hazardous waste which is unsuitable for:

A. placement in a particular device or facility because it may cause corrosion or decay of containment materials such as the container inner liners or tank walls; or

B. commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reactions, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

Subp. 42. **Independent registered engineer.** "Independent registered engineer" means a registered engineer who is not a regular employee of the owner or operator of the facility, but rather is consulted on an intermittent basis.

Subp. 43. **Individual generation site.** "Individual generation site" means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

Subp. 43a. **Indoor storage.** "Indoor storage" means storage within a permanently constructed building consisting of at least a roof and three walls permanently affixed to an impermeable floor placed on the ground.

Subp. 43b. **Industrial furnace.** "Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use controlled flame devices to accomplish recovery of materials or energy: cement kilns; lime kilns; aggregate kilns; phosphate kilns; coke ovens; blast furnaces; smelting, melting, and refining furnaces, including pyrometallurgical devices, such as cupolas, reverberator furnaces, sintering machines, roasters, and foundry furnaces; titanium dioxide chloride process oxidation reactors; methane reforming furnaces; pulping liquor recovery furnaces; combustion devices used in the recovery of sulfur values from spent sulfuric acid; and such other devices as the commissioner determines qualify for inclusion based on one or more of the following factors:

A. the design and use of the device primarily to accomplish recovery of material products;

B. the use of the device to burn or reduce raw materials to make a material product;

C. the use of the device to burn or reduce secondary materials as effective substitutes for raw materials, in processes using raw materials as feedstocks;

D. the use of the device to burn or reduce secondary materials as ingredients in an industrial process to make a material product; or

E. the use of the device in common industrial practice to produce a material product.

Subp. 43c. **Inground tank.** "Inground tank" means a device meeting the definition of "tank" in subpart 90 whereby a portion of the tank wall is situated to any degree within the

ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

Subp. 44. **Injection well.** "Injection well" means a well into which fluids are injected.

Subp. 45. **Inner liner.** "Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste.

Subp. 45a. **Inorganic solid debris.** "Inorganic solid debris" means nonfriable inorganic solids contaminated with D004–D011 hazardous wastes that are incapable of passing through a 9.5 millimeter standard sieve; that require cutting or crushing and grinding in mechanical sizing equipment prior to stabilization; and that are limited to the following inorganic or metal materials:

- A. metal slags, either dross or scoria;
- B. glassified slag;
- C. glass;
- D. concrete, excluding cementitious or pozzolanic stabilized hazardous wastes;
- E. masonry and refractory bricks;
- F. metal cans, containers, drums, or tanks;
- G. metal nuts, bolts, pipes, pumps, valves; appliances, or industrial equipment;

and

- H. scrap metal as defined in subpart 79a.

Subp. 45b. **Installation inspector.** "Installation inspector" means a person who, by knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of tank systems.

Subp. 46. **Interim status.** "Interim status" has the meaning given in part 7045.0554.

Subp. 47. **International shipment.** "International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

Subp. 47a. **Land disposal.** "Land disposal" means placement in or on the land and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, underground mine or cave, or placement in a concrete vault or bunker intended for disposal purposes.

Subp. 48. **Land treatment facility.** "Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface. Such facilities are disposal facilities if the waste will remain after closure.

Subp. 49. **Landfill.** "Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, or a cave.

Subp. 50. **Landfill cell.** "Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

Subp. 51. **Leachate.** "Leachate" means any liquid including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

Subp. 51a. **Leak detection system.** "Leak detection system" means a system capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure. Such a system must employ operational controls, such as daily visual inspections for releases into the secondary containment system of aboveground tanks, or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.

Subp. 52. **Liner.** "Liner" means a continuous layer of reworked natural or synthetic materials beneath or on the sides of a surface impoundment, landfill, landfill cell, or waste pile, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents, or leachate.

Subp. 53. **Manifest.** "Manifest" means the shipping document originated and signed by the generator in accordance with part 7045.0261.

Subp. 54. **Manifest document number.** "Manifest document number" means the United States EPA 12-digit identification number assigned to the generator plus a unique five-digit number assigned to the manifest by the generator for recording and reporting purposes.

Subp. 55. **Manufacturing or mining by-product.** "Manufacturing or mining by-product" means a material that is not one of the primary products of a particular manufacturing or mining operation, and is a secondary and incidental product of the particular operation and would not be solely and separately manufactured or mined by the particular manufacturing or mining operation. The term does not include an intermediate manufacturing or mining product which results from one of the steps in a manufacturing or mining process and is typically processed through the next step of the process within a short time.

Subp. 55a. **Marketer.** "Marketer" means a generator who markets hazardous waste fuel or used oil fuel directly to a burner; a person who receives hazardous waste or used oil from generators and produces, processes, or blends hazardous waste fuel from these hazardous wastes, or blends used oil from these oils; a person who distributes but does not process or blend hazardous waste fuel or used oil; and a person who sends blended or processed used oils to brokers or other intermediaries.

Subp. 56. **Median lethal concentration.** "Median lethal concentration" means the calculated concentration at which a material kills 50 percent of a group of test animals within a specified time.

Subp. 57. **Median lethal dose.** "Median lethal dose" means the calculated dose at which a material kills 50 percent of a group of test animals within a specified time.

Subp. 58. **Mining overburden returned to the mine site.** "Mining overburden returned to the mine site" means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

Subp. 58a. **Miscellaneous unit.** "Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well, or unit eligible for a research, development, and demonstration permit under part 7001.0712.

Subp. 58b. **Mixed municipal solid waste.** "Mixed municipal solid waste" has the meaning given it in Minnesota Statutes, section 115A.03, subdivision 21.

Subp. 59. **Movement.** "Movement" means hazardous waste that is transported to a facility in an individual vehicle.

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

Subp. 59c. **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. 59d. **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.

Subp. 60. **On-site.** "On-site" means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing as opposed to going along the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which he or she controls and to which the public does not have access, is also considered on-site property.

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 59b, and has a flash point equal to or greater than 100 degrees Fahrenheit.

Subp. 61. **Open burning.** "Open burning" means the combustion of any material without the following characteristics:

A. control of combustion air to maintain adequate temperature for efficient combustion;

B. containment of the combustion-reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; or

C. control of emission of the gaseous combustion products.

Subp. 62. **Operator.** "Operator" means the person responsible for the overall operation of a facility.

Subp. 63. **Other waste material.** "Other waste material" means any solid, liquid, semi-solid, or gaseous material, resulting from industrial, commercial, mining, or agricultural operations, or from community activities, and which:

A. is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded; or

B. is recycled or is accumulated, stored, or treated prior to being recycled; or

C. is a spent material or by-product.

Subp. 64. **Owner.** "Owner" means the person who owns a facility or part of a facility.

Subp. 64a. **Outdoor storage.** "Outdoor storage" means storage that does not meet the requirements of indoor storage as defined in subpart 43a.

Subp. 65. **Partial closure.** "Partial closure" means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of parts 7045.0450 to 7045.0544 or 7045.0552 to 7045.0642 at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank, including its associated piping and containment systems, a landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate.

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

Subp. 67. **Personnel; facility personnel.** "Personnel" or "facility personnel" means all persons who work at or oversee the operation of a hazardous waste facility, and whose actions or failure to act may result in noncompliance with the requirements of this chapter.

Subp. 68. **Pesticide.** "Pesticide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

Subp. 69. [Repealed, 10 SR 1688]

Subp. 70. **Pile.** "Pile" means any noncontainerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage.

Subp. 71. **Point source.** "Point source" has the meaning given in Minnesota Statutes, section 115.03, subdivision 15, but does not include irrigation return flows.

Subp. 71a. **Polychlorinated biphenyls or PCB's.** "Polychlorinated biphenyls" or "PCB's" are halogenated organic compounds defined in accordance with Code of Federal Regulations, title 40, section 761.3.

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

A. is part of a wastewater treatment facility which is subject to regulation under the Federal Water Pollution Control Act Amendments of 1972, United States Code, title 33, section 1317(b), as amended through June 30, 1983;

B. receives and treats or stores an influent wastewater which is a hazardous waste as defined in parts 7045.0100 to 7045.0143; or generates and accumulates a wastewater treatment sludge which is a hazardous waste as defined in parts 7045.0100 to 7045.0143; or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in parts 7045.0100 to 7045.0143; and

C. meets the definition of "tank" as defined in subpart 90.

Subp. 72a. **Primary exporter.** "Primary exporter" means any person who is required to originate the manifest for a shipment of hazardous waste in accordance with Code of Federal Regulations, title 40, part 262, subpart B, or equivalent state provision, that specifies a treatment, storage, or disposal facility in a receiving country as the facility to which the hazardous waste will be sent and any intermediary arranging for the export.

Subp. 73. **Publicly owned treatment works.** "Publicly owned treatment works" means any device or system used in the treatment of municipal sewage or industrial wastes of a liquid nature, including recycling and reclamation, which is owned by a state or municipality as defined in the Federal Water Pollution Control Act Amendments of 1972, United States Code, title 33, section 1362(4), as amended through June 30, 1983. This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a publicly owned treatment works providing treatment.

Subp. 73a. **RCRA or Resource Conservation and Recovery Act.** "RCRA" or "Resource Conservation and Recovery Act" means the Resource Conservation and Recovery Act.

Subp. 73b. **Receiving country.** "Receiving country" means a foreign country to which a hazardous waste is sent for the purpose of treatment, storage, or disposal, except short-term storage incidental to transportation.

Subp. 73c. **Reclamation.** "Reclamation" means the processing or regeneration of a waste to recover a usable product. Examples are the recovery of lead values from spent batteries and regeneration of spent solvents.

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

Subp. 74. **Representative sample.** "Representative sample" means a sample of a universe or whole, such as a waste pile, lagoon, or ground water which can be expected to exhibit the average properties of the universe or whole.

Subp. 75. **Resource recovery.** "Resource recovery" has the meaning given in Minnesota Statutes, section 115A.03, subdivision 27.

Subp. 75a. **Reuse.** "Reuse" means employing a waste as an ingredient in an industrial process to make a product or as an effective substitute for a commercial product, provided that distinct components of the waste are not recovered as end products.

Subp. 76. **Rubbish.** "Rubbish" means discarded paper, cardboard, yard clippings, crop residues, brush, wood, glass, bedding, crockery, or litter.

Subp. 77. **Run-off.** "Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

Subp. 78. **Run-on.** "Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

Subp. 79. **Saturated zone or zone of saturation.** "Saturated zone" or "zone of saturation" means that part of the earth's crust in which all voids are filled with water.

Subp. 79a. **Scrap metal.** "Scrap metal" means bits and pieces of metal parts (for example, bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (for example, radiators, scrap automobiles, railroad box cars) which when worn or superfluous can be recycled.

Subp. 80. **Seasonal high water table.** "Seasonal high water table" means the highest level the water table reaches during a given year.

Subp. 80a. **Secondary containment.** "Secondary containment" means a safeguard specifically designed to contain releases of hazardous waste or hazardous waste constituents from a container or a storage tank or its appurtenances.

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 105.485, subdivision 2 and rules adopted pursuant to that section.

Subp. 84. **Sludge.** "Sludge" has the meaning given in Minnesota Statutes, section 116.06.

Subp. 84a. **Speculative accumulation.** "Speculative accumulation" means accumulation of a hazardous waste before it is recycled. Speculative accumulation does not include accumulation of a waste if there is a feasible method of recycling for the waste and at least 75 percent by volume or weight of the waste is recycled during a calendar year. The 75 percent requirement applies to each waste of the same type that is recycled in the same way.

Subp. 84b. **Spent material.** "Spent material" means a material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

Subp. 85. **Spill.** "Spill" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, or dumping into or on any land or water of hazardous wastes or materials which, when spilled, become hazardous wastes.

Subp. 86. **State.** "State" means the state of Minnesota.

Subp. 87. **Storage.** "Storage" means the holding of hazardous waste for a temporary period at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

Subp. 87a. **Sump.** "Sump" means any pit or reservoir that meets the definition of "tank" and those troughs or trenches connected to it that serves to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities.

Subp. 88. **Surface impoundment or impoundment.** "Surface impoundment" or "impoundment" means a facility or part of a facility which is a natural topographic depression, excavation made by humans, or diked area formed primarily of earthen materials which is designed to hold an accumulation of liquid wastes or wastes containing free liquids and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons. Impoundments may be lined with synthetic materials.

Subp. 89. **Surficial karst features.** "Surficial karst features" means features formed in soluble bedrock and which have surficial expressions or are shallow enough to potentially affect the integrity of an overlying facility.

Subp. 90. **Tank.** "Tank" means a stationary device designed to contain an accumulation of hazardous waste which is constructed primarily of nonearthen materials, such as wood, concrete, steel, and plastic, which provide structural support.

Subp. 90a. **Tank system.** "Tank system" means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

Subp. 91. **Thermal treatment.** "Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. "Thermal treatment" includes processes of incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge.

Subp. 92. **Totally enclosed treatment facility.** "Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized.

Subp. 93. **Transfer facility.** "Transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

Subp. 93a. **Transit country.** "Transit country" means any foreign country, other than a receiving country, through which a hazardous waste is transported.

Subp. 94. **Transportation.** "Transportation" means the movement of hazardous waste by air, rail, highway, or water.

Subp. 95. **Transport vehicle.** "Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body, such as a trailer or railroad freight car, is a separate transport vehicle.

Subp. 96. **Transporter.** "Transporter" means a person engaged in the off-site transportation of hazardous waste by air, rail, highway, or water.

Subp. 96a. **Treatability study.** "Treatability study" means a study in which a hazardous waste is subjected to a treatment process to determine:

- A. whether the waste is amenable to the treatment process;
- B. what pretreatment might be required;
- C. the optimal process conditions needed to achieve the desired treatment;
- D. the efficiency of a treatment process for a specific waste or wastes; or
- E. the characteristics and volumes of residuals from a particular treatment process.

Also included in this definition, for the purpose of the exemptions of part 7045.0121, are liner compatibility, corrosion, and other material compatibility studies and toxicological and health effects studies. A treatability study is not a means to commercially treat or dispose of hazardous waste.

Subp. 97. **Treatment.** "Treatment" means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize the waste, or so as to recover energy or material resources from the waste, or so as to render the waste nonhazardous, or less hazardous, safer to transport, store, or dispose of, or amenable for recovery, amenable for storage, or reduced in volume.

Subp. 98. **Treatment zone.** "Treatment zone" means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

Subp. 98a. **Underground tank.** "Underground tank" means a device meeting the definition of "tank" in subpart 90 whose entire surface area is totally below the surface of and covered by the ground.

Subp. 98b. **Unfit for use tank system.** "Unfit for use tank system" means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

Subp. 99. **Unsaturated zone; zone of aeration.** "Unsaturated zone" or "zone of aeration" means the zone between the land surface and the water table.

Subp. 100. **Uppermost aquifer.** "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

Subp. 100a. **Used oil.** "Used oil" means any oil which has been refined from crude oil, used, and as a result of such use has become contaminated by physical or chemical impurities.

Subp. 100b. **Used oil fuel.** "Used oil fuel" means used oil that is burned for energy recovery, and includes fuel produced from used oil by processing, blending, or other treatment, except for those blended fuels described in part 7045.0102, subpart 3.

Subp. 100c. **Vault system.** "Vault system" means an underground, concrete or equivalent, impermeable secondary containment structure consisting of four walls, a floor, and roof used to encapsulate one or more tanks.

Subp. 101. **Vessel.** "Vessel" means every description of watercraft used or capable of being used as a means of transportation on the water.

Subp. 102. **Waste.** "Waste" has the meaning given in Minnesota Statutes, section 116.06, subdivision 23.

Subp. 102a. **Waste household battery.** "Waste household battery" means a household battery which is discarded before use.

Subp. 102b. **Waste oil.** "Waste oil" means virgin oil that is discarded before use.

Subp. 102c. **Wastewater.** "Wastewater" means waste that contains less than one percent by weight total organic carbon (TOC) and less than one percent by weight total suspended solids (TSS), with the following exceptions:

A. F001, F002, F003, F004, or F005 wastewaters are solvent-water mixtures that contain less than one percent by weight total organic carbon or less than one percent by weight total F001, F002, F003, F004, or F005 solvent constituents listed in part 7045.1355;

B. K011, K013, or K014 wastewaters that contain less than five percent by weight total organic carbon and less than one percent by weight total suspended solids as generated; or

C. K0103 or K0104 wastewaters that contain less than four percent by weight total organic carbon and less than one percent by weight total suspended solids.

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

A. is part of a wastewater treatment facility which is subject to regulation under the Federal Water Pollution Control Act Amendments of 1972, United States Code, title 33, sections 1317(b) and 1342, as amended through June 30, 1983;

B. receives and treats or stores an influent wastewater which is a hazardous waste as defined in parts 7045.0100 to 7045.0143; or generates and accumulates a wastewater treatment sludge which is a hazardous waste as defined in parts 7045.0100 to 7045.0143; or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in parts 7045.0100 to 7045.0143; and

C. meets the definition of "tank" as defined in subpart 90, or "tank system" as defined in subpart 90a.

Subp. 104. **Water bulk shipment.** "Water bulk shipment" means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

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

Subp. 106. **Water table.** "Water table" means the surface of the ground water at which the pressure is atmospheric. Generally, this is the top of the saturated zone.

Subp. 107. **Well.** "Well" means any shaft or pit dug or bored into the earth, generally of a cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

Subp. 108. **Wetland.** "Wetland" has the meaning given to "wetlands" in Minnesota Statutes, section 105.37, subdivision 15.

Subp. 109. **Zone of engineering control.** "Zone of engineering control" means an area under the control of the owner or operator that, upon detection of a hazardous waste release, can be readily cleaned up before the release of hazardous waste or hazardous constituents to ground water or surface water.

Statutory Authority: *MS s 115.03; 116.07; 116.37*

History: 9 SR 115; 9 SR 2118; 10 SR 1688; 11 SR 1832; 11 SR 2415; L 1987 c 186 s 15; 12 SR 1660; 13 SR 259; 13 SR 1238; 13 SR 2761; 14 SR 1718; 14 SR 2248; 15 SR 801; 15 SR 1515; 15 SR 1877; 16 SR 197; 16 SR 2102; 16 SR 2239; 17 SR 1279

7045.0030 [Repealed by amendment, 9 SR 115]

7045.0040 [Repealed by amendment, 9 SR 115]

7045.0050 [Repealed by amendment, 9 SR 115]

7045.0060 VARIANCES.

Any person who applies for a variance from any requirement of this chapter shall comply with part 7000.0700. An application for a variance must be acted upon by the agency according to Minnesota Statutes, section 116.07, subdivision 5 and part 7000.0700. However, no variance may be granted if granting the variance would result in noncompliance with EPA regulations for the generation, storage, processing, treatment, transportation, or disposal of hazardous waste or the operation of hazardous waste facilities.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0065 AVAILABILITY OF REFERENCES.

The documents referred to in this chapter may be obtained by contacting the appropriate offices as listed in this part.

A. Standards of the American Society for Testing and Materials, in the Annual Book of ASTM Standards, 1916 Race Street, Philadelphia, Pennsylvania 19103, available at the Engineering Library of the University of Minnesota;

B. Flammable and Combustible Liquids Code in the National Fire Codes, 1981, issued by the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269, available at the Engineering Library of the University of Minnesota;

C. Implicit Price Deflator for Gross National Product in the Survey of Current Business, Bureau of Economic Analysis, United States Department of Commerce, 110 4th Street South, Minneapolis, Minnesota 55401, available at the Saint Paul Public Library;

D. The Manual on Disposal of Refinery Wastes, volume I, issued by the American Petroleum Institute, (Washington, D.C., 1969), available at the state of Minnesota Law Library;

E. Methods for Chemical Analysis of Water and Wastes, publication number 600/4-79-020, March 1979, issued by the Environmental Monitoring and Support Laboratory, 26 West St. Clair, Cincinnati, Ohio 45268, available at the state of Minnesota Law Library;

F. Standard TM-01-69 of the National Association of Corrosion Engineers, P.O. Box 218340, Houston, Texas 77218, available at the state of Minnesota Law Library;

G. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, publication number SW 846 (Second Edition, 1982, as amended by Update I, April 1984, and Update II, April 1985) of the Office of Solid Waste, United States Environmental Protection Agency, 401 M Street S.W., Washington, D.C. 20460. The Second Edition of SW-846 and Updates I and II available at the Minnesota Law Library and from the National Technical Information Service, 5285 Port Royal Road, Springfield, Va. 22161, (703) 487-4600 as Document number PB 87-120-291; and

H. Uniform Customs and Practice for Documentary Credits (Publication 290), 1975: International Chamber of Commerce Publishing Corporation, Incorporated, 156 5th Avenue, Suite 820, New York, New York 10017.

Statutory Authority: *MS s 116.07;*

History: *9 SR 115; 10 SR 1688; 14 SR 976;*

7045.0070 OTHER STANDARDS.

Nothing in this chapter shall relieve any person from any obligations or duties imposed by any other laws, statutes, rules, standards, or ordinances of the federal, state, or local governments or any agency thereof now in effect or which become effective in the future. In the event this chapter conflicts with any such laws, statutes, rules, standards, or ordinances, the more stringent shall apply. Nothing in this chapter shall be construed to require any person to comply with any portion of this chapter if that portion should at any time be preempted by federal law.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0075 PETITIONS.

Subpart 1. Petitions for equivalent testing or analytical methods. Any person seeking to use a testing or analytical method other than those described in parts 7045.0100 to 7045.0143, 7045.0450 to 7045.0544, or 7045.0552 to 7045.0642 may petition under these provisions. The person must demonstrate to the satisfaction of the commissioner that the proposed method is equal to or superior to the corresponding method prescribed in parts 7045.0100 to 7045.0143, 7045.0450 to 7045.0544, or 7045.0552 to 7045.0642 in terms of its sensitivity, accuracy, precision, and reproducibility. Each petition must include:

- A. the petitioner's name and address;
- B. a statement of the petitioner's interest in the proposed action;
- C. a full description of the proposed method, including all procedural steps and equipment used in the method;
- D. a description of the types of wastes or waste matrices for which the proposed method may be used;
- E. comparative results obtained from using the proposed method with those obtained from using the relevant or corresponding methods prescribed in parts 7045.0100 to 7045.0143, 7045.0450 to 7045.0544, or 7045.0552 to 7045.0642;
- F. an assessment of any factors which may interfere with, or limit the use of, the proposed method; and
- G. a description of the quality control procedures necessary to ensure the sensitivity, accuracy, and precision of the proposed method.

After receiving a petition for an equivalent testing or analytical method, the commissioner may request any additional information on the proposed method which the commissioner may reasonably require to evaluate the method.

Subp. 2. Petitions to exclude a waste produced at a particular facility. Petitions to exclude a waste produced at a particular facility are as follows:

A. Any person seeking to exclude a waste at a particular generating facility from regulation under this chapter may petition under these provisions. The petitioner must demonstrate to the satisfaction of the agency that the waste produced by a particular generating facility does not meet any of the criteria under which the waste was listed as a hazardous waste and, in the case of an acutely hazardous waste meeting the criteria in part 7045.0129, subpart 1, item B, that it also does not meet the criteria of part 7045.0129, subpart 1, item C. In determining whether to exclude a waste as requested by the petition, the agency must consider the factors considered at the time the waste was listed and, if the agency has reason to believe that other factors, including additional constituents, could also cause the waste to be hazardous, the agency must also consider these other factors. In order to exclude a waste as requested by the petition, the agency must determine that no factor exists that warrants retaining the classification of the waste as hazardous. A waste which is so excluded may still, however, be a hazardous waste by operation of part 7045.0131.

B. These procedures may also be used to petition the agency to exclude from part 7045.0214, subpart 2, item A or subpart 3, a waste which is described in those subparts and is either a waste listed in part 7045.0135, contains a waste listed in part 7045.0135, or is derived from a waste listed in part 7045.0135. This exclusion may only be issued for a particular generating, storage, treatment, or disposal facility. The petitioner must make the same demonstration as required by item A, except that where the waste is a mixture of solid waste and one or more listed hazardous wastes or is derived from one or more hazardous wastes, this demonstration may be made with respect to each constituent listed waste or the waste mixture as a whole. A waste which is so excluded may still be a hazardous waste by operation of part 7045.0131.

C. Demonstration samples must consist of enough representative samples, but in no case less than four samples, taken over a period of time sufficient to represent the variability or the uniformity of the waste:

D. If the waste is listed with codes "I," "C," "R," or "E" in part 7045.0135, the petitioner must show that the waste does not exhibit a relevant characteristic defined in part 7045.0131 using any applicable methods prescribed in part 7045.0131. The petitioner also must show that the waste does not exhibit any of the other characteristics in part 7045.0131

using any applicable method prescribed in part 7045.0131. In determining whether to exclude a waste as requested by the petition, the agency must consider the factors considered at the time the waste was listed and, if the agency has reason to believe that other factors, including additional constituents, could also cause the waste to be hazardous, the agency must also consider these other factors. In order to exclude a waste as requested by the petition, the agency must determine that no factor exists that warrants retaining the classification of the waste as hazardous. A waste which is so excluded, however, may still be a hazardous waste by operation of part 7045.0131.

E. If the waste is listed with code "T" in part 7045.0135, subitems (1) to (4) apply.

(1) The petitioner must demonstrate that the waste:

(a) does not contain the constituent or constituents that caused the agency to list the waste, using the appropriate test methods prescribed in Code of Federal Regulations, title 40, part 261, appendix III; or

(b) although containing one or more of the hazardous constituents, as defined in part 7045.0141, that caused the agency to list it, the waste does not meet the criterion of part 7045.0129, subpart 1, item C, when considering the factors in part 7045.0129, subpart 1, item C, subitems (1) to (11).

(2) In determining whether to exclude a waste as requested by the petition, the agency must consider the factors considered at the time the waste was listed and, if the agency has reason to believe that other factors, including additional constituents, could also cause the waste to be hazardous, the agency must also consider these other factors. In order to exclude a waste as requested by the petition, the agency must determine that no factor exists that warrants retaining the classification of the waste as hazardous.

(3) The petitioner must demonstrate that the waste does not exhibit any of the characteristics defined in part 7045.0131 using any applicable methods prescribed therein.

(4) A waste which is so excluded, however, still may be a hazardous waste by operation of part 7045.0131.

F. If the waste is listed with the code "H" in part 7045.0135, the petitioner must demonstrate that the waste does not meet the criterion of part 7045.0129, subpart 1, item B.

(1) In determining whether to exclude a waste as requested by the petition, the agency must consider the factors considered at the time the waste was listed and, if the agency has reason to believe that other factors, including additional constituents, could also cause the waste to be hazardous, the agency must also consider these other factors. In order to exclude a waste as requested by the petition, the agency must determine that no factor exists that warrants retaining the classification of the waste as hazardous.

(2) The petitioner must demonstrate that the waste does not exhibit any of the characteristics defined in part 7045.0131 using any applicable methods prescribed therein.

(3) A waste which is so excluded, however, still may be a hazardous waste by operation of part 7045.0131.

G. Each petition must include in addition to the information required by item B:

(1) the petitioner's name and address;

(2) a statement of the petitioner's interest in the proposed action;

(3) the name and address of the laboratory facility performing the sampling or testing of the waste;

(4) the names and qualifications of the persons sampling and testing the waste;

(5) the dates of sampling and testing;

(6) the location of the generating facility;

(7) a description of the manufacturing processes or other operations and feed materials producing the waste and an assessment of whether such processes, operations, or feed materials can or might produce a waste that is not covered by the demonstration;

(8) a description of the waste and an estimate of the average and maximum monthly and annual quantities of waste covered by the demonstration;

(9) pertinent data on and discussion of the factors delineated in the respective criterion for listing a hazardous waste, when the demonstration is based on the factors in part 7045.0129, subpart 1, item C, subitems (1) to (11);

(10) a description of the methodologies and equipment used to obtain the representative samples;

(11) a description of the sample handling and preparation techniques, including techniques used for extraction, containerization, and preservation of the samples;

(12) a description of the tests performed, including results;

(13) the names and model numbers of the instruments used in performing the tests; and

(14) the following statement signed by the generator of the waste or an authorized representative:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

H. After receiving a petition for an exclusion, the agency or the commissioner may request any additional information which may reasonably be required to evaluate the petition. An exclusion will only apply to the waste generated at the individual facility and covered by the demonstration and will not apply to waste from any other facility. The agency may limit the exclusion to portions of the waste for which sufficient affirmative demonstration is provided when it has reason to believe that the hazardous characteristics may not be consistent throughout the waste or that the demonstration may not be representative of the entire petitioned waste.

Subp. 3. Petition for reduced regulation of hazardous waste being speculatively accumulated or reclaimed prior to use. The agency may, upon presentation of a petition for those purposes, reduce any of the requirements of chapter 7045 applicable to reclamation, reuse, or recycling. The agency shall apply the standards and criteria set forth below in determining whether to grant a petition to reduce the regulatory requirements for the following recycled hazardous wastes.

A. Any person seeking a reduction in regulation of hazardous wastes that are accumulated speculatively as defined in part 7045.0020 without sufficient amounts being recycled as defined in part 7045.0020 may petition under this subpart. The petitioner must demonstrate to the satisfaction of the agency that sufficient amounts will be recycled or transferred for recycling in the following year. Such a reduction in regulation is valid only for the following year, but may be renewed on an annual basis by filing a new petition. The agency's decision to grant the petition shall be based on the following standards and criteria:

(1) the manner in which the hazardous waste is to be recycled, when the waste is expected to be recycled, and whether the expected disposition is likely to be affected by past practice, market factors, the nature of the hazardous waste, or contractual arrangements for recycling;

(2) the reason that the applicant has accumulated the hazardous waste for one or more years without recycling 75 percent of the volume accumulated at the beginning of the previous year;

(3) the quantity of the hazardous waste already accumulated and the quantity expected to be generated and accumulated before the hazardous waste is recycled;

(4) the extent to which the hazardous waste is handled to minimize loss; and

(5) any additional information the commissioner may reasonably request which may be required to evaluate the petition.

B. Any person seeking a reduction in regulation of hazardous wastes that are reclaimed and then reused as feedstock within the original primary production process in which the hazardous wastes were generated if the reclamation is an essential part of the production process may petition under these provisions. The agency's decision regarding the petition shall be based on the following standards and criteria:

(1) how economically viable the production process would be if it were to use virgin materials rather than the reclaimed hazardous waste;

(2) the prevalence of the practice on an industry wide basis;

(3) the extent to which the hazardous waste is handled before reclamation to minimize loss;

(4) the time periods between generating the hazardous waste and its reclamation, and between reclamation and return to the original primary production process;

(5) the location of the reclamation operation in relation to the production process;

(6) whether the hazardous waste as reclaimed is used for the purpose for which it was originally produced when it is returned to the original process, and whether it is returned to the process in substantially its original form;

(7) whether the person who generates the hazardous waste also reclaims it; and

(8) any additional information the commissioner may reasonably request which may be required to evaluate the petition.

C. Any person seeking a reduction in regulation of hazardous waste that has been reclaimed but must be reclaimed further before recovery is completed if, after initial reclamation, the resulting material is used like a commodity, may petition under this subpart. The agency's decision to grant the petition shall be based on the following standards and criteria:

(1) the degree of processing the hazardous waste has undergone and the degree of further processing that is required;

(2) the value of the hazardous waste after it has been reclaimed;

(3) the degree to which the reclaimed hazardous waste is like an analogous raw material;

(4) the extent to which an end market for the reclaimed hazardous waste is guaranteed;

(5) the extent to which the reclaimed hazardous waste is handled to minimize loss; and

(6) any additional information the commissioner may reasonably request that may be required to evaluate the petition.

Subp. 4. **Petition to be classified as a boiler.** In accordance with the definition of boiler in part 7045.0020, the commissioner may determine that certain enclosed devices using controlled flame combustion are boilers, although they do not otherwise meet the definition of boiler, based on the following standards and criteria:

A. the extent to which the unit has provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases;

B. the extent to which the combustion chamber and energy recovery equipment are of integral design;

C. the efficiency of energy recovery, calculated in terms of the recovered energy compared with the thermal value of fuel;

D. the extent to which the exported energy is utilized;

E. the extent to which the device is in common and customary use as a "boiler" functioning to produce steam, heated fluids, or heated gases; and

F. any additional information the commissioner may reasonably request which may be required to evaluate the petition.

Subp. 5. **Petition for use of alternate manifest.** A person who meets the criteria in item A may submit a petition to the commissioner for approval of the use of an alternate manifest system as described in item B. The criteria the commissioner shall use in determining whether to approve the use of the alternate manifest system are provided in item C.

A. Only persons meeting the following criteria are eligible to file a petition under this subpart:

(1) the person proposing to use the alternate manifest system must agree to only use the alternate manifest for the transportation of waste from small quantity or very small quantity generators;

(2) the person proposing to use the alternate manifest system must agree to only use the alternate manifest for waste that will be reclaimed under a contractual agreement specifying the type and frequency of waste shipments; and

(3) the person proposing to use the alternate manifest system must own and operate the recycling facility to which the waste is proposed to be transported, and must also own the vehicle to be used in transporting the waste to the recycling facility and in delivering reclaimed material back to the generator.

B. Upon approval, an alternate manifest system may be used in lieu of the manifest system described in parts 7045.0261 to 7045.0265. The commissioner shall only approve alternate manifest systems meeting the following criteria:

(1) The alternate manifest system must include a manifest form to be used by the generator to notify the commissioner each time waste is transported under this subpart. The manifest form must include: a space for the generator's name, mailing address, telephone number, and United States Environmental Protection Agency identification number; a space for the transporter's name and United States Environmental Protection Agency identification number; a space for the name, address, telephone number, and United States Environmental Protection Agency identification number of the recycling facility; a space for the United States Department of Transportation shipping name, hazard class, and identification number of the waste as specified in the United States Department of Transportation Code, title 49, parts 171 to 179; a space for the number and type of containers and total volume of the waste being shipped; a space for the waste identification number as specified in part 7045.0131, 7045.0135, or 7045.0137; a space for the signature of the generator or the generator's authorized representative affirming the correctness of the information; the mailing address of the commissioner; and a statement advising the generator to complete the form and submit it to the commissioner within five working days of transporting waste.

(2) The alternate manifest system must provide for the petitioner's submittal, on a monthly basis, of summaries of the names and identification numbers of generators who transported wastes using the alternate manifest and the volume and number of containers of each waste type shipped by each generator.

(3) The alternate manifest system must allow generators the option of using the manifest system provided in parts 7045.0261 and 7045.0265 in lieu of the alternate manifest system.

C. To obtain the commissioner's approval of the alternate manifest system, the petitioner must:

(1) submit information demonstrating that the petitioner meets the criteria in item A;

(2) submit information demonstrating that the proposed alternate manifest system meets the criteria in item B; and

(3) submit information demonstrating the effectiveness and reliability of the alternate manifest system, including the following: information on the waste that will be managed and the general type of customers who will be using the alternate manifest system; information on the type of recycling service provided by the petitioner and a description of the petitioner's recycling facility; information on the type of vehicle to be used and the system to be used to pick up and deliver waste from the generator to the petitioner's recycling facility; and a discussion of the measures to be taken to educate generators on the use of the alternate manifest and their responsibilities as waste generators.

Subp. 6. Petition for alternate design or operating practices for secondary containment of tank systems. A person may submit a petition to the commissioner for approval to use alternate design or operating practices in lieu of the requirements of parts 7045.0528, subpart 4, and 7045.0628, subpart 4. The commissioner's decision shall be based on a demonstration by the petitioner that the alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous wastes or hazardous constituents into surface and ground water as effectively as the secondary containment requirements of parts 7045.0528, subpart 4, and 7045.0628, subpart 4, during the active life of the tank system.

A. In order to determine equivalent protection, the commissioner shall consider:

- (1) the nature and quantity of the wastes;
- (2) the proposed alternate design and operating practices;
- (3) the hydrogeologic setting of the facility, including the thickness of soils present between the tank system and ground water; and
- (4) factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to ground water or surface water.

B. The following procedures must be followed for submittal of a petition for alternate design or operating practices for secondary containment of permitted tank systems.

(1) The commissioner must be notified in writing by the owner or operator that he or she intends to conduct and submit a demonstration for a petition from secondary containment for existing tank systems. This notification must be submitted at least 24 months before the date that secondary containment must be provided in accordance with part 7045.0528, subpart 4, item A. For new tank systems, this notification must be submitted at least 30 days before entering into a contract for installation.

(2) As part of the notification, the owner or operator must also submit to the commissioner a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration must address each of the factors listed in item A.

(3) The demonstration for a petition must be completed within 180 days after notifying the commissioner of an intent to conduct the demonstration.

(4) If a petition is granted under this subpart, the commissioner will require the permittee to construct and operate the tank system in the manner that was demonstrated to meet the requirements for the petition.

C. The following procedures must be followed for submittal of a petition for alternate design or operating practices for secondary containment of interim status tank facilities and generator's tanks.

(1) The owner or operator must notify the commissioner in writing that a demonstration will be conducted and submitted to obtain approval to use alternate design or operating practices. For existing tank systems this notification must be submitted 24 months before the date that secondary containment must be provided in accordance with part 7045.0628, subpart 4, item A. For new tank systems this notification must be submitted 30 days before entering into a contract for installation of the tank system.

(2) As part of the notification, the owner or operator must also submit a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. This description must be submitted to the commissioner and must address each of the factors listed in item A.

(3) The demonstration for a petition must be completed and submitted to the commissioner within 180 days after notifying the commissioner of the intent to conduct the demonstration.

(4) The commissioner will notify the public, through a newspaper notice, of the availability of the demonstration for a petition. The notice shall be placed in a daily or weekly major local newspaper of general circulation and shall provide at least 30 days from the date of the notice for the public to review and comment on the demonstration. Public comments shall be made in accordance with the procedures and requirements in part 7001.0110. If public comments request that a contested case hearing be held, the commissioner shall review the requests using the standards in part 7001.0120 or 7001.0130, whichever applies. If a public information meeting or contested case hearing is held, the commissioner shall give notice of the hearing or meeting in accordance with the requirements of part 7001.0120 or 7001.0130, whichever applies, except that the commissioner shall give notice at least 30 days before the date of the hearing or meeting. In addition, notice of the hearing or meeting may be given at the same time as the notice of availability of the demonstration for a petition.

(5) When the commissioner approves or disapproves a petition request, the owner or operator will be notified in writing of the petition decision. The commissioner will also notify each person who submitted written comments or requested notice of the petition decision.

D. Upon approval of a petition for alternate design or operating practices, as provided in item A, the owner or operator of a tank system must comply with the following requirements in the event of a release of hazardous waste from the primary tank system that has not migrated beyond the zone of engineering control. The owner or operator must:

(1) comply with the requirements of part 7045.0528, subpart 8, except for item D; or for interim status facilities and generator's tanks, the requirements of part 7045.0628, subpart 8, except for item D;

(2) decontaminate or remove contaminated soil to the extent necessary to enable the tank system for which the variance was granted to resume operation with the capability for the detection of releases at least equivalent to the capability it had before the release, and prevent the migration of hazardous waste or hazardous constituents to ground water or surface water; and

(3) if contaminated soil cannot be removed or decontaminated in accordance with subitem (2), comply with the requirement of part 7045.0528, subpart 9, item B; or for interim status facilities or generator's tanks, the requirement of part 7045.0628, subpart 9, item B.

E. Upon approval of a petition for alternate design or operating practices under item A, the owner or operator of a tank system must comply with the following requirements in the event of a release of hazardous waste from the primary tank system that has migrated beyond the zone of engineering control. The owner or operator must:

(1) Comply with the requirements of part 7045.0528, subpart 8, items A to D; or for interim status facilities or generator's tanks, the requirements of part 7045.0628, subpart 8, items A to D.

(2) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed or if ground water has been contaminated, the owner or operator must comply with the requirements of subpart 9, item B; or for interim status facilities or generator's tanks, the requirements of part 7045.0628, subpart 9, item B.

(3) If repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with part 7045.0528, subpart 4; or for interim status facilities or generator's tanks, part 7045.0628, subpart 4, reapply for a variance from secondary containment and meet the requirements for new tank systems in part 7045.0528, subpart 3, if the tank system is replaced. The owner or operator must comply with these requirements even if contaminated soil can be decontaminated or removed and ground water or surface water has not been contaminated.

Subp. 7. Petition for demonstration of no substantial hazard from tank systems. A person may submit a petition to the agency for an exemption from the secondary containment requirements of parts 7045.0528, subpart 4, and 7045.0628, subpart 4. The agency's decision shall be based on a demonstration that, in the event of a release that migrates to ground water or surface water, no substantial present or potential hazard will be posed to human health or the environment. No petition may be granted under this subpart for new underground tank systems.

A. In order to determine no substantial present or potential hazard, the agency shall consider the following factors.

(1) The potential adverse effects on ground water, surface water, and land quality, taking into account:

(a) the physical and chemical characteristics of the waste in the tank system, including its potential for migration;

(b) the hydrogeologic characteristics of the facility and surrounding land;

(c) the potential for health risks caused by human exposure to waste constituents;

(d) the potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(e) the persistence and permanence of the potential adverse effects.

(2) The potential adverse effects of a release on ground water quality, taking into account:

water flow;

(a) the quantity and quality of ground water and the direction of ground

(b) the proximity and withdrawal rates of ground water users;

(c) the current and future uses of ground water in the area; and

(d) the existing quality of ground water, including other sources of contamination and their cumulative impact on ground water quality.

(3) The potential adverse effects of a release on surface water quality, taking into account:

water flow;

(a) the quantity and quality of ground water and the direction of ground

(b) the patterns of rainfall in the region;

(c) the proximity of the tank system to surface waters;

(d) the current and future uses of surface waters in the area and any water quality standards established for these surface waters;

(e) the existing quality of surface water, including other sources of contamination; and

(f) the cumulative impact on surface water quality.

(4) The potential adverse effects of a release on the land surrounding the tank system, taking into account:

(a) the patterns of rainfall in the region; and

(b) the current and future uses of the surrounding land.

B. The following procedures must be followed for the submittal of a petition for an exemption from secondary containment for permitted facilities.

(1) The agency must be notified in writing by the owner or operator that he or she intends to conduct and submit a demonstration to be exempted from secondary containment requirements. For existing tank systems, this notification must be submitted at least 24 months before the date secondary containment must be provided in accordance with part 7045.0528, subpart 4, item A. For new aboveground, onground, or inground tank systems, this notification must be submitted at least 30 days before entering into a contract for installation.

(2) As part of the notification, the owner or operator must also submit to the agency a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration must address each of the factors listed in item A.

(3) The demonstration for a petition must be completed within 180 days after notifying the agency of the intent to conduct the demonstration.

(4) If a petition is granted under this subpart, the agency will require the permittee to construct and operate the tank system in the manner that was demonstrated to meet the requirements for the petition.

C. The following procedures must be followed for submittal of a petition for an exemption from secondary containment for interim status or generator's tanks.

(1) The owner or operator must notify the agency in writing that a demonstration will be conducted and submitted to obtain approval to use alternate design or operating practices. For existing tank systems, this notification must be submitted 24 months before the date that secondary containment must be provided in accordance with part 7045.0628, subpart 4, item A. For new aboveground, onground, or inground tank systems, this notification must be submitted 30 days before entering into a contract for installation of the tank system.

(2) As part of the notification, the owner or operator must also submit a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. This description must be submitted to the agency and must address each of the factors listed in item A.

(3) The demonstration for a petition must be completed and submitted to the agency within 180 days after notifying the agency of the intent to conduct the demonstration.

(4) The agency will notify the public, through a newspaper notice, of the availability of the demonstration for a petition. The notice shall be placed in a daily or weekly major local newspaper of general circulation and shall provide at least 30 days from the date of the notice for the public to review and comment on the demonstration. Public comments shall be made in accordance with the procedures and requirements in part 7001.0110. If public comments request that a contested case hearing be held, the agency shall review the requests using the standards in part 7001.0120 or 7001.0130, whichever applies. If a public information meeting or contested case hearing is held, the agency shall give notice of the hearing or meeting in accordance with the requirements of part 7001.0120 or 7001.0130, whichever applies, except that the agency shall give notice at least 30 days before the date of the hearing or meeting. In addition, notice of the hearing or meeting may be given at the same time as the notice of availability of the demonstration for a petition.

(5) When the agency approves or disapproves the petition request within 90 days, the owner or operator will be notified in writing of the petition decision. The agency will also notify each person who submitted written comments or requested notice of the petition decision.

Subp. 8. Procedures for case-by-case extensions to an effective date. A person who generates, treats, stores, or disposes of hazardous waste may submit a petition to the EPA for an extension to the effective date of any applicable restriction established under parts 7045.1320 to 7045.1330. The petition must be submitted in accordance with Code of Federal Regulations, title 40, section 268.5.

Subp. 9. Petitions to allow land disposal of a prohibited waste. A person seeking an exemption from a prohibition for the disposal of a restricted hazardous waste in a particular unit or units must submit a petition to the agency and to the EPA demonstrating, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous. The demonstration to the EPA must include the provisions in Code of Federal Regulations, title 40, section 268.6. The demonstration to the agency must include an identification of the specific waste and the specific unit for which the demonstration will be made, a waste analysis to describe fully the chemical and physical characteristics of the subject waste, and a comprehensive characterization of the disposal unit site including an analysis of background air, soil, and water quality. The demonstration must also include a monitoring plan that detects migration at the earliest practicable time, and sufficient information to assure the commissioner that the owner or operator of a land disposal unit receiving restricted wastes will comply with other applicable federal, state, and local laws. The person seeking the exemption must also comply with items A to L.

A. The demonstration must meet the following criteria:

(1) all waste and environmental sampling, test, and analysis data must be accurate and reproducible to the extent that state-of-the-art techniques allow;

(2) all sampling, testing, and estimation techniques for chemical and physical properties of the waste and all environmental parameters must have been approved by the agency;

(3) simulation models must be calibrated for the specific waste and site conditions, and verified for accuracy by comparison with actual measurements;

(4) a quality assurance and quality control plan that addresses all aspects of the demonstration must be approved by the agency; and

(5) an analysis must be performed to identify and quantify any aspects of the demonstration that contribute significantly to uncertainty. This analysis must include an evaluation of the consequences of predictable future events, including but not limited to earthquakes, floods, severe storm events, droughts, or other natural phenomena.

B. Each petition referred to in this subpart must include information described in subitems (1) to (5):

(1) A monitoring plan that describes the monitoring program installed at and around the unit to verify continued compliance with the conditions of the variance. This monitoring plan must provide information on the monitoring of the unit and the environment around the unit. The following specific information must be included in the plan:

(a) the media monitored in the cases where monitoring of the environment around the unit is required;

(b) the type of monitoring conducted at the unit, in the cases where monitoring of the unit is required;

(c) the location of the monitoring stations;

(d) the frequency of monitoring at each station;

(e) the specific hazardous constituents to be monitored;

(f) the implementation schedule for the monitoring program;

(g) the equipment used at the monitoring stations;

(h) the sampling and analytical techniques employed; and

(i) the data recording and reporting procedures.

(2) Where applicable, the monitoring program must be in place for a period of time specified by the commissioner, as part of the commissioner's approval of the petition, before receipt of prohibited waste at the unit.

(3) The monitoring data collected according to the monitoring plan must be sent to the commissioner according to a format and schedule specified and approved in the monitoring plan.

(4) A copy of the monitoring data collected under the monitoring plan must be kept on-site at the facility in the operating record.

(5) The monitoring program in subitem (1) must meet the following criteria:

(a) all sampling, testing, and analytical data must be approved by the commissioner and must provide data that is accurate and reproducible;

(b) all estimation and monitoring techniques must be approved by the commissioner; and

(c) a quality assurance and quality control plan addressing all aspects of the monitoring program must be provided to and approved by the commissioner.

C. After a petition has been approved, the owner or operator must report any changes in conditions at the unit and the environment around the unit that significantly depart from the conditions described in the variance and affect the potential for migration of hazardous constituents from the units as follows:

(1) If the owner or operator plans to make changes to the unit design, construction, or operation, the change must be proposed, in writing, and the owner or operator must submit a demonstration to the commissioner at least 30 days before making the change. The commissioner shall determine whether the proposed change invalidates the terms of the petition and will determine the appropriate response. Any change must be approved by the commissioner before being made.

(2) If the owner or operator discovers that a condition at the site which was modeled or predicted in the petition does not occur as predicted, this change must be reported, in writing, to the commissioner within ten days of discovering the change. The commissioner shall determine whether the reported change from the terms of the petition requires further action, which may include termination of waste acceptance and revocation of the petition, petition modifications, or other responses.

D. If the owner or operator determines that there is migration of hazardous constituents from the unit, the owner or operator must immediately suspend receipt of prohibited waste at the unit and notify the commissioner in writing within ten days of the determination that a release has occurred. Within 60 days of receiving the notification, the commissioner shall determine whether the owner or operator can continue to receive prohibited waste in the unit and whether the variance is to be revoked. The commissioner shall also determine whether further examination of any migration is warranted under applicable provisions of parts 7045.0450 to 7045.0642.

E. Each petition must include the following statement signed by the petitioner or an authorized representative:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and

that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

F. After receiving a petition, the commissioner may request additional information that reasonably may be required to evaluate the demonstration.

G. If approved, the petition will apply to land disposal of the specific restricted waste at the individual disposal unit described in the demonstration and will not apply to any other restricted waste at that disposal unit, or to that specific restricted waste at any other disposal unit.

H. The commissioner will give public notice in the State Register of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a petition will be published in the State Register.

I. The term of a petition granted under this part must be no longer than the term of the RCRA permit if the disposal unit is operating under an RCRA permit, or up to a maximum of five years from the date of approval provided under item G if the unit is operating under interim status. In either case, the term of the granted petition expires upon the termination or denial of an RCRA permit, or upon the termination of interim status or when the volume limit of waste to be land disposed during the term of petition is reached.

J. Before the agency's decision, the applicant must comply with all restrictions on land disposal under parts 7045.1300 to 7045.1380 when the effective date for the waste has been reached.

K. The petition granted by the agency does not relieve the petitioner of responsibility for the management of hazardous waste under chapters 7001 and 7045, and parts 7023.9000 to 7023.9050.

L. Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to 500 ppm are not eligible for an exemption under this subpart.

Subp. 10. Petition for alternate treatment standard or alternate technology. Where a treatment standard is expressed as a concentration in a waste or waste extract and a waste cannot be treated to a specified level, or where the treatment technology is not appropriate to the waste, the generator or the owner or operator of a treatment facility may request a variance from the EPA to provide an alternate treatment standard. The variance request must be submitted in accordance with Code of Federal Regulations, title 40, sections 268.42(b) and 268.44.

Subp. 11. Petition for additional treatability study quantities. The commissioner may grant requests for quantity limits in excess of those specified in part 7045.0121, subpart 2, item A, for up to an additional 500 kilograms of nonacute hazardous waste, one kilogram of acute hazardous waste, and 250 kilograms of soils, water, or debris contaminated with acute hazardous waste, to conduct further treatability study evaluation. Item A of this subpart prescribes the conditions which the petitioner must meet in order for the commissioner to grant a petition to increase the quantity limits for waste, destined for use in treatability studies, to a maximum of the limits described in this subpart. Item B of this subpart prescribes what the petition must contain.

A. Conditions for granting a petition to increase quantity limits of waste for use in a treatability study are:

- (1) there has been an equipment or mechanical failure during the conduct of a treatability study;
- (2) there is a need to verify the results of a previously conducted treatability study;
- (3) there is a need to study and analyze alternative techniques within a previously evaluated treatment process; or
- (4) there is a need to do further evaluation of an ongoing treatability study to determine final specifications for treatment.

B. The generator or sample collector must apply to the commissioner and provide in writing the following information:

(1) the reason why the generator or sample collector requires additional quantity of sample for the treatability study evaluation and the additional quantity needed;

(2) documentation accounting for all samples of hazardous waste from the waste stream that have been sent for or undergone treatability studies including the date each previous sample from the waste stream was shipped, the quantity of each previous shipment, the laboratory or testing facility to which it was shipped, what treatability study processes were conducted on each sample shipped, and the available results of each treatability study;

(3) a description of the technical modifications or change in specifications that will be evaluated and the expected results;

(4) if a further study is required due to equipment or mechanical failure, the applicant shall include information regarding the reason for the failure or breakdown and include what procedures or equipment improvements have been made to protect against further breakdowns; and

(5) any additional information requested by the commissioner which may reasonably be required to evaluate the petition.

C. Upon receiving approval of the petition, the generator must manage the additional samples as specified in part 7045.0121.

Subp. 12. Petition for alternate design or operating practices. An owner or operator may submit a petition to the commissioner for approval to use alternate design or operating practices in lieu of the requirements of parts 7045.0532, 7045.0534, 7045.0538, 7045.0630, 7045.0632, and 7045.0638. The commissioner's decision shall be based on a demonstration by the petitioner that the alternate design or operating practices, together with location characteristics, will prevent the migration of any hazardous wastes or hazardous constituents into surface and ground water as effectively as the requirements of parts 7045.0532, 7045.0534, 7045.0538, 7045.0630, 7045.0632, and 7045.0638.

Statutory Authority: *MS s 116.07; 116.37*

History: 9 SR 115; 10 SR 1688; 11 SR 1832; 11 SR 1950; L 1987 c 186 s 15; 13 SR 259; 13 SR 1238; 14 SR 2248; 15 SR 1877; 16 SR 2102; 16 SR 2239; 17 SR 1279; 18 SR 614

7045.0080 DATA AVAILABILITY.

Subpart 1. Applicability. The following apply to requests to the Minnesota Pollution Control Agency for information relating to facilities and sites for treatment, storage, and disposal of hazardous waste.

Subp. 2. Response to requests. Except as provided in subpart 3, the commissioner shall issue a written response to a requester of information within ten working days of receiving the request for information. The written response shall state what information will and will not be provided and shall state the reason for denying any portion of the request.

Subp. 3. Extensions. The following provisions apply to extensions of time to respond to requests for information:

A. If the request for information does not reasonably identify the information sought, the commissioner shall so notify the requester. There shall be excluded from the ten day response period established under subpart 2, or any extension to that response period provided under item B, any time that elapses between the date that a requester is notified by the commissioner that the request does not reasonably identify the records sought, and the date that the requester furnishes a reasonable identification.

B. In circumstances in which an extension is necessary due to one or more of the following reasons, the ten day response period established in subpart 2 shall be extended by the commissioner for a period of days commensurate with the additional response time required, not to exceed ten additional working days:

(1) there is a need to search for and collect the requested records from field regional offices or other establishments that are separate from the agency's central office;

(2) there is a need to search for, collect, and appropriately examine a voluminous amount of separate and distinct records which are demanded in a single request; or

(3) there is a need for consultation with another agency having a substantial interest in the determination of the request.

The commissioner must notify the requester within the initial ten day period that the ten day extension is required and must state the reasons for the extension and the date by which the agency expects to be able to issue its response to the request for information.

Subp. 4. **Failure to act.** If the commissioner fails to issue a response within the response time provided in subpart 2, or an extension provided under subpart 3, a requester may commence an action under Minnesota Statutes, section 13.08 to obtain the requested information.

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832; L 1987 c 186 s 15*

IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

7045.0100 [Repealed, 14 SR 1718]

7045.0102 MIXTURES OF WASTES.

Subpart 1. **Scope.** Except as provided in part 7045.0665, subpart 1, mixtures of wastes are listed in subparts 2 and 3.

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.

A. A mixture is a hazardous waste if it is a mixture of nonhazardous waste and any waste which is hazardous solely because it exhibits the characteristic of ignitability, corrosivity, oxidativity, or reactivity as described in part 7045.0131, unless the resulting mixture does not exhibit any of the characteristics of hazardous waste as defined in part 7045.0131.

B. A mixture is a hazardous waste if it is a mixture of nonhazardous waste and any waste listed in part 7045.0135 solely because of ignitability, corrosivity, or reactivity, unless:

- (1) the resulting mixture does not exhibit any of the characteristics of hazardous waste as defined in part 7045.0131;
- (2) the resulting mixture has been excluded from regulation pursuant to part 7045.0075, subpart 2; or

(3) the nonhazardous waste is exempt from regulation under part 7045.0120, item I, and the resultant mixture no longer exhibits any characteristic of hazardous waste as defined in part 7045.0131 for which the hazardous waste listed in part 7045.0135 was listed.

C. A mixture is a hazardous waste if it is a nonsewered mixture of nonhazardous waste and any waste listed in part 7045.0135 (other than wastes listed solely because of ignitability, corrosivity, or reactivity) or any waste which is hazardous because it exhibits the characteristics of toxicity or lethality as identified in part 7045.0131 unless the resulting mixture has been excluded from regulation pursuant to part 7045.0075, subpart 2.

D. A mixture is a hazardous waste if it is a sewered mixture of nonhazardous waste and any waste which is hazardous because it exhibits the characteristics of extraction procedure (EP) toxicity or toxicity as defined in part 7045.0131 unless:

- (1) prior to entering the sewer the resulting mixture no longer exhibits the characteristic of extraction procedure (EP) toxicity or toxicity; and
- (2) the sewerage of the mixture has been approved by the agency pursuant to parts 7045.0220 to 7045.0255.

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

E. Except as provided in item F, a mixture is a hazardous waste if it is a sewered mixture of nonhazardous waste and any waste listed in part 7045.0135 (other than wastes listed solely because of ignitability, corrosivity, or reactivity) unless the resulting mixture has been excluded from regulation under part 7045.0075, subpart 2.

F. Except as otherwise provided in item A, B, or D, the following sewered mixtures of nonhazardous wastes and hazardous wastes listed in part 7045.0135 are not hazardous wastes if the generator can demonstrate that the mixture consists of wastewater, the discharge of which is subject to regulation under the Federal Water Pollution Control Act Amendments

of 1972, United States Code, title 33, section 1317(b) or 1342, as amended through June 30, 1983, including wastewater at facilities which have eliminated the discharge of wastewater; and

(1) one or more of the following spent solvents listed in part 7045.0135: carbon tetrachloride, tetrachloroethylene, trichloroethylene; provided that the solvents are discharged into the wastewater stream as a result of normal manufacturing operations and provided further that the maximum total weekly usage of these solvents, other than the amounts that can be demonstrated not to be discharged to wastewater, divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed one part per million;

(2) one or more of the following spent solvents listed in part 7045.0135: methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents; provided that the solvents are discharged into the wastewater stream as a result of normal manufacturing operations and provided further that the maximum total weekly usage of these solvents, other than the amounts that can be demonstrated not to be discharged to wastewater, divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 25 parts per million;

(3) heat exchanger bundle cleaning sludge from the petroleum refining industry, hazardous waste No. K050 as listed in part 7045.0135;

(4) a discarded commercial chemical product, or chemical intermediate listed in part 7045.0135 arising from de minimis losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. De minimis losses include those from normal material handling operations (such as spills from the unloading or transfer of materials from bins or other containers or leaks from pipes, valves, or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well-maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsing from empty containers or from containers that are rendered empty by that rinsing; or

(5) wastewater resulting from laboratory operations containing toxic wastes listed in part 7045.0135, provided that the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pretreatment system, or provided the waste's combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pretreatment facility. Toxic wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation.

G. For the purpose of this part, headworks refers to the influent plumbing of a privately owned national pollutant discharge elimination system, state disposal system, or pretreatment facility or to the facility's point of discharge to a municipal collection system when the treatment facility is a publicly owned wastewater treatment facility.

H. Any mixture of a waste from the extraction, beneficiation, and processing of ores and minerals excluded under part 7045.0120, item I, and any other waste exhibiting a characteristic of hazardous waste under part 7045.0131 is a hazardous waste only if:

(1) it exhibits a characteristic that would not have been exhibited by the excluded waste alone if such mixture had not occurred; or

(2) it continues to exhibit any of the characteristics exhibited by the nonexcluded wastes prior to mixture.

For the purposes of applying the toxicity characteristic of part 7045.0131, subpart 7, to such mixtures, the mixture is also a hazardous waste if it exceeds the maximum concentration for any contaminant listed in part 7045.0131, subpart 8, that would not have been exceeded by the excluded waste alone if the mixture had not occurred or if it continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to mixture.

Subp. 3. Mixtures of used oil and hazardous waste. Items A to C apply to used oil that is intentionally mixed with hazardous waste.

A. Except as provided in item C, used oil mixed with a hazardous waste that exhibits any of the characteristics of part 7045.0131, subparts 2 to 7, is regulated as hazardous waste. If it is burned for energy recovery, it is regulated as a hazardous waste fuel under part 7045.0692 provided the mixture continues to exhibit any of those characteristics. If the mixture no longer exhibits any of those characteristics and is to be burned for energy recovery, it is regulated as a used oil fuel under part 7045.0695. If the mixture no longer exhibits any of those characteristics and is not burned for energy recovery, it is subject to the requirements of part 7045.0125.

B. Used oil mixed with hazardous waste listed in part 7045.0135 is a hazardous waste. If it is to be burned for energy recovery, it is regulated as a hazardous waste fuel under part 7045.0692.

C. A very small quantity generator may mix used oil that is generated on site and regulated as used oil fuel under part 7045.0695 with a waste that is hazardous solely for the characteristic of ignitability under part 7045.0131, subpart 2, if the following conditions are met:

(1) the ignitable waste has a flash point of 100 degrees Fahrenheit or greater, is not a metal bearing paint waste, and is not gasoline; and

(2) the concentration of ignitable waste in the used oil does not exceed ten percent by volume.

Statutory Authority: *MS s 115.03; 116.07*

History: *9 SR 115; 11 SR 1832; 14 SR 1718; 16 SR 197; 16 SR 2102*

NOTE: Amendments to subpart 2, items A to D, were also adopted at 15 SR 1878 to read as follows:

"Subp. 2. **Mixtures of hazardous and nonhazardous wastes.**

A. A mixture is a hazardous waste if it is a mixture of nonhazardous waste and any waste which is hazardous solely because it exhibits the characteristic of ignitability, corrosivity, oxidativity, or reactivity as described in part 7045.0131, unless the resulting mixture no longer exhibits any of the characteristics of ignitability, corrosivity, oxidativity, or reactivity and does not exhibit characteristics of toxicity or lethality as defined in part 7045.0131.

B. A mixture is a hazardous waste if it is a mixture of nonhazardous waste and any waste listed in part 7045.0135 solely because of ignitability, corrosivity, or reactivity, unless the resulting mixture either no longer exhibits any of the characteristics of ignitability, corrosivity, and reactivity, and does not exhibit characteristics of toxicity or lethality as defined in part 7045.0131, or has been excluded from regulation pursuant to part 7045.0075, subpart 2.

C. A mixture is a hazardous waste if it is a nonsewered mixture of nonhazardous waste and any waste listed in part 7045.0135 (other than wastes listed solely because of ignitability, corrosivity, or reactivity) or any waste which is hazardous because it exhibits the characteristics of toxicity or lethality as identified in part 7045.0131 unless the resulting mixture has been excluded from regulation pursuant to part 7045.0075, subpart 2.

D. A mixture is a hazardous waste if it is a sewered 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 before entering the sewer the resulting mixture no longer exhibits the characteristics of toxicity or lethality, and the sewerage of the mixture has been approved by the agency pursuant to parts 7045.0220 to 7045.0255. This provision does not apply to those mixtures defined as nonhazardous under item F."

7045.0110 [Repealed by amendment, 9 SR 115]

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;

B. sewage and any mixture of untreated sanitary sewage and other wastes that is formed by the combination of untreated sanitary sewage and one or more other wastes discharged through a sewage system to a publicly owned treatment works for treatment, except that this exemption does not include any of the individual wastes which form the composite wastewater;

C. garbage, rubbish, and demolition debris from nonhousehold sources;

D. mining overburden returned to the mine site;

E. an air contaminant or emission emitted pursuant to an emission facility operating permit;

F. fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated from the combustion of fuel which is at least 51 percent coal or other fossil fuels and the balance of the fuel does not contain hazardous waste;

G. wastes discharged pursuant to a national pollutant discharge elimination system permit;

H. drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas, or geothermal energy;

I. waste from the extraction, beneficiation, and processing of ores and minerals, including coal, and including phosphate rock and overburden from the mining of uranium ore. For purposes of this item, beneficiation of ores and minerals is restricted to the following activities: crushing; grinding; washing; dissolution; crystallization; filtration; sorting; sizing; drying; sintering; pelletizing; briquetting; calcining to remove water or carbon dioxide; roasting, autoclaving, or chlorination in preparation for leaching (except where the roasting, autoclaving, or chlorination/leaching sequence produces a final or intermediate product that does not undergo further beneficiation or processing); gravity concentration; magnetic separation; electrostatic separation; flotation; ion exchange; solvent extraction; electrowinning; precipitation; amalgamation; and heap, dump, vat, tank, and in situ leaching. For the purposes of this item, waste from the processing of ores and minerals includes only the following wastes:

- (1) red and brown muds from bauxite refining;
- (2) slag from elemental phosphorus production;
- (3) gasifier ash from coal gasification;
- (4) process wastewater from coal gasification;
- (5) slag tailings from primary copper processing;
- (6) fluorogypsum from hydrofluoric acid production;
- (7) iron blast furnace slag;
- (8) treated residue from the roasting/leaching of chrome ore; and
- (9) basic oxygen furnace and open hearth furnace slag from carbon steel production;

duction;

J. waste resulting from spills if the exemption is determined by the commissioner to be necessary to expedite the proper management of the spilled material and to prevent, abate, or control pollution as an immediate response to an emergency provided the waste is ultimately taken to a hazardous waste facility as specified in part 7045.0208;

K. a waste which contains chromium and which is not hazardous because of another component or because of a hazardous characteristic if it is shown by a generator that:

- (1) the chromium in the waste is exclusively or nearly exclusively trivalent chromium;
- (2) the waste is generated from an industrial process which used trivalent chromium exclusively or nearly exclusively and the process does not generate hexavalent chromium; and
- (3) the waste is typically and frequently managed in nonoxidizing environments;

L. a hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated nonwaste-treatment-manufacturing unit until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing or for storage or transportation of product or raw materials;

M. a sample of waste, water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition when:

- (1) the sample is being transported to a laboratory for the purpose of testing;
- or
- (2) the sample is being transported back to the sample collector after testing;
- or
- (3) the sample is being stored by the sample collector before transport to a laboratory for testing; or
 - (4) the sample is being stored in a laboratory before testing; or

(5) the sample is being stored in a laboratory after testing but before it is returned to the sample collector; or

(6) the sample is being stored temporarily in the laboratory after testing for a specific purpose such as the conclusion of a court case or other ongoing enforcement action where further testing of the sample may be necessary.

In all cases a sample collector who ships samples to a laboratory and a laboratory that returns samples to a sample collector must comply with United States Department of Transportation, United States Postal Service, or any other applicable shipping requirements. If the sample collector or laboratory determines that the United States Department of Transportation, United States Postal Service, or other shipping requirements do not apply to the shipment of the sample, then the collector or laboratory must assure that the following information accompanies the sample: the sample collector's name, mailing address, and telephone number; the laboratory's name, mailing address, and telephone number; the quantity of the sample; the date of the shipment; and a description of the sample. The sample must be packaged so that it does not leak, spill, or vaporize from its packaging. This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions specified in subitems (1) to (6).

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;

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

P. secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process provided that:

(1) only tank storage is involved and the entire process, through completion of reclamation, is closed by being entirely connected with pipes or other comparable enclosed means of conveyance;

(2) reclamation does not involve controlled flame combustion such as occurs in boilers, industrial furnaces, or incinerators;

(3) the secondary materials are never accumulated in such tanks for over 12 months without being reclaimed; and

(4) the reclaimed material is not used to produce a fuel, or used to produce products that are used in a manner constituting disposal;

Q. petroleum-contaminated media and debris that fail the test for the toxicity characteristic in part 7045.0131, subpart 7 (hazardous waste codes D018 to D043 only), and are subject to corrective action regulations under chapter 7150;

R. pesticides as provided in part 7045.0213, subpart 2;

S. samples of hazardous waste being collected or shipped for the purpose of conducting treatability studies as provided in part 7045.0121;

T. spent wood preserving solutions that have been reclaimed and reused for their original intended purpose, and wastewaters from the wood preserving process that have been reclaimed and are reused to treat wood; or

U. used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment, including mobile air conditioning systems, mobile refrigeration, and commercial and industrial air conditioning and refrigeration systems that use chlorofluorocarbons as the heat transfer fluid in a refrigeration cycle, provided the refrigerant is reclaimed for further use.

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

A. collected household hazardous waste under part 7045.0310;

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

C. collected hazardous waste from very small quantity generators under part 7045.0320.

Statutory Authority: *MS s 115.03; 116.07; 116.37*

History: *9 SR 115; 10 SR 1688; 11 SR 1832; L 1987 c 186 s 15; 13 SR 259; 14 SR 1718; 14 SR 2248; 15 SR 801; 15 SR 1515; 15 SR 1877; 15 SR 1878; 16 SR 197; 16 SR 2102; 17 SR 285*

7045.0121 TREATABILITY STUDY EXEMPTIONS.

Subpart 1. **Applicability.** Except as provided in subpart 2, persons who generate or collect samples for the purpose of conducting treatability studies, as defined in part 7045.0020, are not subject to any requirement of parts 7045.0100 to 7045.0397, or to the notification requirements of the Resource Conservation and Recovery Act, United States Code, title 42, section 6930 when:

A. the sample is being collected and prepared for transportation by the generator or sample collector;

B. the sample is being accumulated or stored by the generator or sample collector before transportation to a laboratory or testing facility; or

C. the sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study.

Subp. 2. **Conditions of exemption.** The exemption in subpart 1 is applicable to samples of hazardous waste being collected and shipped for the purpose of conducting treatability studies provided that:

A. no more than 1,000 kilograms of nonacute hazardous waste, one kilogram of acute hazardous waste, or 250 kilograms of soils, water, or debris contaminated with acute hazardous waste is used for each process being evaluated for each generated waste stream;

B. each sample shipment does not exceed 1,000 kilograms of nonacute hazardous waste, one kilogram of acute hazardous waste, or 250 kilograms of soils, water, or debris contaminated with acute hazardous waste;

C. the sample is packaged so that it will not leak, spill, or vaporize from its packaging during shipment and the requirements of either of the following subitems are met:

(1) the transportation of each sample shipment complies with United States Department of Transportation, United States Postal Service, and any other applicable shipping requirements; or

(2) if the United States Department of Transportation, United States Postal Service, or other shipping requirements do not apply to the shipment of the sample, the following information must accompany the sample: the name, mailing address, and telephone number of the originator of the sample; the name, address, and telephone number of the facility that will perform the treatability study; the quantity of the sample; the date of shipment; and a description of the sample, including its Environmental Protection Agency hazardous waste number;

D. the sample is shipped to a laboratory or testing facility that is exempt under this part, or has an appropriate permit under the Resource Conservation and Recovery Act, United States Code, title 42, section 6901 et seq., or interim status;

E. the generator or sample collector maintains the following records for a period ending three years after completion of the treatability study:

(1) copies of shipping documents;

(2) a copy of the contract with the facility conducting the treatability study;

and

(3) documentation showing the amount of waste shipped under this exemption; the name, address, and Environmental Protection Agency identification number of the laboratory or testing facility that received the waste; the date the shipment was made; and whether or not unused samples and residues were returned to the generator.

F. the generator reports the information required under item E, subitem (3), in its report to the commissioner as specified in part 7045.0248.

Subp. 3. **Facilities and sample handling.** A mobile treatment unit may qualify as a laboratory or testing facility subject to requirements of this subpart. Where a group of mobile

treatment units are located at the same site, the limitations specified in this subpart apply to the entire group of mobile treatment units involved in treatability studies collectively as if the group were one mobile treatment unit. Samples undergoing treatability studies and the laboratory or testing facility conducting the treatability studies, to the extent the facilities are engaged directly in treatability studies and are not otherwise subject to the Resource Conservation and Recovery Act, United States Code, title 42, section 6901 et seq. requirements, are not subject to any requirements of Code of Federal Regulations, title 40, part 124; parts 7045.0100 to 7045.0685 except this part and applicable references; parts 7023.9000 to 7023.9050; 7045.1300 to 7045.1380; chapter 7001; or to the notification requirements of the Resource Conservation and Recovery Act, United States Code, title 42, section 6930, providing that the conditions in items A to K are met.

A. No less than 45 days before conducting treatability studies, the facility operator notifies the commissioner in writing that it intends to conduct treatability studies under this item.

B. The laboratory or testing facility conducting the treatability study has an Environmental Protection Agency identification number.

C. No more than a total of 250 kilograms of hazardous waste sample of which no more than one kilogram may be acute hazardous waste, as received, is subjected to initiation of treatment in all treatability studies in any single day. The term "as received" refers to the hazardous waste sample in the form received in the shipment from the generator or sample collector for the purpose of evaluation in treatability studies.

D. The quantity of as received hazardous waste sample stored at the facility for the purpose of evaluation in treatability studies does not exceed 1,000 kilograms, the total of which can include 500 kilograms of soils, water, or debris contaminated with acute hazardous waste or one kilogram of acute hazardous waste. This quantity limitation does not include:

(1) treatability study residues; and

(2) treatment materials, including nonhazardous solid waste, added to as received hazardous waste sample.

E. Any unused sample or residues generated from the treatability study must be returned to the generator or sample collector, or must be sent to a designated facility with a current Environmental Protection Agency identification number within 90 days after completion of the treatability study or within one year of the date the generator or sample collector shipped the sample to the laboratory or testing facility, whichever date occurs first.

F. The treatability study does not involve the placement of hazardous waste on the land or open burning of hazardous waste.

G. The facility maintains records for three years following completion of each treatability study conducted and these records track compliance with the limits on treatment rate, storage time, and quantity and also include the following information:

(1) the name, address, and Environmental Protection Agency identification number of the generator or sample collector of each hazardous waste sample;

(2) the date the waste sample shipment was received;

(3) the quantity of waste sample accepted;

(4) the quantity of as received waste sample in storage each day;

(5) the date the treatment study was initiated, and the amount of as received waste sample introduced to treatment each day;

(6) the date the treatability study was concluded; and

(7) the date any unused sample or residues generated from the treatability study were returned to the generator or sample collector or, if sent to a designated facility, the name of the facility and its Environmental Protection Agency identification number.

H. The facility must keep, on-site, a copy of the treatability study contract and all shipping papers associated with the transport of treatability study samples to and from the facility for a period ending three years from the completion date of each treatability study.

I. The facility prepares and submits a report to the commissioner by March 15 of each year that estimates the number of studies and the amount of waste expected to be used in

treatability studies during the current year and includes the following information for the previous calendar year:

- (1) the name, address, and Environmental Protection Agency identification number of the facility conducting the treatability studies;
- (2) the types, by process, of treatability studies conducted;
- (3) the names and addresses of persons for whom studies have been conducted, including their Environmental Protection Agency identification numbers;
- (4) the total quantity of waste in storage each day;
- (5) the quantity and types of waste subjected to treatability studies;
- (6) when each treatability study was conducted; and
- (7) the final disposition of residues and unused sample from each treatability study.

J. The facility determines whether any unused sample or residues generated by the treatability study are hazardous waste under parts 7045.0100 to 7045.0143, and, if so, are subject to chapters 7001 and 7045 and parts 7023.9000 to 7023.9050, unless the residues and unused samples are returned to the sample originator, in which case the sample originator is responsible to make this determination.

K. The facility notifies the commissioner by letter when the facility is no longer planning to conduct any treatability studies at the site.

Statutory Authority: *MS s 116.07*

History: *14 SR 2248; 16 SR 2102; 18 SR 614*

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

Subpart 1. Scope. This part regulates hazardous waste and used oil that is to be recycled except for use constituting disposal as provided in part 7045.0665, hazardous waste used for precious metals recovery as provided in part 7045.0675; spent lead-acid batteries being reclaimed as provided in part 7045.0685; hazardous waste fuel being burned for energy recovery as provided in part 7045.0692; or used oil fuel being burned for energy recovery as provided in part 7045.0695.

Subp. 2. [Repealed, 10 SR 1688]

Subp. 3. Out-of-state waste. Hazardous waste from an out-of-state generator that is to be beneficially used, reused, or legitimately recycled or reclaimed by methods other than burning, is exempt from the requirements of parts 7045.0221 to 7045.0255.

Subp. 3a. Management requirements for used oil.

A. Used oil that is recycled in some other manner than being burned for energy recovery is not subject to the requirements of parts 7045.0205 to 7045.0695 and 7045.1300 to 7045.1380.

B. Used oil that is not recycled is regulated as a hazardous waste and is subject to the applicable requirements of parts 7045.0205 to 7045.0695 and 7045.1300 to 7045.1380.

C. Used oil that is to be burned for energy recovery is regulated under part 7045.0695. Used oil that is mixed with hazardous waste and is burned for energy recovery is regulated under part 7045.0692 and the applicable requirements of part 7045.0102.

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:

- A. industrial ethyl alcohol that is reclaimed, except as provided in subpart 12;
- B. used batteries or used battery cells returned to a battery manufacturer for regeneration;
- C. scrap metal;
- D. fuels produced from the refining of oil-bearing hazardous wastes along with normal process streams at a petroleum refining facility if the wastes result from normal petroleum refining, production, and transportation practices;
- E. oil that is reclaimed from hazardous wastes that are generated from normal petroleum refining, production, and transportation practices, and that is to be refined along with normal process streams at a petroleum refining facility;

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 L, subitem (2), (decanter tank tar sludge from coking operations) from the iron and steel production process;

G. hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from the hazardous wastes, where the hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil if the resulting fuel meets the used oil specification under part 7045.0695, subpart 1, item B, subitem (1), and no other hazardous wastes are used to produce the hazardous waste fuel;

H. hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining, production, and transportation practices, where the hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, if the fuel meets the used oil fuel specification under part 7045.0695, subpart 1, item B, subitem (1);

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); and

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.

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, 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:

- (1) used or reused as ingredients in an industrial process to make a product, provided the hazardous wastes are not being reclaimed;
- (2) used or reused as effective substitutes for commercial products; or
- (3) returned to the original process from which they are generated, without first being reclaimed. The hazardous waste must be returned as a substitute for raw material feedstock, and the process must use raw materials as principal feedstocks.

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

- (1) parts 7045.0214 to 7045.0217 for waste evaluation requirements;
- (2) part 7045.0221 for identification number requirements;
- (3) parts 7045.0225 to 7045.0250 for licensing and license reporting requirements;
- (4) within 45 days of shipment, the generator must provide the commissioner a copy of the shipping papers confirming that the hazardous waste was delivered to the designated facility as indicated in the management plan; and
- (5) the generator must keep records showing: the volume of these wastes stored at the beginning of the calendar year; the amount of these hazardous wastes generated during the calendar year; the amount of these hazardous wastes used as a feedstock during the calendar year; and the amount of these hazardous wastes remaining at the end of the calendar year.

C. Transporters of hazardous wastes for use as feedstock must comply with all applicable requirements of Minnesota Statutes, sections 221.033 and 221.034, and with 221.035 if applicable, and Code of Federal Regulations, title 49, parts 171 to 179.

D. Owners or operators of facilities that manage hazardous wastes for use as feedstock are subject to the following requirements:

- (1) prior to receiving the waste, as a designated facility, the owner or operator must provide the commissioner with written evidence to document that the hazardous waste

is used as specified in item A and that the facility has the equipment necessary to manage the hazardous waste; and

(2) the owner or operator must keep records showing: the volume of these hazardous wastes stored at the beginning of the calendar year; the amount of these wastes received during the calendar year; the amount of these hazardous wastes used as a feedstock during the calendar year; and the amount of these hazardous wastes remaining at the end of the calendar year.

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 the following requirements:

(1) A generator of such a hazardous waste is subject to the requirements of subpart 5, item B.

(2) Transporters of such a hazardous waste must comply with all applicable requirements of Minnesota Statutes, sections 221.033 and 221.034, and with 221.035 if applicable, and Code of Federal Regulations, title 49, parts 171 to 179.

(3) Owners or operators of designated facilities receiving a hazardous characteristic by-product or sludge must provide written evidence to the commissioner prior to receiving such hazardous waste that the owner or operator has the equipment and capability to reclaim such hazardous waste, and must keep records showing: the volumes of such hazardous waste stored at the beginning of the year; the amount of such hazardous waste received during the calendar year; the amount of such hazardous waste reclaimed during the calendar year; and the amount of such hazardous waste remaining at the end of the calendar year.

B. This subpart does not apply to hazardous wastes being accumulated speculatively as defined in part 7045.0020 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. Except as provided in subpart 3a, 4, 5, or 6, 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. Except as provided in subpart 3a, 4, 5, or 6, 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. Except as provided in subpart 3a, 4, 5, or 6, or parts 7045.0692 and 7045.0695, owners or operators of facilities which recycle hazardous waste are subject to the following requirements:

A. If the recyclable hazardous waste is stored before it is recycled, the owners or operators are subject to the requirements of parts 7023.9000 to 7023.9050, 7045.0450 to 7045.0534, 7045.0552 to 7045.0632, and 7045.1300 to 7045.1380, and chapter 7001. The recycling process itself is exempt from regulation except as provided in item C.

B. If the recyclable hazardous waste is recycled without storing before recycling, the owners or operators are subject to the requirements of parts 7045.0556, subpart 2; 7045.0580; and 7045.0582.

C. Owners or operators of facilities subject to RCRA permitting requirements with hazardous waste management units that recycle hazardous wastes are subject to the process vent and equipment leak standards in parts 7045.0547 and 7045.0548 and 7045.0647 and 7045.0648.

Subp. 10. [Repealed, 14 SR 1718]

Subp. 11. [Repealed, 14 SR 1718]

Subp. 12. Export of industrial ethyl alcohol.

A. Unless provided otherwise in an international agreement as authorized by Code of Federal Regulations, title 40, part 262.58, a person initiating a shipment of industrial ethyl alcohol for reclamation in a foreign country, and any intermediary arranging for the shipment, must: (1) comply with the requirements applicable to a primary exporter in part 7045.0302, subpart 2; subpart 6, items A to D and F; and subpart 7; (2) export industrial ethyl

alcohol for reclamation only upon consent of the receiving country and in conformance with the EPA Acknowledgment of Consent as specified in part 7045.0302; and (3) provide a copy of the EPA Acknowledgment of Consent to the transporter transporting the shipment for export.

B. Transporters transporting a shipment for export may not accept a shipment if the shipment does not conform to the EPA Acknowledgment of Consent, and must ensure that a copy of the EPA Acknowledgment of Consent accompanies the shipment and that the shipment is delivered to the designated facility.

Statutory Authority: *MS s 115.03; 116.07*

History: *9 SR 115; 9 SR 2613; 10 SR 1688; 11 SR 1832; L 1987 c 186 s 15; 12 SR 1660; 13 SR 1238; 14 SR 976; 14 SR 1718; 16 SR 2102; 16 SR 2321; 18 SR 614*

7045.0127 RESIDUES IN EMPTY CONTAINERS AND EMPTY INNER LINERS.

Subpart 1. **Scope.** Any hazardous waste remaining in an empty container or an empty inner liner removed from an empty container, as defined in subparts 2 to 4 is not subject to regulation under parts 7045.0100 to 7045.1030 and 7045.1300 to 7045.1380, or a hazardous waste facility permit. Any hazardous waste in a container or an inner liner removed from a container that is not empty, as defined in subparts 2 to 4, is subject to regulation under parts 7045.0100 to 7045.1030 and 7045.1300 to 7045.1380, and the agency's permitting procedures.

Subp. 2. **Empty containers or inner liners; definition.** A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is a compressed gas or that is identified as an acute hazardous waste in part 7045.0135, subpart 2, 3, or 4, item E, is empty if:

A. all wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container such as pouring, pumping, and aspirating; and

B. no more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner; or

C. no more than three percent by weight of the total capacity of the container remains in the container or inner liner if the container or inner liner is less than or equal to 110 gallons in size; or

D. no more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container or inner liner is greater than 110 gallons in size.

Subp. 3. **Other empty containers or inner liners.** A container or inner liner that has held an acute hazardous waste identified in part 7045.0135, subpart 2, 3, or 4, item E is empty if:

A. the container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

B. the container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

C. in the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

Subp. 4. **Empty compressed gas containers.** A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric pressure.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; 10 SR 1212; 13 SR 1238*

7045.0129 CRITERIA FOR LISTING HAZARDOUS WASTE.

Subpart 1. **Criteria used by agency for listing hazardous waste.** The agency shall list a waste as hazardous if:

A. the waste exhibits any of the characteristics of hazardous waste in part 7045.0131;

B. the waste has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral median lethal dose toxicity (rat) of less than 50 milligrams per kilogram, an inhalation median lethal concentration toxicity (rat) of less than two milligrams per liter, or a dermal median lethal dose toxicity (rabbit) of less than 200 milligrams per kilogram, or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness; or

C. the waste contains any of the toxic constituents listed in part 7045.0141 unless the agency concludes that the waste is not capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed, or otherwise managed. The agency shall consider the following factors when it makes this decision:

- (1) the nature of the toxicity presented by the constituent;
- (2) the concentration of the constituent in the waste;
- (3) the potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in subitem (7);
- (4) the persistence of the constituent or any toxic degradation product of the constituent;
- (5) the potential for the constituent or any toxic degradation product of the constituent to degrade into nonharmful constituents and the rate of degradation;
- (6) the degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems;
- (7) the plausible types of improper management to which the waste could be subjected;
- (8) the quantities of the waste generated at individual generation sites or on a regional or national basis;
- (9) the nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent;
- (10) action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent; and
- (11) other factors that are relevant to the agency's determination of whether the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Subp. 2. Classes of wastes. The agency may list classes or types of waste as hazardous waste if there is reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste in part 7045.0020.

Subp. 3. Acute and toxic wastes. Waste listed in accordance with the criteria of subpart 1, item B shall be designated acute hazardous waste. Waste listed in accordance with the criteria of subpart 1, item C or which exhibits the characteristic of toxicity under subpart 1, item A shall be designated as toxic waste. Substances shall be listed in part 7045.0141 only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic, or teratogenic effects on humans or other life forms.

Subp. 4. Commissioner's recommendation. The commissioner may recommend to the agency that a specific generator's waste be classified as a hazardous waste because it meets one or more of the criteria in subpart 1, or because its quantity, concentration, or chemical, physical, or infectious characteristics may:

A. cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or

B. pose a substantial present or potential hazard to human health, or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. If

the commissioner makes such a recommendation, the procedures in part 7045.0218 shall be followed.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.0130 [Repealed by amendment, 9 SR 115]

7045.0131 CHARACTERISTICS OF HAZARDOUS WASTE.

Subpart 1. In general. A waste which is not excluded from regulation as a hazardous waste under part 7045.0120 is a hazardous waste if it exhibits ignitability, corrosivity, reactivity, toxicity, lethality, or is an oxidizer, as described in subparts 2 to 7. A hazardous waste which is identified by a characteristic in this part is assigned every hazardous waste number that is applicable. This number must be used in complying with the notification requirements of section 3010 of the federal Resource Conservation and Recovery Act and all applicable record keeping and reporting requirements under parts 7023.9000 to 7023.9050, 7045.0205 to 7045.0642 and 7045.1300, and chapter 7001. For purposes of this part, the commissioner shall consider a sample obtained using any of the applicable sampling methods specified in Code of Federal Regulations, title 40, part 260, Appendix I or part 261, Appendix II, to be a representative sample.

Subp. 2. Ignitability. A waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

A. it is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume, and has a flash point less than 60 degrees Celsius (140 degrees Fahrenheit), as determined by a Pensky–Martens Closed Cup Tester using the test method specified in standard D–93–79 or D–93–80 in the Annual Book of ASTM Standards, issued by the American Society for Testing and Materials (Philadelphia 1982), or a Setaflash Closed Cup Tester using the test method specified in standard D–3278–78 in the Annual Book of ASTM Standards, issued by the American Society for Testing and Materials (Philadelphia 1982), or as determined by an equivalent test method approved by the commissioner under the procedures set forth in part 7045.0075, subpart 1;

B. it is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard; or

C. it is an ignitable compressed gas as defined in Code of Federal Regulations, title 49, section 173.300 (1983) and as determined by the test methods described in that regulation or equivalent test methods approved by the commissioner under part 7045.0075, subpart 1.

A waste that exhibits the characteristic of ignitability has the hazardous waste number of D001.

Subp. 3. Oxidizers. A waste exhibits the characteristics of an oxidizer if a representative sample of the waste has the following properties:

A. it is an oxidizer as defined in Code of Federal Regulations, title 49, section 173.151 (1983); or

B. it readily supplies oxygen to a reaction in the absence of air. Oxidative materials include, but are not limited to, oxides, organic and inorganic peroxides, permanganates, perrhenates, chlorates, perchlorates, persulfates, nitric acid, organic and inorganic nitrates, iodates, periodates, bromates, perselenates, perbromates, chromates, dichromates, ozone, and perborates. Bromine, chlorine, fluorine, and iodine react similarly to oxygen under some conditions and are therefore also oxidative materials.

A waste that exhibits the characteristics of an oxidizer has the hazardous waste number of D001.

Subp. 4. Corrosivity. A waste exhibits the characteristic of corrosivity if a representative sample of the waste has any of the following properties:

A. It is aqueous and has a pH less than or equal to 2.0 or greater than or equal to 12.5, as determined by a pH meter using either the test method in the Test Methods for Evaluating Solid Waste, Physical/Chemical Methods issued by the United States Environmental Protection Agency, publication number SW 846 (First Edition, 1980 as updated by Revi-

sions A (August 1980), B (July 1981), and C (February 1982) or Second Edition, 1982) also described in Methods for Chemical Analysis of Water and Waste issued by the Environmental Monitoring and Support Laboratory, publication number 600/7-79-020 (March 1979), or an equivalent test method approved by the commissioner under the procedures set forth in part 7045.0075, subpart 1; or

B. It is liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55 degrees Celsius (130 degrees Fahrenheit) as determined by the test method specified in National Association of Corrosion Engineers Standard TM-01-69 as standardized in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, issued by the United States Environmental Protection Agency, publication number SW 846 (First Edition, 1980 as updated by Revisions A (August 1980), B (July 1981), and C (February 1982) or Second Edition, 1982) or an equivalent test method approved by the commissioner under the procedures set forth in part 7045.0075, subpart 1.

A waste that exhibits the characteristic of corrosivity has the hazardous waste number of D002.

Subp. 5. Reactivity. A waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

A. it is normally unstable and readily undergoes violent change without detonating;

B. it reacts violently with water;

C. it forms potentially explosive mixtures with water;

D. when mixed with water, it generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment;

E. it is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2.0 and 12.5 can generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment;

F. it is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement;

G. it is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; or

H. it is a forbidden explosive as defined in Code of Federal Regulations, title 49, section 173.51 (1983), a Class A explosive as defined in Code of Federal Regulations, title 49, section 173.53 (1983), or a Class B explosive as defined in Code of Federal Regulations, title 49, Section 173.88 (1983).

A waste that exhibits the characteristic of reactivity has the hazardous waste number of D003.

Subp. 6. Lethality. Lethality is determined as follows:

A. A waste exhibits the characteristic of lethality as determined in item B, if a representative sample of the waste has any one of the following properties:

(1) an oral median lethal dose less than 500 milligrams of material per kilogram of body weight of test animal;

(2) a dermal median lethal dose less than 1,000 milligrams of material per kilogram of body weight of test animal;

(3) an inhalation median lethal concentration of less than 2,000 milligrams of material per cubic meter of air, if the material or a component is in a form that may be inhaled as a dust or mist; or

(4) an inhalation median lethal concentration of less than 1,000 parts per million of material in air, if the material or component may be inhaled as gas or vapor.

B. Lethality shall be determined by applying knowledge of materials and processes used, including reasonably available information on the lethality of the components of the waste. If available information and knowledge are insufficient to reasonably determine lethality, the generator must notify the commissioner. The commissioner may order additional evaluation as specified in part 7045.0217. Additional evaluation may include testing according to the specifications of item C.

C. Lethality shall be determined as described in subitems (1) to (3):

(1) Oral median lethal dose shall be determined by a test in which the specified time is 14 days, the group of test animals is at least ten white laboratory rats of 200 to 300 grams each, half of which are male and half of which are female, and the route of administration is a single oral dose.

(2) Dermal median lethal dose shall be determined by a test in which the specified time is 14 days and the group of test animals is ten or more white rabbits, half of which are male and half of which are female, and the route of administration is a 24-hour exposure with continuous contact on bare skin.

(3) Inhalation median lethal concentration shall be determined by a test in which the specified time is 14 days, the group of the test animals is at least ten white laboratory rats of 200 to 300 grams each, half of which are male and half of which are female, and the route of administration is continuous respiratory exposure for a period of one hour.

D. A waste that exhibits the characteristics of lethality has the hazardous waste number MN01.

Subp. 7. Toxicity. Toxicity is determined as follows:

A. A waste exhibits the characteristic of toxicity if, using the test methods described in Code of Federal Regulations, title 40, part 261, appendix II, as amended, or equivalent methods approved by the commissioner under the procedures in part 7045.0075, subpart 1, the extract from a representative sample of the waste contains any of the contaminants listed in subpart 8 at a concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering, is considered to be the extract.

B. A waste that exhibits the characteristic of toxicity has the hazardous waste number specified in subpart 8 which corresponds to the toxic contaminant causing it to be hazardous.

C. If the concentration of a constituent in a waste is known and that constituent is listed in subpart 8, the maximum possible concentration in the extract can be calculated on the assumption that 100 percent of the constituent will be extracted. If the calculated maximum possible concentration in the extract is less than the limit listed in subpart 8, the waste is not a hazardous waste because of the subject constituent.

Subp. 8. Maximum concentration of contaminants for the toxicity characteristic.

Hazardous Waste Number	Contaminant	CAS No.	Maximum Concentration (milligrams per liter)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	*200.0
D024	m-Cresol	108-39-4	*200.0
D025	p-Cresol	106-44-5	*200.0
D026	Cresol		*200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	0.13
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its epoxide)	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	0.13
D033	Hexachlorobutadiene	87-68-3	0.5

D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl ethyl ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

*If o-, m-, and p-cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 milligrams per liter.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; L 1987 c 186 s 15; 15 SR 1878; 16 SR 2239; 18 SR 614*

7045.0133 EXEMPTION FROM REGULATION DUE TO LETHALITY.

Subpart 1. **In general.** A specific generator's waste that meets any of the lethality characteristics as described in part 7045.0131, subpart 6, may be exempted from regulation under parts 7045.0100 to 7045.1030 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 7045.0100 to 7045.1030, the generator must present information related to the following factors:

- A. the nature of the lethality displayed by the waste;
- B. the median lethal dose or median lethal concentration of the entire waste and each of the lethal constituents within the waste;
- C. the lethal constituent or constituents present in the waste and the respective concentrations;
- D. the quantity of the waste produced by the generator on an annual basis;
- E. the types of improper or routine waste management to which the waste could be subjected;
- F. based upon the improper or routine waste management methods considered in item E, the following factors:
 - (1) the potential of the lethal constituent or constituents or any lethal degradation product or products to migrate from the waste into the environment;
 - (2) the persistence of the lethal constituent or constituents or any lethal degradation product or products;
 - (3) the degree to which the lethal constituent or constituents or any lethal degradation product or products may bioaccumulate in the environment;
 - (4) the potential for the lethal constituents or constituents of any lethal degradation product or products to degrade into nonhazardous constituents and the rate of degradation; and
 - (5) the potential nature and severity of the human health and environmental damage which may result; and

G. other factors that are relevant to the agency's determination of whether the waste is 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 of, or managed under routine waste management methods.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 15 SR 1878*

7045.0135 LISTS OF HAZARDOUS WASTES.

Subpart 1. **General.** A waste is a hazardous waste if it is listed under subparts 2 to 5 unless it has been excluded from the list under part 7045.0075, subpart 2.

The basis for listing the classes or types of wastes listed in subparts 2 to 5 is indicated by employing one or more of the following hazard codes:

- A. ignitable waste, (I);
- B. corrosive waste, (C);
- C. reactive waste, (R);
- D. toxicity characteristic waste, (E);
- E. acute hazardous waste, (H); and
- F. toxic waste, (T).

The constituent which caused the agency to list the waste as a toxicity characteristic waste (E) or toxic waste (T) in subparts 2 and 3 is identified in part 7045.0139.

Each listed hazardous waste is assigned a hazardous waste number which precedes the name of the waste.

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

A. F001, the following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more by volume of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures: (T);

B. F002, the following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more by volume of one or more of the above halogenated solvents or those solvents listed in F001, F004, and F005; and the still bottoms from the recovery of these spent solvents and spent solvent mixtures: (T);

C. F003, the following spent nonhalogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent nonhalogenated solvents; and all spent solvent mixtures/blends, containing, before use, one or more of the above nonhalogenated solvents and a total of ten percent or more by volume of one or more of those solvents listed in F001, F002, F004, and F005; and the still bottoms from the recovery of these spent solvents and spent solvent mixtures: (I);

D. F004, the following spent nonhalogenated solvents: cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more by volume of one or more of the above nonhalogenated solvents or those solvents listed in F001, F002, and F005; and the still bottoms from the recovery of these spent solvents and spent solvent mixtures: (T);

E. F005, the following spent nonhalogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more by volume of one or more of the above nonhalogenated solvents or those solvents listed in F001, F002, and F004; and the still bottoms from the recovery of these spent solvents and spent solvent mixtures: (I,T);

F. F006, wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum, (2) tin plating on carbon steel, (3) zinc plating (segregated basis) on carbon steel, (4) aluminum or zinc aluminum plating on carbon steel, (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel, and (6) chemical etching and milling of aluminum: (T);

G. F007, spent cyanide plating bath solutions from electroplating operations: (R,T);

H. F008, plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process: (R,T);

I. F009, spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process: (R,T);

J. F010, quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process: (R,T);

K. F011, spent cyanide solutions from salt bath pot cleaning from metal heat treating operations: (R,T);

L. F012, quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process: (T);

M. F019, wastewater treatment sludges from the chemical conversion coating of aluminum, except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process: (T);

N. F020, wastes, except wastewater and spent carbon from hydrogen chloride purification, from the production or manufacturing use as a reactant, chemical intermediate, or component in a formulating process of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. This listing does not include wastes from the production of hexachlorophene from highly purified 2,4,5- tri-chlorophenol: (H);

O. F021, wastes, except wastewater and spent carbon from hydrogen chloride purification, from the production or manufacturing use as a reactant, chemical intermediate, or component in a formulating process of pentachlorophenol, or of intermediates used to produce its derivatives: (H);

P. F022, wastes, except wastewater and spent carbon from hydrogen chloride purification, from the manufacturing use as a reactant, chemical intermediate, or component in a formulating process of tetra-, penta-, or hexachlorobenzenes under alkaline conditions: (H);

Q. F023, wastes, except wastewater and spent carbon from hydrogen chloride purification, from the production of materials on equipment previously used for the production or manufacturing use as a reactant, chemical intermediate, or component in a formulating process of tri- and tetrachlorophenols. This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol: (H);

R. F024, process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor cleanout wastes from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in this subpart and subpart 3: (T);

S. F025, condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution: (T);

T. F026, wastes, except wastewater and spent carbon from hydrogen chloride purification, from the production of materials on equipment previously used for the manufacturing use as a reactant, chemical intermediate, or component in a formulating process of tetra-, penta-, or hexachlorobenzene under alkaline conditions: (H);

U. F027, discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. This listing does not include formulations containing hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component: (H);

V. F028, residues resulting from the incineration or thermal treatment of soil contaminated with hazardous waste Nos. F020, F021, F022, F023, F026, and F027: (T);

W. F032, wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations, except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with part 7045.0145 and where the generator does not resume or initiate use of chlorophenolic formulations. 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 include wastewaters which have not come into contact with process contaminants. This listing does not include wastes from plants which have previously used chlorophenolic formulations and are included in the F034 or F035 listings: (T);

X. F034, wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. 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 include wastewaters which have not come into contact with process contaminants: (T);

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); and

Z. 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. 3. Hazardous waste from specific sources. Hazardous wastes from specific sources are listed with the industry and hazardous waste number and hazard code in items A to Q.

A. Wood preservation: K001, bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol: (T).

B. Inorganic pigments:

(1) K002, wastewater treatment sludge from the production of chrome yellow and orange pigments: (T);

(2) K003, wastewater treatment sludge from the production of molybdate orange pigments: (T);

(3) K004, wastewater treatment sludge from the production of zinc yellow pigments: (T);

(4) K005, wastewater treatment sludge from the production of chrome green pigments: (T);

(5) K006, wastewater treatment sludge from the production of chrome oxide green pigments, anhydrous and hydrated: (T);

(6) K007, wastewater treatment sludge from the production of iron blue pigments: (T); and

(7) K008, oven residue from the production of chrome oxide green pigments: (T).

C. Organic chemicals:

- (1) K009, distillation bottoms from the production of acetaldehyde from ethylene: (T);
- (2) K010, distillation side cuts from the production of acetaldehyde from ethylene: (T);
- (3) K011, bottom stream from the wastewater stripper in the production of acrylonitrile: (R,T);
- (4) K013, bottom stream from the acetonitrile column in the production of acrylonitrile: (R,T);
- (5) K014, bottoms from the acetonitrile purification column in the production of acrylonitrile: (T);
- (6) K015, still bottoms from the distillation of benzyl chloride: (T);
- (7) K016, heavy ends or distillation residues from the production of carbon tetrachloride: (T);
- (8) K017, heavy ends (still bottoms) from the purification column in the production of epichlorohydrin: (T);
- (9) K018, heavy ends from the fractionation column in ethyl chloride production: (T);
- (10) K019, heavy ends from the distillation of ethylene dichloride in ethylene dichloride production: (T);
- (11) K020, heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production: (T);
- (12) K021, aqueous spent antimony catalyst waste from fluoromethanes production: (T);
- (13) K022, distillation bottom tars from the production of phenol/acetone from cumene: (T);
- (14) K023, distillation light ends from the production of phthalic anhydride from naphthalene: (T);
- (15) K024, distillation bottoms from the production of phthalic anhydride from naphthalene: (T);
- (16) K093, distillation light ends from the production of phthalic anhydride from ortho-xylene: (T);
- (17) K094, distillation bottoms from the production of phthalic anhydride from ortho-xylene: (T);
- (18) K025, distillation bottoms from the production of nitrobenzene by the nitration of benzene: (T);
- (19) K026, stripping still tails from the production of methyl ethyl pyridines: (T);
- (20) K027, centrifuge and distillation residues from toluene diisocyanate production: (R,T);
- (21) K028, spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane: (T);
- (22) K029, waste from the product steam stripper in the production of 1,1,1-trichloroethane: (T);
- (23) K095, distillation bottoms from the production of 1,1,1-trichloroethane: (T);
- (24) K096, heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane: (T);
- (25) K030, column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene: (T);
- (26) K083, distillation bottoms from aniline production: (T);
- (27) K103, process residues from aniline extraction from the production of aniline: (T);

- (28) K104, combined wastewater streams generated from nitrobenzene/ani-line production: (T);
- (29) K085, distillation or fractionation column bottoms from the production of chlorobenzenes: (T);
- (30) K105, separated aqueous stream from the reactor product washing step in the production of chlorobenzenes: (T);
- (31) K111, product wash waters from the production of dinitrotoluene via nitration of toluene: (C,T);
- (32) K112, reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene: (T);
- (33) K113, condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene: (T);
- (34) K114, vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene: (T);
- (35) K115, heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene: (T);
- (36) K116, organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine: (T);
- (37) K117, wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene: (T);
- (38) K118, spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene: (T);
- (39) K136, still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene: (T);
- (40) K107, column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazines: (C,T);
- (41) K108, condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides: (I,T);
- (42) K109, spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides: (T); and
- (43) K110, condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides: (T).

D. Inorganic chemicals:

- (1) K071, brine purification muds from the mercury cell process in chlorine production, when separately prepurified brine is not used: (T);
- (2) K073, chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production: (T); and
- (3) K106, wastewater treatment sludge from the mercury cell process in chlorine production: (T).

E. Pesticides:

- (1) K031, by-product salts generated in the production of monosodium methanearsonate (MSMA) and cacodylic acid: (T);
- (2) K032, wastewater treatment sludge from the production of chlordane: (T);
- (3) K033, wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane: (T);
- (4) K034, filter solids from the filtration of hexachloro-cyclopentadiene in the production of chlordane: (T);
- (5) K097, vacuum stripper discharge from the chlordane chlorinator in the production of chlordane: (T);
- (6) K035, wastewater treatment sludges generated in the production of creosote: (T);

- (7) K036, still bottoms from toluene reclamation distillation in the production of disulfoton: (T);
- (8) K037, wastewater treatment sludges from the production of disulfoton: (T);
- (9) K038, wastewater from the washing and stripping of phorate production: (T);
- (10) K039, filter cake from the filtration of diethylphos-phorodithioic acid in the production of phorate: (T);
- (11) K040, wastewater treatment sludge from the production of phorate: (T);
- (12) K041, wastewater treatment sludge from the production of toxaphene: (T);
- (13) K098, untreated process wastewater from the production of toxaphene: (T);
- (14) K042, heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T: (T);
- (15) K043, 2,6-Dichlorophenol waste from the production of 2,4-D: (T);
- (16) K099, untreated wastewater from the production of 2,4-D: (T);
- (17) K123, process wastewater (including supernates, filtrates, and wash waters) from the production of ethylenebis[dithiocarbamic acid] and its salts: (T);
- (18) K124, reactor vent scrubber water from the production of ethylenebis[dithiocarbamic acid] and its salts: (C,T);
- (19) K125, filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts: (T);
- (20) K126, bag house dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts: (T);
- (21) K131, wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide: (C,T); and
- (22) K132, spent absorbent and wastewater separator solids from the production of methyl bromide: (T).

F. Explosives:

- (1) K044, wastewater treatment sludges from the manufacturing and processing of explosives: (R);
- (2) K045, spent carbon from the treatment of wastewater containing explosives: (R);
- (3) K046, wastewater treatment sludges from the manufacturing, formulation and loading of lead based initiating compounds: (T); and
- (4) K047, pink/red water from operations involving 2,4,6-trinitro-toluene (TNT): (R).

G. Petroleum refining:

- (1) K048, dissolved air flotation (DAF) float from the petroleum refining industry: (T);
- (2) K049, slop oil emulsion solids from the petroleum refining industry: (T);
- (3) K050, heat exchanger bundle cleaning sludge from the petroleum refining industry: (T);
- (4) K051, American Petroleum Institute separator sludge from the petroleum refining industry as specified in The Manual on Disposal of Refinery Wastes, volume 1, issued by the American Petroleum Institute, (Washington, D.C., 1969), available at the State of Minnesota Law Library: (T); and
- (5) K052, tank bottoms (leaded) from the petroleum refinery industry: (T).

H. Iron and steel:

- (1) K061, emission control dust or sludge from the primary production of steel in electric furnaces: (T); and

(2) K062, spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry that are classified as number 331 or 332 facilities under the Standard Industrial Classification Manual: (C,T) (1972), which is incorporated by reference. This document is prepared and issued by the Executive Office of the President, Office of Management and Budget, Statistical Policy Division. It is not subject to frequent change. It is available through the Minitex interlibrary loan system.

I. Primary copper: K064, acid plant blowdown slurry or sludge resulting from the thickening of blowdown slurry from primary copper production: (T).

J. Primary lead: K065, surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities: (T).

K. Primary zinc: K066, sludge from treatment of process wastewater and/or acid plant blowdown from primary zinc production: (T).

L. Primary aluminum: K088, spent potliners from primary aluminum reduction: (T).

M. Ferroalloys:

(1) K090, emission control dust or sludge from ferrochromiumsilicon production: (T); and

(2) K091, emission control dust or sludge from ferrochromium production: (T).

N. Secondary lead:

(1) K069, emission control dust or sludge from secondary lead smelting: (T); and

(2) K100, waste leaching solution from acid leaching of emission control dust or sludge from secondary lead smelting: (T).

O. Veterinary pharmaceuticals:

(1) K084, wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo arsenic compounds: (T);

(2) K101, distillation tar residues from the distillation of aniline based compounds in the production of veterinary pharmaceuticals from arsenic or organo arsenic compounds: (T); and

(3) K102, residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo arsenic compounds: (T).

P. Ink formulation: K086, solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, dryers, soaps, and stabilizers containing chromium and lead: (T).

Q. Coke:

(1) K060, ammonia still lime sludge from coking operations: (T); and

(2) K087, decanter tank tar sludge from coking operations: (T).

Subp. 4. **Discarded commercial chemical products, off specification species, containers, and spill residues.** The following materials or items are hazardous wastes when they are discarded or intended to be discarded as described in part 7045.0020, subpart 18; when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment; when they are otherwise applied to the land in lieu of their original intended use; when they are contained in products that are applied to the land in lieu of their original intended use; or when, in lieu of their original intended use, they are produced for use as, or as a component of a fuel, distributed for use as a fuel, or burned as a fuel.

A. any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in item E or F;

B. any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in item E or F;

C. any residue remaining in a container or inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic names listed in item E, unless the container or inner liner is empty as defined in part 7045.0127, subpart 3;

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D. any residue or contaminated soil, water, or other debris resulting from the clean-up of a spill, into or on any land or water, of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in item E or F, or any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill into or on any land or water of any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications would have the generic name listed in item E or F; and

E. The commercial chemical products or manufacturing chemical intermediates, or off specification commercial chemical products or manufacturing chemical intermediates referred to in items A to D and listed in subitems (1) to (17) are identified as acute hazardous wastes (H). The primary hazardous properties of these materials have been indicated by the letters T (toxicity), and R (reactivity). Absence of a letter indicates that the compound is listed only for acute toxicity. These wastes and their corresponding hazardous waste numbers, Chemical Abstract Service registry numbers, if available, and hazard codes are listed in subitems (1) to (17).

(1) Hazardous wastes from commercial chemical products beginning with the letter A:

- (a) P023, 107-20-0, Acetaldehyde, chloro-;
- (b) P002, 591-08-2, Acetamide, N-(aminothioxomethyl)-;
- (c) P057, 640-19-7, Acetamide, 2-fluoro-;
- (d) P058, 62-74-8, Acetic acid, fluoro-, sodium salt;
- (e) P002, 591-08-2, 1-Acetyl-2-thiourea;
- (f) P003, 107-02-8, Acrolein;
- (g) P070, 116-06-3, Aldicarb;
- (h) P004, 309-00-2, Aldrin;
- (i) P005, 107-18-6, Allyl alcohol;
- (j) P006, 20859-73-8, Aluminum phosphide: (R,T);
- (k) P007, 2763-96-4, 5-(Aminomethyl)-3-isoxazolol;
- (l) P008, 504-24-5, 4-Aminopyridine;
- (m) P009, 131-74-8, Ammonium picrate: (R);
- (n) P119, 7803-55-6, Ammonium vanadate;
- (o) P099, 506-61-6, Argentate(1-), bis(cyano-C)-, potassium;
- (p) P010, 7778-39-4, Arsenic acid H_3AsO_4 ;
- (q) P012, 1327-53-3, Arsenic oxide As_2O_3 ;
- (r) P011, 1303-28-2, Arsenic oxide As_2O_5 ;
- (s) P011, 1303-28-2, Arsenic pentoxide;
- (t) P012, 1327-53-3, Arsenic trioxide;
- (u) P038, 692-42-2, Arsine, diethyl-;
- (v) P036, 696-28-6, Arsonous dichloride, phenyl-;
- (w) P054, 151-56-4, Aziridine; and
- (x) P067, 75-55-8, Aziridine, 2-methyl-.

(2) Hazardous wastes from commercial chemical products beginning with the letter B:

- (a) P013, 542-62-1, Barium cyanide;
- (b) P024, 106-47-8, Benzenamine, 4-chloro-;
- (c) P077, 100-01-6, Benzenamine, 4-nitro-;
- (d) P028, 100-44-7, Benzene, (chloromethyl)-;
- (e) P042, 51-43-4, 1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-: (R);
- (f) P046, 122-09-8, Benzeneethanamine, alpha, alpha-dimethyl-;
- (g) P014, 108-98-5, Benzenethiol;
- (h) P001, 81-81-2, 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, and salts, when present at concentrations greater than 0.3 percent;

- (i) P028, 100-44-7, Benzyl chloride;
- (j) P015, 7440-41-7, Beryllium;
- (k) P017, 598-31-2, Bromoacetone;
- (l) P018, 357-57-3, Brucine; and
- (m) P045, 39196-18-4, 2-Butanone, 3,3-dimethyl-1-(methylthio)-,

O-[(methylamino)carbonyl]oxime.

(3) Hazardous wastes from commercial chemical products beginning with the letter C:

- (a) P021, 592-01-8, Calcium cyanide;
- (b) P021, 592-01-8, Calcium cyanide $\text{Ca}(\text{CN})_2$;
- (c) P022, 75-15-0, Carbon disulfide;
- (d) P095, 75-44-5, Carbonic dichloride;
- (e) P023, 107-20-0, Chloroacetaldehyde;
- (f) P024, 106-47-8, p-Chloroaniline;
- (g) P026, 5344-82-1, 1-(o-Chlorophenyl)thiourea;
- (h) P027, 542-76-7, 3-Chloropropionitrile;
- (i) P029, 544-92-3, Copper cyanide;
- (j) P029, 544-92-3, Copper cyanide $\text{Cu}(\text{CN})$;
- (k) P030, _____, Cyanides (soluble cyanide salts), not otherwise

specified;

- (l) P031, 460-19-5, Cyanogen;
- (m) P033, 506-77-4, Cyanogen chloride;
- (n) P033, 506-77-4, Cyanogen chloride $(\text{CN})\text{Cl}$; and
- (o) P034, 131-89-5, 2-Cyclohexyl-4,6-dinitrophenol.

the letter D:

(4) Hazardous wastes from commercial chemical products beginning with

- (a) P016, 542-88-1, Dichloromethyl ether;
- (b) P036, 696-28-6, Dichlorophenylarsine;
- (c) P037, 60-57-1, Dieldrin;
- (d) P038, 692-42-2, Diethylarsine;
- (e) P041, 311-45-5, Diethyl-p-nitrophenyl phosphate;
- (f) P040, 297-97-2, O,O-Diethyl O-pyrazinyl phosphorothioate;
- (g) P043, 55-91-4, Diisopropyl fluorophosphate (DFP);
- (h) P004, 309-00-2, 1,4:5,8-Dimethanonaphthalene,

1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha, 4alpha, 4beta, 5alpha, 8alpha, 8beta)-;

- (i) P060, 465-73-6, 1,4, 5,8-Dimethanonaphthalene,

1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha, 4alpha, 4beta, 5beta, 8beta, 8beta)-;

(j) P037, 60-57-1, 2,7:3,6- Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1alpha, 2beta, 2alpha, 3beta, 6beta, 6alpha, 7beta, 7alpha)-;

(k) P051, 72-20-8, 2,7:3,6- Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a, 3,6,6a,7,7a-octahydro-, (1alpha, 2beta, 2beta, 3alpha, 6alpha, 6beta, 7beta, 7alpha)-, and metabolites;

- (l) P044, 60-51-5, Dimethoate;
- (m) P046, 122-09-8, alpha, alpha-Dimethylphenethylamine;
- (n) P047, 534-52-1, 4,6-Dinitro-o-cresol and salts;
- (o) P048, 51-28-5, 2,4-Dinitrophenol;
- (p) P020, 88-85-7, Dinoseb;
- (q) P085, 152-16-9, Diphosphoramidate, octamethyl-;

- (r) P111, 107-49-3, Diphosphoric acid, tetraethyl ester;
 - (s) P039, 298-04-4, Disulfoton; and
 - (t) P049, 541-53-7, Dithiobiuret.
- (5) Hazardous wastes from commercial chemical products beginning with the letter E:
- (a) P050, 115-29-7, Endosulfan;
 - (b) P088, 145-73-3, Endothall;
 - (c) P051, 72-20-8, Endrin;
 - (d) P051, 72-20-8, Endrin, and metabolites;
 - (e) P042, 51-43-4, Epinephrine;
 - (f) P031, 460-19-5, Ethanedinitrile;
 - (g) P066, 16752-77-5, Ethanimidothioic acid, N-[[[(methylamino)carbonyl]oxy]-, methyl ester;
 - (h) P101, 107-12-0, Ethyl cyanide; and
 - (i) P054, 151-56-4, Ethyleneimine.
- (6) Hazardous wastes from commercial chemical products beginning with the letter F:
- (a) P097, 52-85-7, Famphur;
 - (b) P056, 7782-41-4, Fluorine;
 - (c) P057, 640-19-7, Fluoroacetamide;
 - (d) P058, 62-74-8, Fluoroacetic acid, sodium salt; and
 - (e) P065, 628-86-4, Fulminic acid, mercury(2+)salt: (R,T).
- (7) Hazardous wastes from commercial chemical products beginning with the letter H:
- (a) P059, 76-44-8, Heptachlor;
 - (b) P062, 757-58-4, Hexaethyl tetraphosphate;
 - (c) P116, 79-19-6, Hydrazinecarbothioamide;
 - (d) P068, 60-34-4, Hydrazine, methyl-;
 - (e) P063, 74-90-8, Hydrocyanic acid;
 - (f) P063, 74-90-8, Hydrogen cyanide; and
 - (g) P096, 7803-51-2, Hydrogen phosphide.
- (8) Hazardous wastes from commercial chemical products beginning with the letter I:
- (a) P060, 465-73-6, Isodrin; and
 - (b) P007, 2763-96-4, 3(2H)-Isoxazolone, 5-(aminomethyl)-.
- (9) Hazardous wastes from commercial chemical products beginning with the letter M:
- (a) P092, 62-38-4, Mercury, (acetato-O)phenyl-;
 - (b) P065, 628-86-4, Mercury fulminate: (R,T);
 - (c) P082, 62-75-9, Methanamine, N-methyl-N-nitroso-;
 - (d) P064, 624-83-9, Methane, isocyanato-;
 - (e) P016, 542-88-1, Methane, oxybis(chloro-);
 - (f) P112, 509-14-8, Methane, tetranitro-: (R);
 - (g) P118, 75-70-7, Methanethiol, trichloro-;
 - (h) P050, 115-29-7, 6,9-Methano-2,4,3-benzodioxathiepen, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3-oxide;
 - (i) P059, 76-44-8, 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-;
 - (j) P066, 16752-77-5, Methomyl;
 - (k) P068, 60-34-4, Methyl hydrazine;
 - (l) P064, 624-83-9, Methyl isocyanate;

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(m) P069, 75-86-5, 2-Methylactonitrile; and

(n) P071, 298-00-0, Methyl parathion.

(10) Hazardous wastes from commercial chemical products beginning with the letter N:

(a) P072, 86-88-4, alpha-Naphthylthiourea;

(b) P073, 13463-39-3, Nickel carbonyl;

(c) P073, 13463-39-3, Nickel carbonyl Ni(CO)₄, (T-4)-;

(d) P074, 557-19-7, Nickel cyanide;

(e) P074, 557-19-7, Nickel cyanide Ni(CN)₂;

(f) P075, 54-11-5, Nicotine and salts;

(g) P076, 10102-43-9, Nitric oxide;

(h) P077, 100-01-6, p-Nitroaniline;

(i) P078, 10102-44-0, Nitrogen dioxide;

(j) P076, 10102-43-9, Nitrogen oxide NO;

(k) P078, 10102-44-0, Nitrogen oxide NO₂;

(l) P081, 55-63-0, Nitroglycerine: (R);

(m) P082, 62-75-9, N-Nitrosodimethylamine; and

(n) P084, 4549-40-0, N-Nitrosomethylvinylamine.

(11) Hazardous wastes from commercial chemical products beginning with the letter O:

(a) P085, 152-16-9, Octamethylpyrophosphoramidate;

(b) P087, 20816-12-0, Osmium oxide OsO₄, (T-4)-;

(c) P087, 20816-12-0, Osmium tetroxide; and

(d) P088, 145-73-3, 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid.

(12) Hazardous wastes from commercial chemical products beginning with the letter P:

(a) P089, 56-38-2, Parathion;

(b) P034, 131-89-5, Phenol, 2-cyclohexyl-4,6-dinitro-;

(c) P048, 51-28-5, Phenol, 2,4-dinitro-;

(d) P047, 534-52-1, Phenol, 2-methyl-4,6-dinitro-, and salts;

(e) P020, 88-85-7, Phenol, 2-(1-methylpropyl)-4,6-dinitro-;

(f) P009, 131-74-8, Phenol, 2,4,6-trinitro-, ammonium salt: (R);

(g) P092, 62-38-4, Phenylmercury acetate;

(h) P093, 103-85-5, Phenylthiourea;

(i) P094, 298-02-2, Phorate;

(j) P095, 75-44-5, Phosgene;

(k) P096, 7803-51-2, Phosphine;

(l) P041, 311-45-5, Phosphoric acid, diethyl 4-nitrophenyl ester;

(m) P039, 298-04-4, Phosphorodithioic acid, 0,0-diethyl S-[2-(ethylthio)ethyl]ester;

(n) P094, 298-02-2, Phosphorodithioic acid, 0,0-diethyl S-[(ethylthio)methyl]ester;

(o) P044, 60-51-5, Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl]ester;

(p) P043, 55-91-4, Phosphorofluoric acid, bis(1-methylethyl) ester;

(q) P089, 56-38-2, Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester;

(r) P040, 297-97-2, Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester;

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- (s) P097, 52-85-7, Phosphorothioic acid, O-[4-((dimethylamino)sulfonyl)phenyl]O,O-dimethyl ester;
- (t) P071, 298-00-0, Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester;
- (u) P110, 78-00-2, Plumbane, tetraethyl-;
- (v) P098, 151-50-8, Potassium cyanide;
- (w) P098, 151-50-8, Potassium cyanide K(CN);
- (x) P099, 506-61-6, Potassium silver cyanide;
- (y) P070, 116-06-3, Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime;
- (z) P101, 107-12-0, Propanenitrile;
- (aa) P027, 542-76-7, Propanenitrile, 3-chloro-;
- (bb) P069, 75-86-5, Propanenitrile, 2-hydroxy-2-methyl-;
- (cc) P081, 55-63-0, 1,2,3-Propanetriol, trinitrate: (R);
- (dd) P017, 598-31-2, 2-Propanone, 1-bromo-;
- (ee) P102, 107-19-7, Propargyl alcohol;
- (ff) P003, 107-02-8, 2-Propenal;
- (gg) P005, 107-18-6, 2-Propen-1-ol;
- (hh) P067, 75-55-8, 1,2-Propylenimine;
- (ii) P102, 107-19-7, 2-Propyn-1-ol;
- (jj) P008, 504-24-5, 4-Pyridinamine; and
- (kk) P075, 54-11-5, Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-,

and salts.

(13) Hazardous wastes from commercial chemical products beginning with the letter S:

- (a) P114, 12039-52-0, Selenious acid, dithallium(I+) salt;
- (b) P103, 630-10-4, Selenourea;
- (c) P104, 506-64-9, Silver cyanide;
- (d) P104, 506-64-9, Silver cyanide Ag(CN);
- (e) P105, 26628-22-8, Sodium azide;
- (f) P106, 143-33-9, Sodium cyanide;
- (g) P106, 143-33-9, Sodium cyanide Na(CN);
- (h) P108, 57-24-9, Strychnidin-10-one, and salts;
- (i) P018, 357-57-3, Strychnidin-10-one, 2,3-dimethoxy-;
- (j) P108, 57-24-9, Strychnine and salts; and
- (k) P115, 7446-18-6, Sulfuric acid, dithallium(I+) salt.

(14) Hazardous wastes from commercial chemical products beginning with the letter T:

- (a) P109, 3689-24-5, Tetraethyldithiopyrophosphate;
- (b) P110, 78-00-2, Tetraethyl lead;
- (c) P111, 107-49-3, Tetraethyl pyrophosphate;
- (d) P112, 509-14-8, Tetranitromethane: (R);
- (e) P062, 757-58-4, Tetrphosphoric acid, hexaethyl ester;
- (f) P113, 1314-32-5, Thallic oxide;
- (g) P113, 1314-32-5, Thallium oxide $Tl_2 O_3$;
- (h) P114, 12039-52-0, Thallium(I) selenite;
- (i) P115, 7446-18-6, Thallium(I) sulfate;
- (j) P109, 3689-24-5, Thiodiphosphoric acid, tetraethyl ester;
- (k) P045, 39196-18-4, Thiofanox;
- (l) P049, 541-53-7, Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$;

- (m) P014, 108-98-5, Thiophenol;
- (n) P116, 79-19-6, Thiosemicarbazide;
- (o) P026, 5344-82-1, Thiourea, (2-chlorophenyl)-;
- (p) P072, 86-88-4, Thiourea, 1-naphthalenyl-;
- (q) P093, 103-85-5, Thiourea, phenyl-;
- (r) P123, 8001-35-2, Toxaphene; and
- (s) P118, 75-70-7, Trichloromethanethiol.

(15) Hazardous wastes from commercial chemical products beginning with the letter V:

- (a) P119, 7803-55-6, Vanadic acid, ammonium salt;
- (b) P120, 1314-62-1, Vanadium oxide V_2O_5 ;
- (c) P120, 1314-62-1, Vanadium pentoxide; and
- (d) P084, 4549-40-0, Vinylamine, N-methyl-N-nitroso-.

(16) Hazardous wastes from commercial chemical products beginning with the letter W: P001, 81-81-2, Warfarin, and salts, when present at concentrations greater than 0.3 percent.

(17) Hazardous wastes from commercial chemical products beginning with the letter Z:

- (a) P121, 557-21-1, Zinc cyanide;
- (b) P121, 557-21-1, Zinc cyanide $Zn(CN)_2$; and
- (c) P122, 1314-84-7, Zinc phosphide Zn_3P_2 , when present at concentrations greater than ten percent: (R,T).

F. The commercial chemical products or manufacturing chemical intermediates, or off-specification commercial chemical products referred to in items A to D, and listed in subitems (1) to (24) are identified as toxic wastes (T) unless otherwise designated. The primary hazardous properties of these materials have been indicated by the letters T (toxicity), R (reactivity), I (ignitability), and C (corrosivity). Absence of a letter indicates that the compound is listed only for toxicity. These wastes and their corresponding hazardous waste numbers, Chemical Abstract Service registry numbers, if available, and hazard codes are listed as follows:

(1) Hazardous wastes from commercial chemical products beginning with the letter A:

- (a) U001, 75-07-0, Acetaldehyde: (I);
- (b) U034, 75-87-6, Acetaldehyde, trichloro-;
- (c) U187, 62-44-2, Acetamide, N-(4-ethoxyphenyl)-;
- (d) U005, 53-96-3, Acetamide, N-9H-fluoren-2-yl;
- (e) U240, 94-75-7, Acetic acid, (2,4-dichlorophenoxy)-, salts and esters;
- (f) U112, 141-78-6, Acetic acid, ethyl ester: (I);
- (g) U144, 301-04-2, Acetic acid, lead (2+) salt;
- (h) U214, 563-68-8, Acetic acid, thallium(1+) salt;
- (i) see F027, 93-76-5, Acetic acid, (2,4,5-trichlorophenoxy)-;
- (j) U002, 67-64-1, Acetone: (I);
- (k) U003, 75-05-8, Acetonitrile: (I,T);
- (l) U004, 98-86-2, Acetophenone;
- (m) U005, 53-96-3, 2-Acetylaminofluorene;
- (n) U006, 75-36-5, Acetyl chloride: (C,R,T);
- (o) U007, 79-06-1, Acrylamide;
- (p) U008, 79-10-7, Acrylic acid: (I);
- (q) U009, 107-13-1, Acrylonitrile;
- (r) U011, 61-82-5, Amitrole;

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- (s) U012, 62-53-3, Aniline: (I,T);
 - (t) U136, 75-60-5, Arsinic acid, dimethyl-;
 - (u) U014, 492-80-8, Auramine;
 - (v) U015, 115-02-6, Azaserine; and
 - (w) U010, 50-07-7, Azirino(2',3':3,4)pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-(((aminocarbonyl) oxy)methyl)-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta, 8aalpha, 8balph)]-.
- (2) Hazardous wastes from commercial chemical products beginning with the letter B:
- (a) U157, 56-49-5, Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-;
 - (b) U016, 225-51-4, Benz[c]acridine;
 - (c) U017, 98-87-3, Benzal chloride;
 - (d) U192, 23950-58-5, Benzamide, 3,5-dichloro-N-(1,1-diethyl-2-propynyl)-;
 - (e) U018, 56-55-3, Benz[a]anthracene;
 - (f) U094, 57-97-6, Benz[a]anthracene, 7,12-dimethyl-;
 - (g) U012, 62-53-3, Benzenamine: (I,T);
 - (h) U014, 492-80-8, Benzenamine, 4,4'-carbonimidoylbis(N,N-dimethyl-;
 - hydrochloride;
 - (i) U049, 3165-93-3, Benzenamine, 4-chloro-2-methyl-;
 - (j) U093, 60-11-7, Benzenamine, N,N-dimethyl-4-(phenylazo)-;
 - (k) U328, 95-53-4, Benzenamine, 2-methyl-;
 - (l) U353, 106-49-0, Benzenamine, 4-methyl-;
 - (m) U158, 101-14-4, Benzenamine, 4,4'-methylenebis(2-chloro-;
 - (n) U222, 636-21-5, Benzenamine, 2-methyl-, hydrochloride;
 - (o) U181, 99-55-8, Benzenamine, 2-methyl-5-nitro-;
 - (p) U019, 71-43-2, Benzene: (I,T);
 - (q) U038, 510-15-6, Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy, ethyl ester;
 - (r) U030, 101-55-3, Benzene, 1-bromo-4-phenoxy-;
 - (s) U035, 305-03-3, Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-;
 - (t) U037, 108-90-7, Benzene, chloro-;
 - (u) U221, 25376-45-8, Benzenediamine, ar-methyl-;
 - (v) U028, 117-81-7, 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester;
 - (w) U069, 84-74-2, 1,2-Benzenedicarboxylic acid, dibutyl ester;
 - (x) U088, 84-66-2, 1,2-Benzenedicarboxylic acid, diethyl ester;
 - (y) U102, 131-11-3, 1,2-Benzenedicarboxylic acid, dimethyl ester;
 - (z) U107, 117-84-0, 1,2-Benzenedicarboxylic acid, dioctyl ester;
 - (aa) U070, 95-50-1, Benzene, 1,2-dichloro-;
 - (bb) U071, 541-73-1, Benzene, 1,3-dichloro-;
 - (cc) U072, 106-46-7, Benzene, 1,4-dichloro-;
 - (dd) U060, 72-54-8, Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-;
 - (ee) U017, 98-87-3, Benzene, (dichloromethyl)-;
 - (ff) U223, 26471-62-5, Benzene, 1,3-diisocyanatomethyl-: (R,T);
 - (gg) U239, 1330-20-7, Benzene, dimethyl-: (I,T);
 - (hh) U201, 108-46-3, 1,3-Benzenediol;
 - (ii) U127, 118-74-1, Benzene, hexachloro-;

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- (jj) U056, 110-82-7, Benzene, hexahydro-: (I);
- (kk) U220, 108-88-3, Benzene, methyl-;
- (ll) U105, 121-14-2, Benzene, 1-methyl-2,4-dinitro-;
- (mm) U106, 606-20-2, Benzene, 2-methyl-1,3-dinitro-;
- (nn) U055, 98-82-8, Benzene, (1-methylethyl)-: (I);
- (oo) U169, 98-95-3, Benzene, nitro-: (I,T);
- (pp) U183, 608-93-5, Benzene, pentachloro-;
- (qq) U185, 82-68-8, Benzene, pentachloronitro-;
- (rr) U020, 98-09-9, Benzenesulfonic acid chloride: (C,R);
- (ss) U020, 98-09-9, Benzenesulfonyl chloride: (C,R);
- (tt) U207, 95-94-3, Benzene, 1,2,4,5-tetrachloro-;
- (uu) U061, 50-29-3, Benzene, 1,1'-(2,2,2-trichloroethylidene)
- bis[4-chloro-;
- [4-methoxy-;
- (vv) U247, 72-43-5, Benzene, 1,1'-(2,2,2-trichloroethylidene)bis
- (ww) U023, 98-07-7, Benzene, (trichloromethyl)-;
- (xx) U234, 99-35-4, Benzene, 1,3,5-trinitro-;
- (yy) U021, 92-87-5, Benzidine;
- (zz) U202, 81-07-2, 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide and
- salts;
- (aaa) U203, 94-59-7, 1,3-Benzodioxole, 5-(2-propenyl)-;
- (bbb) U141, 120-58-1, 1,3-Benzodioxole, 5-(1-propenyl)-;
- (ccc) U090, 94-58-6, 1,3-Benzodioxole, 5-propyl-;
- (ddd) U064, 189-55-9, Benzo[rs]pentaphene;
- (eee) U248, 81-81-2, 2H-1-Benzopyran-2-one,
- 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, and salts, when present at concentrations of 0.3
- percent or less;
- (fff) U022, 50-32-8, Benzo[a]pyrene;
- (ggg) U197, 106-51-4, p-Benzoquinone;
- (hhh) U023, 98-07-7, Benzotrichloride: (C,R,T);
- (iii) U085, 1464-53-5, 2,2'-Bioxirane;
- (jjj) U021, 92-87-5, (1,1'-Biphenyl)-4,4'-diamine;
- (kkk) U073, 91-94-1, (1,1'-Biphenyl)-4,4'-diamine, 3,3'-dichloro-;
- (lll) U091, 119-90-4, (1,1'-Biphenyl)-4,4'-diamine,
- 3,3'-dimethoxy-;
- (mmm) U095, 119-93-7, (1,1'-Biphenyl)-4,4'-diamine,
- 3,3'-dimethyl-;
- (nnn) U225, 75-25-2, Bromoform;
- (ooo) U030, 101-55-3, 4-Bromophenyl phenyl ether;
- (ppp) U128, 87-68-3, 1,3-Butadiene, 1,1,2,3,4,4-hexachloro-;
- (qqq) U172, 924-16-3, 1-Butanamine, N-butyl-N-nitroso-;
- (rrr) U031, 71-36-3, 1-Butanol: (I);
- (sss) U159, 78-93-3, 2-Butanone: (I,T);
- (ttt) U160, 1338-23-4, 2-Butanone peroxide: (R,T);
- (uuu) U053, 4170-30-3, 2-Butenal;
- (vvv) U074, 764-41-0, 2-Butene, 1,4-dichloro-: (I,T);
- (www) U143, 303-34-4, 2-Butenoic acid, 2-methyl-, 7-
- [(2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy) methyl]
- 2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S,3R), 7aalpha]]-; and
- (xxx) U031, 71-36-3, n-Butyl alcohol: (I).

(3) Hazardous wastes from commercial chemical compounds beginning with the letter C:

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- (a) U136, 75-60-5, Cacodylic acid;
 - (b) U032, 13765-19-0, Calcium chromate;
 - (c) U238, 51-79-6, Carbamic acid, ethyl ester;
 - (d) U178, 615-53-2, Carbamic acid, methylnitroso-, ethyl ester;
 - (e) U097, 79-44-7, Carbamic chloride, dimethyl-;
 - (f) U114, 111-54-6, Carbamodithioic acid, 1,2-ethanediybis-, salts and esters;
 - (g) U062, 2303-16-4, Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester;
 - (h) U215, 6533-73-9, Carbonic acid, dithallium (1+) salt;
 - (i) U033, 353-50-4, Carbonic difluoride;
 - (j) U156, 79-22-1, Carbonochloridic acid, methyl ester: (I,T);
 - (k) U033, 353-50-4, Carbon oxyfluoride: (R,T);
 - (l) U211, 56-23-5, Carbon tetrachloride;
 - (m) U034, 75-87-6, Chloral;
 - (n) U035, 305-03-3, Chlorambucil;
 - (o) U036, 57-74-9, Chlordane, alpha and gamma isomers;
 - (p) U026, 494-03-1, Chlornaphazin;
 - (q) U037, 108-90-7, Chlorobenzene;
 - (r) U038, 510-15-6, Chlorobenzilate;
 - (s) U039, 59-50-7, p-Chloro-m-cresol;
 - (t) U042, 110-75-8, 2-Chloroethyl vinyl ether;
 - (u) U044, 67-66-3, Chloroform;
 - (v) U046, 107-30-2, Chloromethyl methyl ether;
 - (w) U047, 91-58-7, beta-Chloronaphthalene;
 - (x) U048, 95-57-8, o-Chlorophenol;
 - (y) U049, 3165-93-3, 4-Chloro-o-toluidine, hydrochloride;
 - (z) U032, 13765-19-0, Chromic acid H₂CrO₄, calcium salt;
 - (aa) U050, 218-01-9, Chrysene;
 - (bb) U051, _____, Creosote;
 - (cc) U052, 1319-77-3, Cresol (Cresylic acid);
 - (dd) U053, 4170-30-3, Crotonaldehyde;
 - (ee) U055, 98-82-8, Cumene: (I);
 - (ff) U246, 506-68-3, Cyanogen bromide (CN)Br;
 - (gg) U197, 106-51-4, 2,5-Cyclohexadiene-1,4-dione;
 - (hh) U056, 110-82-7, Cyclohexane: (I);
 - (ii) U129, 58-89-9, Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha, 3beta, 4alpha, 5alpha, 6beta)-;
 - (jj) U057, 108-94-1, Cyclohexanone: (I);
 - (kk) U130, 77-47-4, 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-;
- and
- (ll) U058, 50-18-0, Cyclophosphamide.
- (4) Hazardous wastes from commercial chemical products beginning with the letter D:
- (a) U240, 94-75-7, 2,4-D, salts and esters;
 - (b) U059, 20830-81-3, Daunomycin;
 - (c) U060, 72-54-8, DDD;
 - (d) U061, 50-29-3, DDT;
 - (e) U062, 2303-16-4, Diallate;
 - (f) U063, 53-70-3, Dibenz[a,h]anthracene;

- (g) U064, 189-55-9, Dibenzo[a,i]pyrene;
- (h) U066, 96-12-8, 1,2-Dibromo-3-chloropropane;
- (i) U069, 84-74-2, Dibutyl phthalate;
- (j) U070, 95-50-1, o-Dichlorobenzene;
- (k) U071, 541-73-1, m-Dichlorobenzene;
- (l) U072, 106-46-7, p-Dichlorobenzene;
- (m) U073, 91-94-1, 3,3'-Dichlorobenzidine;
- (n) U074, 764-41-0, 1,4-Dichloro-2-butene: (I,T);
- (o) U075, 75-71-8, Dichlorodifluoromethane;
- (p) U078, 75-35-4, 1,1-Dichloroethylene;
- (q) U079, 156-60-5, 1,2-Dichloroethylene;
- (r) U025, 111-44-4, Dichloroethyl ether;
- (s) U027, 108-60-1, Dichloroisopropyl ether;
- (t) U024, 111-91-1, Dichloromethoxy ethane;
- (u) U081, 120-83-2, 2,4-Dichlorophenol;
- (v) U082, 87-65-0, 2,6-Dichlorophenol;
- (w) U084, 542-75-6, 1,3-Dichloropropene;
- (x) U085, 1464-53-5, 1,2:3,4-Diepoxybutane: (I,T);
- (y) U108, 123-91-1, 1,4-Diethyleneoxide;
- (z) U028, 117-81-7, Diethylhexyl phthalate;
- (aa) U086, 1615-80-1, N,N'-Diethylhydrazine;
- (bb) U087, 3288-58-2, O,O-Diethyl S-methyl dithiophosphate;
- (cc) U088, 84-66-2, Diethyl phthalate;
- (dd) U089, 56-53-1, Diethylstilbesterol;
- (ee) U090, 94-58-6, Dihydrosafrole;
- (ff) U091, 119-90-4, 3,3'-Dimethoxybenzidine;
- (gg) U092, 124-40-3, Dimethylamine: (I);
- (hh) U093, 60-11-7, p-Dimethylaminoazobenzene;
- (ii) U094, 57-97-6, 7,12-Dimethylbenz[a]anthracene;
- (jj) U095, 119-93-7, 3,3'-Dimethylbenzidine;
- (kk) U096, 80-15-9, alpha,alpha-Dimethylbenzylhydroperoxide: (R);
- (ll) U097, 79-44-7, Dimethylcarbamoyl chloride;
- (mm) U098, 57-14-7, 1,1-Dimethylhydrazine;
- (nn) U099, 540-73-8, 1,2-Dimethylhydrazine;
- (oo) U101, 105-67-9, 2,4-Dimethylphenol;
- (pp) U102, 131-11-3, Dimethyl phthalate;
- (qq) U103, 77-78-1, Dimethyl sulfate;
- (rr) U105, 121-14-2, 2,4-Dinitrotoluene;
- (ss) U106, 606-20-2, 2,6-Dinitrotoluene;
- (tt) U107, 117-84-0, Di-n-octyl phthalate;
- (uu) U108, 123-91-1, 1,4-Dioxane;
- (vv) U109, 122-66-7, 1,2-Diphenylhydrazine;
- (ww) U110, 142-84-7, Dipropylamine: (I); and
- (xx) U111, 621-64-7, Di-n-propylnitrosamine.

(5) Hazardous wastes from commercial chemical products beginning with the letter E:

- (a) U041, 106-89-8, Epichlorohydrin;
- (b) U001, 75-07-0, Ethanal: (I);
- (c) U174, 55-18-5, Ethanamine, N-ethyl-N-nitroso-;

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- (d) U155, 91-80-5, 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-;
- (e) U067, 106-93-4, Ethane, 1,2-dibromo-;
- (f) U076, 75-34-3, Ethane, 1,1-dichloro-;
- (g) U077, 107-06-2, Ethane, 1,2-dichloro-;
- (h) U131, 67-72-1, Ethane, hexachloro-;
- (i) U024, 111-91-1, Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-;
- (j) U117, 60-29-7, Ethane, 1,1'-oxybis-: (I);
- (k) U025, 111-44-4, Ethane, 1,1'-oxybis[2-chloro-;
- (l) U184, 76-01-7, Ethane, pentachloro-;
- (m) U208, 630-20-6, Ethane, 1,1,1,2-tetrachloro-;
- (n) U209, 79-34-5, Ethane, 1,1,2,2-tetrachloro-;
- (o) U218, 62-55-5, Ethanethioamide;
- (p) U226, 71-55-6, Ethane, 1,1,1-trichloro-;
- (q) U227, 79-00-5, Ethane, 1,1,2-trichloro-;
- (r) U359, 110-80-5, Ethanol, 2-ethoxy-;
- (s) U173, 1116-54-7, Ethanol, 2,2'-(nitrosoimino)bis-;
- (t) U004, 98-86-2, Ethanone, 1-phenyl-;
- (u) U043, 75-01-4, Ethene, chloro-;
- (v) U042, 110-75-8, Ethene, (2-chloroethoxy)-;
- (w) U078, 75-35-4, Ethene, 1,1-dichloro-;
- (x) U079, 156-60-5, Ethene, 1,2-dichloro-(E)-;
- (y) U210, 127-18-4, Ethene, tetrachloro-;
- (z) U228, 79-01-6, Ethene, trichloro-;
- (aa) U112, 141-78-6, Ethyl acetate: (I);
- (bb) U113, 140-88-5, Ethyl acrylate: (I);
- (cc) U238, 51-79-6, Ethyl carbamate (urethane);
- (dd) U117, 60-29-7, Ethyl ether: (I);
- (ee) U114, 111-54-6, Ethylenebisdithiocarbamic acid, salts and esters;
- (ff) U067, 106-93-4, Ethylene dibromide;
- (gg) U077, 107-06-2, Ethylene dichloride;
- (hh) U359, 110-80-5, Ethylene glycol monoethyl ether;
- (ii) U115, 75-21-8, Ethylene oxide: (I,T);
- (jj) U116, 96-45-7, Ethylene thiourea;
- (kk) U076, 75-34-3, Ethylidene dichloride;
- (ll) U118, 97-63-2, Ethyl methacrylate; and
- (mm) U119, 62-50-0, Ethylmethanesulfonate.

(6) Hazardous wastes from commercial chemical products beginning with the letter F:

- (a) U120, 206-44-0, Fluoranthene;
- (b) U122, 50-00-0, Formaldehyde;
- (c) U123, 64-18-6, Formic acid: (C,T);
- (d) U124, 110-00-9, Furan: (I);
- (e) U125, 98-01-1, 2-Furancarboxaldehyde: (I);
- (f) U147, 108-31-6, 2,5-Furandione;
- (g) U213, 109-99-9, Furan, tetrahydro-: (I);
- (h) U125, 98-01-1, Furfural: (I); and
- (i) U124, 110-00-9, Furfuran: (I).

(7) Hazardous wastes from commercial chemical products beginning with the letter G:

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(a) U206, 18883-66-4, Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoareido)-, D-;

(b) U206, 18883-66-4, D-Glucose, 2-deoxy-2-[[[(methylnitrosoamino)-carbonyl]amino]-];

(c) U126, 765-34-4, Glycidylaldehyde; and

(d) U163, 70-25-7, Guanidine, N-methyl-N'-nitro-N-nitroso-

(8) Hazardous wastes from commercial chemical products beginning with the letter H:

(a) U127, 118-74-1, Hexachlorobenzene;

(b) U128, 87-68-3, Hexachlorobutadiene;

(c) U130, 77-47-4, Hexachlorocyclopentadiene;

(d) U131, 67-72-1, Hexachloroethane;

(e) U132, 70-30-4, Hexachlorophene;

(f) U243, 1888-71-7, Hexachloropropene;

(g) U133, 302-01-2, Hydrazine: (R,T);

(h) U086, 1615-80-1, Hydrazine, 1,2-diethyl-;

(i) U098, 57-14-7, Hydrazine, 1,1-dimethyl-;

(j) U099, 540-73-8, Hydrazine, 1,2-dimethyl-;

(k) U109, 122-66-7, Hydrazine, 1,2-diphenyl-;

(l) U134, 7664-39-3, Hydrofluoric acid: (C,T);

(m) U134, 7664-39-3, Hydrogen fluoride: (C,T);

(n) U135, 7783-06-4, Hydrogen sulfide;

(o) U135, 7783-06-4, Hydrogen sulfide H₂S; and

(p) U096, 80-15-9, Hydroperoxide, 1-methyl-1-phenylethyl-: (R).

(9) Hazardous wastes from commercial chemical products beginning with the letter I:

(a) U116, 96-45-7, 2-Imidazolidinethione;

(b) U137, 193-39-5, Indeno[1,2,3cd]pyrene;

(c) U190, 85-44-9, 1,3-Isobenzofurandione;

(d) U140, 78-83-1, Isobutyl alcohol: (I,T); and

(e) U141, 120-58-1, Isosafrole.

(10) Hazardous wastes from commercial chemical products beginning with the letter K: U142, 143-50-0, Kepone.

(11) Hazardous wastes from commercial chemical products beginning with the letter L:

(a) U143, 303-34-4, Lasiocarpine;

(b) U144, 301-04-2, Lead acetate;

(c) U146, 1335-32-6, Lead, bis(acetato-O)tetrahydroxytri-;

(d) U145, 7446-27-7, Lead phosphate;

(e) U146, 1335-32-6, Lead subacetate; and

(f) U129, 58-89-9, Lindane.

(12) Hazardous wastes from commercial chemical products beginning with the letter M:

(a) U163, 70-25-7, MNNG;

(b) U147, 108-31-6, Maleic anhydride;

(c) U148, 123-33-1, Maleic hydrazide;

(d) U149, 109-77-3, Malononitrile;

(e) U150, 148-82-3, Melphalan;

(f) U151, 7439-97-6, Mercury;

(g) U152, 126-98-7, Methacrylonitrile: (I,T);

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- (h) U092, 124-40-3, Methanamine, N-methyl-: (I);
- (i) U029, 74-83-9, Methane, bromo-;
- (j) U045, 74-87-3, Methane, chloro-: (I,T);
- (k) U046, 107-30-2, Methane, chloromethoxy-;
- (l) U068, 74-95-3, Methane, dibromo-;
- (m) U080, 75-09-2, Methane, dichloro-;
- (n) U075, 75-71-8, Methane, dichlorodifluoro-;
- (o) U138, 74-88-4, Methane, iodo-;
- (p) U119, 62-50-0, Methanesulfonic acid, ethyl ester;
- (q) U211, 56-23-5, Methane, tetrachloro-;
- (r) U153, 74-93-1, Methanethiol: (I,T);
- (s) U225, 75-25-2, Methane, tribromo-;
- (t) U044, 67-66-3, Methane, trichloro-;
- (u) U121, 75-69-4, Methane, trichlorofluoro-;
- (v) U036, 57-74-9, 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-;
- (w) U154, 67-56-1, Methanol: (I);
- (x) U155, 91-80-5, Methapyrilene;
- (y) U142, 143-50-0, 1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-decachlorooctahydro-;
- (z) U247, 72-43-5, Methoxychlor;
- (aa) U154, 67-56-1, Methyl alcohol: (I);
- (bb) U029, 74-83-9, Methyl bromide;
- (cc) U186, 504-60-9, 1-Methylbutadiene: (I);
- (dd) U045, 74-87-3, Methyl chloride: (I,T);
- (ee) U156, 79-22-1, Methyl chlorocarbonate: (I,T);
- (ff) U226, 71-55-6, Methyl chloroform;
- (gg) U157, 56-49-5, 3-Methylcholanthrene;
- (hh) U158, 101-14-4, 4,4'-Methylenebis (2-chloroaniline);
- (ii) U068, 74-95-3, Methylene bromide;
- (jj) U080, 75-09-2, Methylene chloride;
- (kk) U159, 78-93-3, Methyl ethyl ketone (MEK): (I,T);
- (ll) U160, 1338-23-4, Methyl ethyl ketone peroxide: (R,T);
- (mm) U138, 74-88-4, Methyl iodide;
- (nn) U161, 108-10-1, Methyl isobutyl ketone: (I);
- (oo) U162, 80-62-6, Methyl methacrylate: (I,T);
- (pp) U161, 108-10-1, 4-Methyl-2-pentanone: (I);
- (qq) U164, 56-04-2, Methylthiouracil; and
- (rr) U010, 50-07-7, Mitomycin C.

(13) Hazardous wastes from commercial chemical compounds beginning with the letter N:

- (a) U059, 20830-81-3, 5,12-Naphthacenedione, 8-acetyl-10- [(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-;
- (b) U167, 134-32-7, 1-Naphthalenamine;
- (c) U168, 91-59-8, 2-Naphthalenamine;
- (d) U026, 494-03-1, Naphthalenamine,N,N'-bis(2-chloroethyl)-;
- (e) U165, 91-20-3, Naphthalene;
- (f) U047, 91-58-7, Naphthalene, 2-chloro-;
- (g) U166, 130-15-4, 1,4-Naphthalenedione;

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(h) U236, 72-57-1, 2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl(1,1'-biphenyl)-4,4'-diyl)bis(azo)bis(5-amino-4-hydroxy)-,tetrasodium salt;

- (i) U166, 130-15-4, 1,4-Naphthoquinone;
- (j) U167, 134-32-7, alpha-Naphthylamine;
- (k) U168, 91-59-8, beta-Naphthylamine;
- (l) U217, 10102-45-1, Nitric acid, thallium(I+) salt;
- (m) U169, 98-95-3, Nitrobenzene: (I,T);
- (n) U170, 100-02-7, p-Nitrophenol;
- (o) U171, 79-46-9, 2-Nitropropane: (I,T);
- (p) U172, 924-16-3, N-Nitrosodi-n-butylamine;
- (q) U173, 1116-54-7, N-Nitrosodiethanolamine;
- (r) U174, 55-18-5, N-Nitrosodiethylamine;
- (s) U176, 759-73-9, N-Nitroso-N-ethylurea;
- (t) U177, 684-93-5, N-Nitroso-N-methylurea;
- (u) U178, 615-53-2, N-Nitroso-N-methylurethane;
- (v) U179, 100-75-4, N-Nitrosopiperidine;
- (w) U180, 930-55-2, N-Nitrosopyrrolidine; and
- (x) U181, 99-55-8, 5-Nitro-o-toluidine.

(14) Hazardous wastes from commercial chemical products beginning with the letter O:

- (a) U193, 1120-71-4, 1,2-Oxathiolane, 2,2-dioxide;
- (b) U058, 50-18-0, 2H-1,3,2-Oxazaphosphorin-2-amine,N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide;
- (c) U115, 75-21-8, Oxirane: (I,T);
- (d) U126, 765-34-4, Oxiranecarboxyaldehyde; and
- (e) U041, 106-89-8, Oxirane, (chloromethyl)-.

(15) Hazardous wastes from commercial chemical products beginning with the letter P:

- (a) U182, 123-63-7, Paraldehyde;
- (b) U183, 608-93-5, Pentachlorobenzene;
- (c) U184, 76-01-7, Pentachloroethane;
- (d) U185, 82-68-8, Pentachloronitrobenzene (PCNB);
- (e) see F027, 87-86-5, Pentachlorophenol;
- (f) U161, 108-10-1, Pentanol, 4-methyl-;
- (g) U186, 504-60-9, 1,3-Pentadiene: (I);
- (h) U187, 62-44-2, Phenacetin;
- (i) U188, 108-95-2, Phenol;
- (j) U048, 95-57-8, Phenol, 2-chloro-;
- (k) U039, 59-50-7, Phenol, 4-chloro-3-methyl-;
- (l) U081, 120-83-2, Phenol, 2,4-dichloro-;
- (m) U082, 87-65-0, Phenol, 2,6-dichloro-;
- (n) U089, 56-53-1, Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-;
- (o) U101, 105-67-9, Phenol, 2,4-dimethyl-;
- (p) U052, 1319-77-3, Phenol, methyl-;
- (q) U132, 70-30-4, Phenol,2,2'-methylenebis[3,4,6-trichloro-;
- (r) U170, 100-02-7, Phenol, 4-nitro-;
- (s) see F027, 87-86-5, Phenol, pentachloro-;
- (t) see F027, 58-90-2, Phenol, 2,3,4,6-tetrachloro-;

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- (u) see F027, 95-95-4, Phenol, 2,4,5-trichloro-;
 - (v) see F027, 88-06-2, Phenol, 2,4,6-trichloro-;
 - (w) U150, 148-82-3, L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-;
 - (x) U145, 7446-27-7, Phosphoric acid, lead(2+) salt(2:3);
 - (y) U087, 3288-58-2, Phosphorodithioic acid, O,O-diethyl S-methyl ester;
 - (z) U189, 1314-80-3, Phosphorus sulfide: (R);
 - (aa) U190, 85-44-9, Phthalic anhydride;
 - (bb) U191, 109-06-8, 2-Picoline;
 - (cc) U179, 100-75-4, Piperidine, 1-nitroso-;
 - (dd) U192, 23950-58-5, Pronamide;
 - (ee) U194, 107-10-8, 1-Propanamine: (I,T);
 - (ff) U111, 621-64-7, 1-Propanamine,N-nitroso-N-propyl-;
 - (gg) U110, 142-84-7, 1-Propanamine, N-propyl-: (I);
 - (hh) U066, 96-12-8, Propane, 1,2-dibromo-3-chloro-;
 - (ii) U083, 78-87-5, Propane, 1,2-dichloro-;
 - (jj) U149, 109-77-3, Propanedinitrile;
 - (kk) U171, 79-46-9, Propane, 2-nitro-: (I,T);
 - (ll) U027, 108-60-1, Propane, 2,2'-oxybis[2-chloro-;
 - (mm) U193, 1120-71-4, 1,3-Propane sultone;
 - (nn) see F027, 93-72-1, Propanoic acid, 2-(2,4,5-trichlorophenoxy)-;
 - (oo) U235, 126-72-7, 1-Propanol, 2,3-dibromo-, phosphate (3:1);
 - (pp) U140, 78-83-1, 1-Propanol, 2-methyl-: (I,T);
 - (qq) U002, 67-64-1, 2-Propanone: (I);
 - (rr) U007, 79-06-1, 2-Propenamamide;
 - (ss) U084, 542-75-6, 1-Propene, 1,3-dichloro-;
 - (tt) U243, 1888-71-7, 1-Propene, 1,1,2,3,3,3-hexachloro-;
 - (uu) U009, 107-13-1, 2-Propenenitrile;
 - (vv) U152, 126-98-7, 2-Propenenitrile,2-methyl-: (I,T);
 - (ww) U008, 79-10-7, 2-Propenoic acid: (I);
 - (xx) U113, 140-88-5, 2-Propenoic acid, ethyl ester: (I);
 - (yy) U118, 97-63-2, 2-Propenoic acid, 2-methyl-, ethyl ester;
 - (zz) U162, 80-62-6, 2-Propenoic acid, 2-methyl-, methyl ester,: (I,T);
 - (aaa) U194, 107-10-8, n-Propylamine: (I,T);
 - (bbb) U083, 78-87-5, Propylene dichloride;
 - (ccc) U148, 123-33-1, 3,6-Pyridazinedione, 1,2-dihydro-;
 - (ddd) U196, 110-86-1, Pyridine;
 - (eee) U191, 109-06-8, Pyridine, 2-methyl-;
 - (fff) U237, 66-75-1, 2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-;
 - (ggg) U164, 56-04-2, 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-; and
 - (hhh) U180, 930-55-2, Pyrrolidine, 1-nitroso-.
- (16) Hazardous wastes from commercial chemical products beginning with the letter R:
- (a) U200, 50-55-5, Reserpine; and
 - (b) U201, 108-46-3, Resorcinol.
- (17) Hazardous wastes from commercial chemical products beginning with the letter S:

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- (a) U202, 81-07-2, Saccharin and salts;
- (b) U203, 94-59-7, Safrole;
- (c) U204, 7783-00-8, Selenious acid;
- (d) U204, 7783-00-8, Selenium dioxide;
- (e) U205, 7488-56-4, Selenium sulfide;
- (f) U205, 7488-56-4, Selenium sulfide SeS_2 : (R,T);
- (g) U015, 115-02-6, L-Serine, diazoacetate (ester);
- (h) see F027, 93-72-1, Silvex (2,4,5-TP);
- (i) U206, 18883-66-4, Streptozotocin;
- (j) U103, 77-78-1, Sulfuric acid, dimethyl ester; and
- (k) U189, 1314-80-3, Sulfur phosphide: (R).

(18) Hazardous wastes from commercial chemical products beginning with

the letter T:

- (a) see F027, 93-76-5, 2,4,5-T;
- (b) U207, 95-94-3, 1,2,4,5-Tetrachlorobenzene;
- (c) U208, 630-20-6, 1,1,1,2-Tetrachloroethane;
- (d) U209, 79-34-5, 1,1,2,2-Tetrachloroethane;
- (e) U210, 127-18-4, Tetrachloroethylene;
- (f) see F027, 58-90-2, 2,3,4,6-Tetrachlorophenol;
- (g) U213, 109-99-9, Tetrahydrofuran: (I);
- (h) U214, 563-68-8, Thallium(I) acetate;
- (i) U215, 6533-73-9, Thallium(I) carbonate;
- (j) U216, 7791-12-0, Thallium(I) chloride;
- (k) U216, 7791-12-0, Thallium chloride TlCl ;
- (l) U217, 10102-45-1, Thallium(I) nitrate;
- (m) U218, 62-55-5, Thioacetamide;
- (n) U153, 74-93-1, Thiomethanol: (I,T);
- (o) U244, 137-26-8, Thioperoxydicarbonic diamide, tetramethyl-;
- (p) U219, 62-56-6, Thiourea;
- (q) U244, 137-26-8, Thiram;
- (r) U220, 108-88-3, Toluene;
- (s) U221, 25376-45-8, Toluenediamine;
- (t) U223, 26471-62-5, Toluene diisocyanate: (R,T);
- (u) U328, 95-53-4, o-Toluidine;
- (v) U353, 106-49-0, p-Toluidine;
- (w) U222, 636-21-5, o-Toluidine hydrochloride;
- (x) U011, 61-82-5, 1H-1,2,4-Triazol-3-amine;
- (y) U227, 79-00-5, 1,1,2-Trichloroethane;
- (z) U228, 79-01-6, Trichloroethylene;
- (aa) U121, 75-69-4, Trichloromonofluoromethane;
- (bb) see F027, 95-95-4, 2,4,5-Trichlorophenol;
- (cc) see F027, 88-06-2, 2,4,6-Trichlorophenol;
- (dd) U234, 99-35-4, 1,3,5-Trinitrobenzene: (R,T);
- (ee) U182, 123-63-7, 1,3,5-Trioxane, 2,4,6-trimethyl-;
- (ff) U235, 126-72-7, Tris (2,3-dibromopropyl) phosphate; and
- (gg) U236, 72-57-1, Trypan blue.

(19) Hazardous wastes from commercial chemical products beginning with

the letter U:

- (a) U237, 66-75-1, Uracil mustard;
- (b) U176, 759-73-9, Urea, N-ethyl-N-nitroso-; and

(c) U177, 684-93-5, Urea, N-methyl-N-nitroso-

(20) Hazardous wastes from commercial chemical products beginning with the letter V: U043, 75-01-4, Vinyl chloride.

(21) Hazardous wastes from commercial chemical products beginning with the letter W: U248, 81-81-2, Warfarin, and salts, when present at concentrations of 0.3 percent or less.

(22) Hazardous wastes from commercial chemical products beginning with the letter X: U239, 1330-20-7, Xylene: (I).

(23) Hazardous wastes from commercial chemical products beginning with the letter Y: U200, 50-55-5, Yohimban-16-carboxylic acid, 11, 17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta, 16beta, 17alpha, 18beta, 20alpha)-.

(24) Hazardous wastes from commercial chemical products beginning with the letter Z: U249, 1314-84-7, Zinc phosphide Zn_3P_2 , when present at concentrations of 10 percent or less.

Subp. 5. **PCB wastes.** Requirements for PCB wastes are as follows:

A. For the purposes of this part, "PCB" means the class of organic compounds known as polychlorinated biphenyls at a concentration of 50 parts per million or greater and includes any of several compounds produced by replacing one or more hydrogen atoms on the biphenyl molecule with chlorine. "PCB" does not include chlorinated biphenyl compounds that have functional groups attached other than chlorine.

B. PCB materials or items are hazardous waste if and when they are discarded or stored prior to being discarded.

C. A generator of PCB wastes who stores on-site prior to disposal is exempt from the agency's hazardous waste storage facility permit requirements and parts 7045.0292 and 7045.0450 to 7045.0642 for the storage of those wastes except for the following requirements:

(1) the storage standards described in Code of Federal Regulations, title 40, section 761.65 (1983); and

(2) the requirements of part 7045.0292, subpart 1, items C, D, and I regarding proper labeling and marking, personnel training, preparedness, prevention, and contingency planning.

D. PCB wastes may be transported without a hazardous waste manifest if transportation is via the owner's own vehicle and if that transportation is between the owner's facilities or premises.

E. Thermal treatment of PCB wastes at concentrations less than 500 parts per million. High efficiency boilers as defined in Code of Federal Regulations, title 40, section 761.60 (1983), which are used for treatment of mineral oil dielectric fluid containing less than 500 ppm PCB, are exempt from the agency's hazardous waste facility permit requirements in chapter 7001 and parts 7023.9000 to 7023.9050, 7045.0292, and 7045.0450 to 7045.0642 for storage and treatment of those wastes, except for the following requirements:

(1) parts 7045.0526 and 7045.0528;

(2) parts 7045.0556 and 7045.0558;

(3) parts 7045.0564 to 7045.0588;

(4) parts 7045.0594 and 7045.0596.

F. PCB wastes have the hazardous waste number of MN03.

Statutory Authority: *MS s 116.07; 116.37*

History: 9 SR 115; 10 SR 70; 10 SR 1212; 10 SR 1688; 11 SR 301; 11 SR 1832; 12 SR 1660; 13 SR 577; 13 SR 1238; 13 SR 2761; 15 SR 1515; 15 SR 1878; 16 SR 197; 16 SR 2102; 16 SR 2239; 16 SR 2321; 17 SR 285; 18 SR 614

7045.0137 SMALL AMOUNTS OF UNRELATED CHEMICALS.

For purposes of licensing only under parts 7045.0225 to 7045.0250, a collection of small amounts of unrelated chemicals as described in part 7045.0230, subpart 4, has the hazardous waste number of MN02.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 16 SR 2102*

7045.0139 BASIS FOR LISTING HAZARDOUS WASTES.

Subpart 1. General. The tables in subpart 2 list the constituents which caused the agency to list wastes as hazardous in part 7045.0135, subparts 2 and 3. The notation "N.A." indicates the waste is hazardous because it fails the test for the characteristics of ignitability, corrosivity, reactivity, or toxicity, and the listing of a chemical name is not applicable.

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 sub-items (1) to (26).

- (1) F001: Tetrachloroethylene, methylene chloride, trichloro-ethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons;
- (2) F002: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, o-dichlorobenzene, trichlorofluoromethane;
- (3) F003: N.A.;
- (4) F004: Cresols and cresylic acid, nitrobenzene;
- (5) F005: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, 2-ethoxyethanol, benzene, 2-nitropropane;
- (6) F006: Cadmium, hexavalent chromium, nickel, cyanide (complexed);
- (7) F007: Cyanide (salts);
- (8) F008: Cyanide (salts);
- (9) F009: Cyanide (salts);
- (10) F010: Cyanide (salts);
- (11) F011: Cyanide (salts);
- (12) F012: Cyanide (complexed);
- (13) F019: Hexavalent chromium, cyanide (complexed);
- (14) F020: Tetra- and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine, and other salts;
- (15) F021: Penta- and hexachlorodibenzo-p-dioxins; penta- and hexachlorodibenzofurans; pentachlorophenol and its derivatives;
- (16) F022: Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans;
- (17) F023: Tetra- and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine, and other salts;
- (18) F024: Chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1,2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorobenzene, dichlorobenzenes, 1,2,4-trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphthalene;
- (19) F025: Chloromethane; dichloromethane; trichloromethane; carbon tetrachloride; chloroethylene; 1,1-dichloroethane; 1,2-dichloroethane; trans-1,2-dichloroethylene; 1,1-dichloroethylene; 1,1,1-trichloroethane; 1,1,2-trichloroethane; trichloroethy-

lene; 1,1,1,2-tetrachloroethane; 1,1,2,2-tetrachloroethane; tetrachloroethylene; pentachloroethane; hexachloroethane; allyl chloride (3-chloropropene); dichloropropane; dichloropropene; 2-chloro-1,3-butadiene; hexachloro-1,3-butadiene; hexachlorocyclopentadiene; benzene; chlorobenzene; dichlorobenzene; 1,2,4-trichlorobenzene; tetrachlorobenzene; pentachlorobenzene; hexachlorobenzene; toluene; naphthalene;

(20) F026: Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans;

(21) F027: Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine, and other salts;

(22) F028: Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine, and other salts;

(23) F032: Benz(a)anthracene; benzo(a)pyrene; dibenz(a,h)-anthracene; indeno(1,2,3-cd)pyrene; pentachlorophenol; arsenic; chromium; tetra-, penta-, hexa-, heptachlorodibenzo-p-dioxins; tetra-, penta-, hexa-, heptachlorodibenzofurans;

(24) F034: Benz(a)anthracene; benzo(k)fluoranthene; benzo(a)pyrene; dibenz(a,h)anthracene; indeno(1,2,3-cd)pyrene; naphthalene; arsenic; chromium;

(25) F035: Arsenic; chromium; lead; and

(26) F039: Constituents for which treatment standards are specified for mult-source leachate, wastewaters, and nonwastewaters under part 7045.1358.

B. Constituents of wastes identified in part 7045.0135, subpart 3 are listed in sub-items (1) to (101).

(1) K001: Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichloro-, phenols, tetrachlorophenols, 2,4-dinitrophenol, creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3,cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene;

(2) K002: Hexavalent chromium, lead;

(3) K003: Hexavalent chromium, lead;

(4) K004: Hexavalent chromium;

(5) K005: Hexavalent chromium, lead;

(6) K006: Hexavalent chromium;

(7) K007: Cyanide (complexed), hexavalent chromium;

(8) K008: Hexavalent chromium;

(9) K009: Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid;

(10) K010: Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde;

(11) K011: Acrylonitrile, acetonitrile, hydrocyanic acid;

(12) K013: Hydrocyanic acid, acrylonitrile, acetonitrile;

(13) K014: Acetonitrile, acrylamide;

(14) K015: Benzyl chloride, chlorobenzene, toluene, benzotrichloride;

(15) K016: Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene;

(16) K017: Epichlorohydrin, chloroethers [bis (chloromethyl) ether and bis (2-chloroethyl) ethers], trichloropropane, dichloropropanols;

(17) K018: 1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene;

(18) K019: Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride;

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(19) K020: Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride;

(20) K021: Antimony, carbon tetrachloride, chloroform;

(21) K022: Phenol, tars (polycyclic aromatic hydrocarbons);

(22) K023: Phthalic anhydride, maleic anhydride;

(23) K024: Phthalic anhydride, 1,4-naphthoquinone;

(24) K025: Metadinitrobenzene, 2,4-dinitrotoluene;

(25) K026: Paraldehyde, pyridines, 2-picoline;

(26) K027: Toluene diisocyanate, toluene-2, 4-diamine;

(27) K028: 1,1,1-trichloroethane, vinyl chloride;

(28) K029: 1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform;

(29) K030: Hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride;

(30) K031: Arsenic;

(31) K032: Hexachlorocyclopentadiene;

(32) K033: Hexachlorocyclopentadiene;

(33) K034: Hexachlorocyclopentadiene;

(34) K035: Creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(a)anthracene, dibenzo(a)anthracene, acenaphthalene;

(35) K036: Toluene, phosphorodithioic and phosphorothioic acid esters;

(36) K037: Toluene, phosphorodithioic and phosphorothioic acid esters;

(37) K038: Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters;

(38) K039: Phosphorodithioic and phosphorothioic acid esters;

(39) K040: Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters;

(40) K041: Toxaphene;

(41) K042: Hexachlorobenzene, orthodichlorobenzene;

(42) K043: 2,4-dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol;

(43) K044: N.A.;

(44) K045: N.A.;

(45) K046: Lead;

(46) K047: N.A.;

(47) K048: Hexavalent chromium, lead;

(48) K049: Hexavalent chromium, lead;

(49) K050: Hexavalent chromium;

(50) K051: Hexavalent chromium, lead;

(51) K052: Lead;

(52) K060: Cyanide, naphthalene, phenolic compounds, arsenic;

(53) K061: Hexavalent chromium, lead, cadmium;

(54) K062: Hexavalent chromium, lead;

(55) K064: Lead, cadmium;

(56) K065: Lead, cadmium;

(57) K066: Lead, cadmium;

(58) K069: Hexavalent chromium, lead, cadmium;

(59) K071: Mercury;

(60) K073: Chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane;

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- (61) K083: Aniline, diphenylamine, nitrobenzene, phenylenediamine;
- (62) K084: Arsenic;
- (63) K085: Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride;
- (64) K086: Lead, hexavalent chromium;
- (65) K087: Phenol, naphthalene;
- (66) K088: Cyanide (complexes);
- (67) K090: Chromium;
- (68) K091: Chromium;
- (69) K093: Phthalic anhydride, maleic anhydride;
- (70) K094: Phthalic anhydride;
- (71) K095: 1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane;
- (72) K096: 1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane;
- (73) K097: Chlordane, heptachlor;
- (74) K098: Toxaphene;
- (75) K099: 2,4-dichlorophenol, 2,4,6-trichlorophenol;
- (76) K100: Hexavalent chromium, lead, cadmium;
- (77) K101: Arsenic;
- (78) K102: Arsenic;
- (79) K103: Aniline, nitrobenzene, phenylenediamine;
- (80) K104: Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine;
- (81) K105: Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol;
- (82) K106: Mercury;
- (83) K107: 1,1-Dimethylhydrazine (UDMH);
- (84) K108: 1,1-Dimethylhydrazine (UDMH);
- (85) K109: 1,1-Dimethylhydrazine (UDMH);
- (86) K110: 1,1-Dimethylhydrazine (UDMH);
- (87) K111: 2,4-Dinitrotoluene;
- (88) K112: 2,4-Toluenediamine, o-toluidine, p-toluidine, aniline;
- (89) K113: 2,4-Toluenediamine, o-toluidine, p-toluidine, aniline;
- (90) K114: 2,4-Toluenediamine, o-toluidine, p-toluidine;
- (91) K115: 2,4-Toluenediamine;
- (92) K116: Carbon tetrachloride, tetrachloroethylene, chloroform, phosgene;
- (93) K117: Ethylene dibromide;
- (94) K118: Ethylene dibromide;
- (95) K123: Ethylene thiourea;
- (96) K124: Ethylene thiourea;
- (97) K125: Ethylene thiourea;
- (98) K126: Ethylene thiourea;
- (99) K131: Dimethyl sulfate, methyl bromide;
- (100) K132: Methyl bromide; and
- (101) K136: Ethylene dibromide.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 10 SR 1212; 11 SR 1832; 12 SR 1660; 15 SR 1515; 16 SR 197; 16 SR 2239; 16 SR 2321; 17 SR 285*

7045.0140 [Repealed by amendment, 9 SR 115]

7045.0141 HAZARDOUS CONSTITUENTS.

Subpart 1. [Renumbered by amendment as subp. 2, 13 SR 577]

Subpart 1. **Scope.** Hazardous constituents and their corresponding Chemical Abstract Service registry numbers and hazardous waste numbers, if available, are listed in subparts 2 to 22.

Subp. 2. [Renumbered by amendment as subp. 3, 13 SR 577]

Subp. 2. **"A" constituents.** Hazardous constituents beginning with the letter A are as follows:

- A. Acetonitrile, 75-05-8, U003;
- B. Acetophenone, 98-86-2, U004;
- C. 2-Acetylaminofluorone, 53-96-3, U005;
- D. Acetyl chloride, 75-36-5, U006;
- E. 1-Acetyl-2-thiourea, 591-08-2, P002;
- F. Acrolein, 107-02-8, P003;
- G. Acrylamide, 79-06-1, U007;
- H. Acrylonitrile, 107-13-1, U009;
- I. Aflatoxins, 1402-68-2, _____;
- J. Aldicarb, 116-06-3, P070;
- K. Aldrin, 309-00-2, P004;
- L. Allyl alcohol, 107-18-6, P005;
- M. Allyl chloride, 107-18-6, _____;
- N. Aluminum phosphide, 20859-73-8, P006;
- O. 4-Aminobiphenyl, 92-67-1, _____;
- P. 5-(Aminomethyl)-3-isoxazolol, 2763-96-4, P007;
- Q. 4-Aminopyridine, 504-24-5, P008;
- R. Amitrole, 61-82-5, U011;
- S. Ammonium vanadate, 7803-55-6, P119;
- T. Aniline, 62-53-3, U012;
- U. Antimony, 7440-36-0, _____;
- V. Antimony compounds, not otherwise specified in this list, _____, _____;
- W. Aramite®, 140-57-8, _____;
- X. Arsenic, 7440-38-2, _____;
- Y. Arsenic compounds, not otherwise specified in this list, _____, _____;
- Z. Arsenic acid, 7778-39-4, P010;
- AA. Arsenic pentoxide, 1303-28-2, P011;
- BB. Arsenic trioxide, 1327-53-3, P012;
- CC. Auramine, 492-80-8, P014; and
- DD. Azaserine, 115-02-6, U015.

Subp. 3. [Renumbered by amendment as subp. 4, 13 SR 577]

Subp. 3. **"B" constituents.** Hazardous constituents beginning with the letter B are as follows:

- A. Barium, 7440-39-3, _____;
- B. Barium compounds, not otherwise specified in this list, _____, _____;
- C. Barium cyanide, 542-62-1, P013;
- D. Benz[c]acridine, 225-51-4, U016;
- E. Benz[a]anthracene, 56-55-3, U018;
- F. Benzal chloride, 98-87-3, U017;
- G. Benzene, 71-43-2, U019;
- H. Benzenearsonic acid, 98-05-5, _____;

- I. Benzidine, 92-87-5, U021;
- J. Benzo[b]fluoranthene, 205-99-2, _____;
- K. Benzo[j]fluoranthene, 205-82-3, _____;
- L. Benzo(k)fluoranthene, 207-08-9, _____;
- M. Benzo[a]pyrene, 50-32-8, U022;
- N. p-Benzoquinone, 106-51-4, U197;
- O. Benzotrichloride, 98-07-7, U023;
- P. Benzyl chloride, 100-44-7, P028;
- Q. Beryllium, 7440-41-7, P015;
- R. Beryllium compounds, not otherwise specified in this list, _____, _____;
- S. Bromoacetone, 598-31-2, P017;
- T. Bromoform, 75-25-2, U225;
- U. 4-Bromophenyl phenyl ether, 101-55-3, U030;
- V. Brucine, 357-57-3, P018; and
- W. Butyl benzyl phthalate, 85-68-7, _____.

Subp. 4. [Renumbered by amendment as subp. 5, 13 SR 577]

Subp. 4. **"C" constituents.** Hazardous constituents beginning with the letter C are as follows:

- A. Cacodylic acid, 75-60-5, U136;
- B. Cadmium, 7440-43-9, _____;
- C. Cadmium compounds, not otherwise specified in this list, _____, _____;
- D. Calcium chromate, 13765-19-0, U032;
- E. Calcium cyanide, 592-01-8, P021;
- F. Carbon disulfide, 75-15-0, P022;
- G. Carbon oxyfluoride, 353-50-4, U033;
- H. Carbon tetrachloride, 56-23-5, U211;
- I. Chloral, 75-87-6, U034;
- J. Chlorambucil, 305-03-3, U035;
- K. Chlordane, 57-74-9, U036;
- L. Chlordane (alpha and gamma isomers), _____, U036;
- M. Chlorinated benzenes, not otherwise specified in this list, _____, _____;
- N. Chlorinated ethane, not otherwise specified in this list, _____, _____;
- O. Chlorinated fluorocarbons, not otherwise specified in this list, _____, _____;
- P. Chlorinated naphthalene, not otherwise specified in this list, _____, _____;
- Q. Chlorinated phenol, not otherwise specified in this list, _____, _____;
- R. Chlornaphazin, 494-03-1, U026;
- S. Chloroacetaldehyde, 107-20-0, P023;
- T. Chloroalkyl ethers, not otherwise specified in this list, _____, _____;
- U. p-Chloroaniline, 106-47-8, P024;
- V. Chlorobenzene, 108-90-7, U037;
- W. Chlorobenzilate, 510-15-6, U038;
- X. p-Chloro-m-cresol, 59-50-7, U039;
- Y. 2-Chloroethyl vinyl ether, 110-75-8, U042;
- Z. Chloroform, 67-66-3, U044;
- AA. Chloromethyl methyl ether, 107-30-2, U046;
- BB. beta-Chloronaphthalene, 91-58-7, U047;
- CC. o-Chlorophenol, 95-57-8, U048;
- DD. 1-(o-Chlorophenyl)thiourea, 5344-82-1, P026;
- EE. Chloroprene, 126-99-8, _____;

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- FF. 3-Chloropropionitrile, 542-76-7, P027;
- GG. Chromium, 7440-47-3, _____;
- HH. Chromium compounds, not otherwise specified in this list, _____, _____;
- II. Chrysene, 218-01-9, U050;
- JJ. Citrus red No. 2, 6358-53-8, _____;
- KK. Coal tar creosote, 8007-45-2, _____;
- LL. Copper cyanide, 544-92-3, P029;
- MM. Creosote, _____, U051;
- NN. Cresol (Cresylic acid), 1319-77-3, U052;
- OO. Crotonaldehyde, 4170-30-3, U053;
- PP. Cyanides (soluble salts and complexes), not otherwise specified in this list, _____, P030;
- QQ. Cyanogen, 460-19-5, P031;
- RR. Cyanogen bromide, 506-68-3, U246;
- SS. Cyanogen chloride, 506-77-4, P033;
- TT. Cycasin, 14901-08-7, _____;
- UU. 2-Cyclohexyl-4,6-dinitrophenol, 131-89-5, P034; and
- VV. Cyclophosphamide, 50-18-0, U058.

Subp. 5. [Renumbered by amendment as subp. 6, 13 SR 577]

Subp. 5. **"D" constituents.** Hazardous constituents beginning with the letter D are as follows:

- A. 2,4-D, 94-75-7, U240;
- B. 2,4-D, salts and esters, _____, U240;
- C. Daunomycin, 20830-81-3, U059;
- D. DDD, 72-54-8, U060;
- E. DDE, 72-55-9, _____;
- F. DDT, 50-29-3, U061;
- G. Diallate, 2303-16-4, U062;
- H. Dibenz[a,h]acridine, 226-36-8, _____;
- I. Dibenz[a,j]acridine, 224-42-0, _____;
- J. Dibenz[a,h]anthracene, 53-70-3, U063;
- K. 7H-Dibenzo[c,g]carbazole, 194-59-2, _____;
- L. Dibenzo[a,e]pyrene, 192-65-4, _____;
- M. Dibenzo[a,h]pyrene, 189-64-0, _____;
- N. Dibenzo[a,i]pyrene, 189-55-9, U064;
- O. 1,2-Dibromo-3-chloropropane, 96-12-8, U066;
- P. Dibutylphthalate, 84-74-2, U069;
- Q. o-Dichlorobenzene, 95-50-1, U070;
- R. m-Dichlorobenzene, 541-73-1, U071;
- S. p-Dichlorobenzene, 106-46-7, U072;
- T. Dichlorobenzene, not otherwise specified in this list, 25321-22-6, _____;
- U. 3,3'-Dichlorobenzidine, 91-94-1, U073;
- V. 1,4-Dichloro-2-butene, 764-41-0, U074;
- W. Dichlorodifluoromethane, 75-71-8, U075;
- X. Dichloroethylene, not otherwise specified in this list, 25323-30-2, _____;
- Y. 1,1-Dichloroethylene, 75-35-4, U078;
- Z. 1,2-Dichloroethylene, 156-60-5, U079;
- AA. Dichloroethyl ether, 111-44-4, U025;
- BB. Dichloroisopropyl ether, 108-60-1, U027;
- CC. Dichloromethoxy ethane, 111-91-1, U024;

- DD. Dichloromethyl ether, 542-88-1, P016;
 EE. 2,4-Dichlorophenol, 120-83-2, U081;
 FF. 2,6-Dichlorophenol, 87-65-0, U082;
 GG. Dichlorophenylarsine, 696-28-6, P036;
 HH. Dichloropropane, not otherwise specified in this list, 26638-19-7, ____;
 II. Dichloropropanol, not otherwise specified in this list, 26545-73-3, ____;
 JJ. Dichloropropene, not otherwise specified in this list, 26952-23-8, ____;
 KK. 1,3-Dichloropropene, 542-75-6, U084;
 LL. Dieldrin, 60-57-1, P037;
 MM. 1,2:3,4-Diepoxybutane, 1464-53-5, U085;
 NN. Diethylarsine, 692-42-2, P038;
 OO. 1,4-Diethyleneoxide, 123-91-1, U108;
 PP. Diethylhexyl phthalate, 117-81-7, U028;
 QQ. N,N'-Diethylhydrazine, 1615-80-1, U086;
 RR. O,O-Diethyl S-methyl dithiophosphate, 3288-58-2, U087;
 SS. Diethyl-p-nitrophenyl phosphate, 311-45-5, P041;
 TT. Diethyl phthalate, 84-66-2, U088;
 UU. O,O-Diethyl O-pyrazinyl phosphorothioate, 297-97-2, P040;
 VV. Diethylstilbesterol, 56-53-1, U089;
 WW. Dihydrosafrole, 94-58-6, U090;
 XX. Diisopropylfluorophosphate (DFP), 55-91-4, P043;
 YY. Dimethoate, 60-51-5, P044;
 ZZ. 3,3'-Dimethoxybenzidine, 119-90-4, U091;
 AAA. p-Dimethylaminoazobenzene, 60-11-7, U093;
 BBB. 7,12-Dimethylbenz[a]anthracene, 57-97-6, U094;
 CCC. 3,3'-Dimethylbenzidine, 119-93-7, U095;
 DDD. Dimethylcarbamoyl chloride, 79-44-7, U097;
 EEE. 1,1-Dimethylhydrazine, 57-14-7, U098;
 FFF. 1,2-Dimethylhydrazine, 540-73-8, U099;
 GGG. alpha, alpha-Dimethylphenethylamine, 122-09-8, P046;
 HHH. 2,4-Dimethylphenol, 105-67-9, U101;
 III. Dimethyl phthalate, 131-11-3, U102;
 JJJ. Dimethyl sulfate, 77-78-1, U103;
 KKK. Dinitrobenzene, not otherwise specified in this list, 25154-54-5, ____;
 LLL. 4,6-Dinitro-o-cresol, 534-52-1, P047;
 MMM. 4,6-Dinitro-o-cresol salts, _____, P047;
 NNN. 2,4-Dinitrophenol, 51-28-5, P048;
 OOO. 2,4-Dinitrotoluene, 121-14-2, U105;
 PPP. 2,6-Dinitro toluene, 606-20-2, U106;
 QQQ. Dinoseb, 88-85-7, P020;
 RRR. Di-n-octylphthalate, 117-84-0, U017;
 SSS. Diphenylamine, 122-39-4, ____;
 TTT. 1,2-Diphenylhydrazine, 122-66-7, U109;
 UUU. Di-n-propylnitrosamine, 621-64-7, U111;
 VVV. Disulfoton, 298-04-4, P039; and
 WWW. Dithiobiuret, 541-53-7, P049.

Subp. 6. [Renumbered by amendment as subp. 7, 13 SR 577]

Subp. 6. **"E" constituents.** Hazardous constituents beginning with the letter E are as follows:

- A. Endosulfan, 115-29-7, P050;
- B. Endothall, 145-73-3, P088;
- C. Endrin, 72-20-8, P051;
- D. Endrin metabolites, _____, P051;
- E. Epichlorohydrin, 106-89-8, U041;
- F. Epinephrine, 51-43-4, P042;
- G. Ethyl carbamate (urethane), 51-79-6, U238;
- H. Ethyl cyanide, 107-12-0, P101;
- I. Ethylenebisdithiocarbamic acid, 111-54-6, U114;
- J. Ethylenebisdithiocarbamic acid, salts and esters, _____, U114;
- K. Ethylene dibromide, 106-93-4, U067;
- L. Ethylene dichloride, 107-06-2, U077;
- M. Ethylene glycol monoethyl ether, 110-80-5, U359;
- N. Ethyleneimine, 151-56-4, P054;
- O. Ethylene oxide, 75-21-8, U115;
- P. Ethylenethiourea, 96-45-7, U116;
- Q. Ethylidene dichloride, 75-34-3, U076;
- R. Ethyl methacrylate, 97-63-2, U118; and
- S. Ethyl methanesulfonate, 62-50-0, U119.

Subp. 7. [Renumbered by amendment as subp. 8, 13 SR 577]

Subp. 7. **"F" constituents.** Hazardous constituents beginning with the letter F are as follows:

- A. Famphur, 52-85-7, P097;
- B. Fluoranthene, 206-44-0, U120;
- C. Fluorine, 7782-41-4, P056;
- D. Fluoroacetamide, 640-19-7, P057;
- E. Fluoroacetic acid, sodium salt, 62-74-8, P058;
- F. Formaldehyde, 50-00-0, U122; and
- G. Formic acid, 64-18-6, U123.

Subp. 8. [Renumbered by amendment as subp. 9, 13 SR 577]

Subp. 8. **"G" constituents.** Hazardous constituents beginning with the letter G are as follows: Glycidylaldehyde, 765-34-4, U126.

Subp. 9. [Renumbered by amendment as subp. 10, 13 SR 577]

Subp. 9. **"H" constituents.** Hazardous constituents beginning with the letter H are as follows:

- A. Halomethanes, not otherwise specified in this list, _____, _____;
- B. Heptachlor, 76-44-8, P059;
- C. Heptachlor epoxide, 1024-57-3, _____;
- D. Heptachlor epoxide (alpha, beta, and gamma isomers), _____, _____;
- E. Heptachlorodibenzofurans, _____, _____;
- F. Heptachlorodibenzo-p-dioxins, _____, _____;
- G. Hexachlorobenzene, 118-74-1, U127;
- H. Hexachlorobutadiene, 87-68-3, U128;
- I. Hexachlorocyclopentadiene, 77-47-4, U130;
- J. Hexachlorodibenzo-p-dioxins, _____, _____;
- K. Hexachlorodibenzofurans, _____, _____;
- L. Hexachloroethane, 67-72-1, U131;
- M. Hexachlorophene, 70-30-4, U132;

- N. Hexachloropropene, 1888-71-7, U243;
- O. Hexaethyltetraphosphate, 757-58-4, P062;
- P. Hydrazine, 302-01-2, U133;
- Q. Hydrogen cyanide, 74-90-8, P063;
- R. Hydrogen fluoride, 7664-39-3, U134; and
- S. Hydrogen sulfide, 7783-06-4, U135.

Subp. 10. [Renumbered by amendment as subp. 11, 13 SR 577]

Subp. 10. **"I" constituents.** Hazardous constituents beginning with the letter I are as follows:

- A. Indeno(1,2,3cd)pyrene, 193-39-5, U137;
- B. Isobutyl alcohol, 78-83-1, U140;
- C. Isodrin, 465-73-6, P060; and
- D. Isosafrole, 120-58-1, U141.

Subp. 11. [Renumbered by amendment as subp. 12, 13 SR 577]

Subp. 11. **"K" constituents.** Hazardous constituents beginning with the letter K are as follows: Kepone, 143-50-0, U142.

Subp. 12. [Renumbered by amendment as subp. 13, 13 SR 577]

Subp. 12. **"L" constituents.** Hazardous constituents beginning with the letter L are as follows:

- A. Lasiocarpine, 303-34-1, U143;
- B. Lead, 7439-92-1, _____;
- C. Lead compounds, not otherwise specified in this list, _____, _____;
- D. Lead acetate, 301-04-2, U144;
- E. Lead phosphate, 7446-27-7, U145;
- F. Lead subacetate, 1335-32-6, U146; and
- G. Lindane, 58-89-9, U129.

Subp. 13. [Renumbered by amendment as subp. 14, 13 SR 577]

Subp. 13. **"M" constituents.** Hazardous constituents beginning with the letter M are as follows:

- A. Maleic anhydride, 108-31-6, U147;
- B. Maleic hydrazide, 123-33-1, U148;
- C. Malononitrile, 109-77-3, U149;
- D. Melphalan, 148-82-3, U150;
- E. Mercury, 7439-97-6, U151;
- F. Mercury compounds, not otherwise specified in this list, _____, _____;
- G. Mercury fulminate, 628-86-4, P065;
- H. Methacrylonitrile, 126-98-7, U152;
- I. Methapyrilene, 91-80-5, U155;
- J. Methomyl, 16752-77-5, P066;
- K. Methoxychlor, 72-43-5, U247;
- L. Methyl bromide, 74-83-9, U029;
- M. Methyl chloride, 74-87-3, U045;
- N. Methyl chlorocarbonate, 79-22-1, U156;
- O. Methyl chloroform, 71-55-6, U226;
- P. 3-Methylcholanthrene, 56-49-5, U157;
- Q. 4,4'-Methylenebis(2-chloroaniline), 101-14-4, U158;
- R. Methylene bromide, 74-95-3, U068;
- S. Methylene chloride, 75-09-2, U080;
- T. Methyl ethyl ketone (MEK), 78-93-3, U159;
- U. Methyl ethyl ketone peroxide, 1338-23-4, U160;

- V. Methyl hydrazine, 60-34-4, P068;
- W. Methyl iodide, 74-88-4, U138;
- X. Methyl isocyanate, 624-83-9, P064;
- Y. 2-Methyl lactonitrile, 75-86-5, P069;
- Z. Methyl methacrylate, 80-62-6, U162;
- AA. Methyl methanesulfonate, 66-27-3, _____;
- BB. Methyl parathion, 298-00-0, P071;
- CC. Methylthiouracil, 56-04-2, U164;
- DD. Mitomycin C, 50-07-7, U010;
- EE. MNNG, 70-25-7, U163; and
- FF. Mustard gas, 505-60-2, _____.

Subp. 14. [Renumbered by amendment as subp. 15, 13 SR 577]

Subp. 14. "N" constituents. Hazardous constituents beginning with the letter N are as follows:

- A. Naphthalene, 91-20-3, U165;
- B. 1,4-Naphthoquinone, 130-15-4, U166;
- C. alpha-Naphthylamine, 134-32-7, U167;
- D. beta-Naphthylamine, 91-59-8, U168;
- E. alpha-Naphthylthiourea, 86-88-4, P072;
- F. Nickel, 7440-02-0, _____;
- G. Nickel compounds, not otherwise specified in this list, _____, _____;
- H. Nickel carbonyl, 13463-39-3, P073;
- I. Nickel cyanide, 557-19-7, P074;
- J. Nicotine, 54-11-5, P075;
- K. Nicotine salts, _____, P075;
- L. Nitric oxide, 10102-43-9, P076;
- M. p-Nitroaniline, 100-01-6, P077;
- N. Nitrobenzene, 98-95-3, U169;
- O. Nitrogen dioxide, 10102-44-0, P078;
- P. Nitrogen mustard, 51-75-2, _____;
- Q. Nitrogen mustard, hydrochloride salt, _____, _____;
- R. Nitrogen mustard, N-oxide, 126-85-2, _____;
- S. Nitrogen mustard, N-oxide, hydrochloride salt, _____, _____;
- T. Nitroglycerin, 55-63-0, P081;
- U. p-Nitrophenol, 100-02-7, U170;
- V. 2-Nitropropane, 79-46-9, U171;
- W. Nitrosamines, not otherwise specified in this list, 35576-91-1D, _____;
- X. N-Nitrosodi-n-butylamine, 924-16-3, U172;
- Y. N-Nitrosodiethanolamine, 1116-54-7, U173;
- Z. N-Nitrosodiethylamine, 55-18-5, U174;
- AA. N-Nitrosodimethylamine, 62-75-9, P082;
- BB. N-Nitroso-N-ethylurea, 759-73-9, U176;
- CC. N-Nitrosomethylethylamine, 10595-95-6, _____;
- DD. N-Nitroso-N-methylurea, 684-93-5, U177;
- EE. N-Nitroso-N-methylurethane, 615-53-2, U178;
- FF. N-Nitrosomethylvinylamine, 4549-40-0, P084;
- GG. N-Nitrosomorpholine, 59-89-2, _____;
- HH. N-Nitrososnicotine, 16543-55-8, _____;
- II. N-Nitrosopiperidine, 100-75-4, U179;

JJ. N-Nitrosopyrrolidine, 930-55-2, U180;

KK. N-Nitrososarcosine, 13256-22-9, ____; and

LL. 5-Nitro-o-toluidine, 99-55-8, U181.

Subp. 15. [Renumbered by amendment as subp. 16, 13 SR 577]

Subp. 15. **"O" constituents.** Hazardous constituents beginning with the letter O are as follows:

A. Octamethylpyrophosphoramidate, 152-16-9, P085; and

B. Osmium tetroxide, 20816-12-0, P087.

Subp. 16. [Renumbered by amendment as subp. 17, 13 SR 577]

Subp. 16. **"P" constituents.** Hazardous constituents beginning with the letter P are as follows:

A. Paraldehyde, 123-63-7, U182;

B. Parathion, 56-38-2, P089;

C. Pentachlorobenzene, 608-93-5, U183;

D. Pentachlorodibenzo-p-dioxins, _____, ____;

E. Pentachlorodibenzofurans, _____, ____;

F. Pentachloroethane, 76-01-7, U184;

G. Pentachloronitrobenzene (PCNB), 82-68-8, U185;

H. Pentachlorophenol, 87-86-5, F027;

I. Phenacetin, 62-44-2, U187;

J. Phenol, 108-95-2, U188;

K. Phenylenediamine, 25265-76-3, ____;

L. Phenylmercury acetate, 62-38-4, P092;

M. Phenylthiourea, 103-85-5, P093;

N. Phorate, 298-02-2, P094;

O. Phosgene, 75-44-5, P095;

P. Phosphine, 7803-51-2, P096;

Q. Phthalic acid esters, not otherwise specified in this list, _____, ____;

R. Phthalic anhydride, 85-44-9, U190;

S. 2-Picoline, 109-06-8, U191;

T. Polychlorinated biphenyls, not otherwise specified in this list, _____, ____;

U. Potassium cyanide, 151-50-8, P098;

V. Potassium silver cyanide, 506-61-6, P099;

W. Pronamide, 23950-58-5, U192;

X. 1,3-Propane sultone, 1120-71-4, U193;

Y. n-Propylamine, 107-10-8, U194;

Z. Propargyl alcohol, 107-19-7, P102;

AA. Propylene dichloride, 78-87-5, U083;

BB. 1,2-Propylenimine, 75-55-8, P067;

CC. Propylthiouracil, 51-52-5, ____; and

DD. Pyridine, 110-86-1, U196.

Subp. 17. [Renumbered by amendment as subp. 18, 13 SR 577]

Subp. 17. **"R" constituents.** Hazardous constituents beginning with the letter R are as follows:

A. Reserpine, 50-55-5, U200; and

B. Resorcinol, 108-46-3, U201.

Subp. 18. [Renumbered by amendment as subp. 19, 13 SR 577]

Subp. 18. **"S" constituents.** Hazardous constituents beginning with the letter S are as follows:

A. Saccharin, 81-07-2, U202;

- B. Saccharin salts, _____, U202;
- C. Safrole, 94-59-7, U203;
- D. Selenium, 7782-49-2, _____;
- E. Selenium compounds, not otherwise specified in this list, _____, _____;
- F. Selenium dioxide (Selenious acid), 7783-00-8, U204;
- G. Selenium sulfide, 7488-56-4, U205;
- H. Selenourea, 630-10-4, P103;
- I. Silver, 7440-22-4, _____;
- J. Silver compounds, not otherwise specified in this list, _____, _____;
- K. Silver cyanide, 506-64-9, P104;
- L. Silvex (2,4,5-TP), 93-72-1, F027;
- M. Sodium cyanide, 143-33-9, P106;
- N. Streptozotocin, 18883-66-4, U206;
- O. Strychnine, 57-24-9, P108; and
- P. Strychnine salts, _____, P108.

Subp. 19. [Renumbered by amendment as subp. 20, 13 SR 577]

Subp. 19. **"T" constituents.** Hazardous constituents beginning with the letter T are as follows:

- A. TCDD, 1746-01-6, _____;
- B. 1,2,4,5-Tetrachlorobenzene, 95-94-3, U207;
- C. Tetrachlorodibenzo-p-dioxins, _____, _____;
- D. Tetrachlorodibenzofurans, _____, _____;
- E. Tetrachloroethane, not otherwise specified in this list, 25322-20-7, _____;
- F. 1,1,1,2-Tetrachloroethane, 630-20-6, U208;
- G. 1,1,2,2-Tetrachloroethane, 79-34-5, U209;
- H. Tetrachloroethylene, 127-18-4, U210;
- I. 2,3,4,6-Tetrachlorophenol, 58-90-2, F027;
- J. Tetraethyldithiopyrophosphate, 3689-24-5, P109;
- K. Tetraethyl lead, 78-00-2, P110;
- L. Tetraethylpyrophosphate, 107-49-3, P111;
- M. Tetranitromethane, 509-14-8, P112;
- N. Thallium, 7440-28-0, _____;
- O. Thallium compounds, not otherwise specified in this list, _____, _____;
- P. Thallic oxide, 1314-32-5, P113;
- Q. Thallium (I) acetate, 563-68-8, U214;
- R. Thallium (I) carbonate, 6533-73-9, U215;
- S. Thallium (I) chloride, 7791-12-0, U216;
- T. Thallium (I) nitrate, 10102-45-1, U217;
- U. Thallium selenite, 12039-52-0, P114;
- V. Thallium (I) sulfate, 7446-18-6, P115;
- W. Thioacetamide, 62-55-5, U218;
- X. Thiofanox, 39196-18-4, P045;
- Y. Thiomethanol, 74-93-1, U153;
- Z. Thiophenol, 108-98-5, P014;
- AA. Thiosemicarbazide, 79-19-6, P116;
- BB. Thiourea, 62-56-6, U219;
- CC. Thiram, 137-26-8, U244;
- DD. Toluene, 108-88-3, U220;
- EE. Toluenediamine, 25376-45-8, U221;

- FF. Toluene-2,4-diamine, 95-80-7, ____;
 GG. Toluene-2,6-diamine, 823-40-5, ____;
 HH. Toluene-3,4-diamine, 496-72-0, ____;
 II. Toluene diisocyanate, 26471-62-5, U223;
 JJ. o-Toluidine, 95-53-4, U328;
 KK. o-Toluidine hydrochloride, 636-21-5, U222;
 LL. p-Toluidine, 106-49-0, U353;
 MM. Toxaphene, 8001-35-2, P123;
 NN. 1,2,4-Trichlorobenzene, 120-82-1, ____;
 OO. 1,1,2-Trichloroethane, 79-00-5, U227;
 PP. Trichloroethylene, 79-01-6, U228;
 QQ. Trichloromethanethiol, 75-70-7, P118;
 RR. Trichloromonofluoromethane, 75-69-4, U121;
 SS. 2,4,5-Trichlorophenol, 95-95-4, F027;
 TT. 2,4,6-Trichlorophenol, 88-06-2, F027;
 UU. 2,4,5-T, 93-76-5, F027;
 VV. Trichloropropane, not otherwise specified in this list, 25735-29-9, ____;
 WW. 1,2,3-Trichloropropane, 96-18-4, ____;
 XX. 0,0,0-Triethyl phosphorothioate, 126-68-1, ____;
 YY. 1,3,5-Trinitrobenzene, 99-35-4, U234;
 ZZ. Tris(1-azridinyl)phosphine sulfide, 52-24-4, ____;
 AAA. Tris(2,3-dibromopropyl) phosphate, 126-72-7, U235; and
 BBB. Trypan blue, 72-57-1, U236.

Subp. 20. [Renumbered by amendment as subp. 21, 13 SR 577]

Subp. 20. **"U" constituents.** Hazardous constituents beginning with the letter U are as follows:

Uracyl mustard, 66-75-1, U237.

Subp. 21. [Renumbered by amendment as subp. 23, 13 SR 577]

Subp. 21. **"V" constituents.** Hazardous constituents beginning with the letter V are as follows:

A. Vanadium pentoxide, 1314-62-1, P120; and

B. Vinyl chloride, 75-01-4, U043.

Subp. 22. **"W" constituents.** Hazardous constituents beginning with the letter W are as follows:

A. Warfarin, when present at concentrations less than 0.3 percent, 81-81-2, U248;

B. Warfarin, when present at concentrations greater than 0.3 percent, 81-81-2, P001;

C. Warfarin salts, when present at concentrations less than 0.3 percent, _____, U248; and

D. Warfarin salts, when present at concentrations greater than 0.3 percent, _____, P001.

Subp. 23. **"Z" constituents.** Hazardous constituents beginning with the letter Z are as follows:

A. Zinc cyanide, 557-21-1, P121;

B. Zinc phosphide, when present at concentrations greater than ten percent, 1314-84-7, P122; and

C. Zinc phosphide, when present at concentrations of ten percent or less, 1314-84-7, U249.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 10 SR 1212; 11 SR 1832; 13 SR 577; 15 SR 1515; 16 SR 197; 17 SR 285*

7045.0142 [Repealed, 10 SR 1688]

7045.0143 GROUNDWATER PROTECTION HAZARDOUS CONSTITUENTS LIST.

Subpart 1. **Scope.** For the purposes of the groundwater protection requirements in parts 7001.0640, subpart 1, item D, subitem (2); and 7045.0484, subparts 12, item H, subitem (2), and 13, item E, the hazardous constituents are listed with their corresponding Chemical Abstract Service registry numbers in subparts 2 to 27. Where "total" is entered for the Chemical Abstract Service registry number, all species in the groundwater that contain this element are included.

Subp. 2. **"A" constituents.** Hazardous constituents beginning with the letter A are as follows:

- A. Acenaphthene, 83-32-9;
- B. Acenaphthylene, 208-96-8;
- C. Acetone, 67-64-1;
- D. Acetophenone, 98-86-2;
- E. Acetonitrile; Methyl cyanide, 75-05-8;
- F. 2-Acetylaminofluorene; 2-AAF, 53-96-3;
- G. Acrolein, 107-02-8;
- H. Acrylonitrile, 107-13-1;
- I. Aldrin, 309-00-2;
- J. Allyl chloride, 107-05-1;
- K. 4-Aminobiphenyl, 92-67-1;
- L. Aniline, 62-53-3;
- M. Anthracene, 120-12-7;
- N. Antimony, (Total);
- O. Aramite, 140-57-8; and
- P. Arsenic, (Total).

Subp. 3. **"B" constituents.** Hazardous constituents beginning with the letter B are as follows:

- A. Barium, (Total);
- B. Benzene, 71-43-2;
- C. Benzo[a]anthracene; Benzanthracene, 56-55-3;
- D. Benzo[b]fluoranthene, 205-99-2;
- E. Benzo[k]fluoranthene, 207-08-9;
- F. Benzo[ghi]perylene, 191-24-2;
- G. Benzo[a]pyrene, 50-32-8;
- H. Benzyl alcohol, 100-51-6;
- I. Beryllium, (Total);
- J. alpha-BHC, 319-84-6;
- K. beta-BHC, 319-85-7;
- L. delta-BHC, 319-86-8;
- M. gamma-BHC; Lindane, 58-89-9;
- N. Bis(2-chloroethoxy)methane, 111-91-1;
- O. Bis(2-chloroethyl)ether, 111-44-4;
- P. Bis(2-chloro-1-methylethyl) ether; 2,2'-Dichlorodiisopropyl ether, 108-60-1;
- Q. Bis(2-ethylhexyl)phthalate, 117-81-7;
- R. Bromodichloromethane, 75-27-4;
- S. Bromoform; Tribromomethane, 75-25-2;
- T. 4-Bromophenyl phenyl ether, 101-55-3; and

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U. Butyl benzyl phthalate; Benzyl butyl phthalate, 85-68-7.

Subp. 4. "C" constituents. Hazardous constituents beginning with the letter C are as follows:

- A. Cadmium, (Total);
- B. Carbon disulfide, 75-15-0;
- C. Carbon tetrachloride, 56-23-5;
- D. Chlordane, 57-74-9;
- E. p-Chloroaniline, 106-47-8;
- F. Chlorobenzene, 108-90-7;
- G. Chlorobenzilate, 510-15-6;
- H. p-Chloro-m-cresol, 59-50-7;
- I. Chloroethane; Ethyl chloride, 75-00-3;
- J. Chloroform, 67-66-3;
- K. 2-Chloronaphthalene, 91-58-7;
- L. 2-Chlorophenol, 95-57-8;
- M. 4-Chlorophenyl phenyl ether, 7005-72-3;
- N. Chloroprene, 126-99-8;
- O. Chromium, (Total);
- P. Chrysene, 218-01-9;
- Q. Cobalt, (Total);
- R. Copper, (Total);
- S. m-Cresol, 108-39-4;
- T. o-Cresol, 95-48-7;
- U. p-Cresol, 106-44-5; and
- V. Cyanide, 57-12-5.

Subp. 5. "D" constituents. Hazardous constituents beginning with the letter D are as follows:

- A. 2,4-D; 2,4-Dichlorophenoxyacetic acid, 94-75-7;
- B. 4,4'-DDD, 72-54-8;
- C. 4,4'-DDE, 72-55-9;
- D. 4,4'-DDT, 50-29-3;
- E. Diallate, 2303-16-4;
- F. Dibenz[a,h]anthracene, 53-70-3;
- G. Dibenzofuran, 132-64-9;
- H. Dibromochloromethane; Chlorodibromomethane, 124-48-1;
- I. 1,2-Dibromo-3-chloropropane; DBCP, 96-12-8;
- J. 1,2-Dibromoethane; Ethylene dibromide, 106-93-4;
- K. Di-n-butyl phthalate, 84-74-2;
- L. o-Dichlorobenzene, 95-50-1;
- M. m-Dichlorobenzene, 541-73-1;
- N. p-Dichlorobenzene, 106-46-7;
- O. 3,3'-Dichlorobenzidine, 91-94-1;
- P. trans-1,4-Dichloro-2-butene, 110-57-6;
- Q. Dichlorodifluoromethane, 75-71-8;
- R. 1,1-Dichloroethane, 75-34-3;
- S. 1,2-Dichloroethane; Ethylene dichloride, 107-06-2;
- T. 1,1-Dichloroethylene; Vinylidene chloride, 75-35-4;
- U. trans-1,2-Dichloroethylene, 156-60-5;
- V. 2,4-Dichlorophenol, 120-83-2;
- W. 2,6-Dichlorophenol, 87-65-0;

- X. 1,2-Dichloropropane, 78-87-5;
- Y. cis-1,3-Dichloropropene, 10061-01-5;
- Z. trans-1,3-Dichloropropene, 10061-02-6;
- AA. Dieldrin, 60-57-1;
- BB. Diethyl phthalate, 84-66-2;
- CC. 0,0-Diethyl 0-2-pyrazinyl phosphorothioate; Thionazin, 297-97-2;
- DD. Dimethoate, 60-51-5;
- EE. p-(Dimethylamino)azobenzene, 60-11-7;
- FF. 7,12-Dimethylbenz[a]anthracene, 57-97-6;
- GG. 3,3'-Dimethylbenzidine, 119-93-7;
- HH. alpha, alpha-Dimethylphenethylamine, 122-09-8;
- II. 2,4-Dimethylphenol, 105-67-9;
- JJ. Dimethyl phthalate, 131-11-3;
- KK. m-Dinitrobenzene, 99-65-0;
- LL. 4,6-Dinitro-o-cresol, 534-52-1;
- MM. 2,4-Dinitrophenol, 51-28-5;
- NN. 2,4-Dinitrotoluene, 121-14-2;
- OO. 2,6-Dinitrotoluene, 606-20-2;
- PP. Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol, 88-85-7;
- QQ. Di-n-octyl phthalate, 117-84-0;
- RR. 1,4-Dioxane, 123-91-1;
- SS. Diphenylamine, 122-39-4; and
- TT. Disulfoton, 298-04-4.

Subp. 6. **"E" constituents.** Hazardous constituents beginning with the letter E are as follows:

- A. Endosulfan I, 959-98-8;
- B. Endosulfan II, 33213-65-9;
- C. Endosulfan sulfate, 1031-07-8;
- D. Endrin, 72-20-8;
- E. Endrin aldehyde, 7421-93-4;
- F. Ethylbenzene, 100-41-4;
- G. Ethyl methacrylate, 97-63-2; and
- H. Ethyl methanesulfonate, 62-50-0.

Subp. 7. **"F" constituents.** Hazardous constituents beginning with the letter F are as follows:

- A. Famphur, 52-85-7;
- B. Fluoranthene, 206-44-0; and
- C. Fluorene, 86-73-7.

Subp. 9. **"H" constituents.** Hazardous constituents beginning with the letter H are as follows:

- A. Heptachlor, 76-44-8;
- B. Heptachlor epoxide, 1024-57-3;
- C. Hexachlorobenzene, 118-74-1;
- D. Hexachlorobutadiene, 87-68-3;
- E. Hexachlorocyclopentadiene, 77-47-4;
- F. Hexachloroethane, 67-72-1;
- G. Hexachlorophene, 70-30-4;
- H. Hexachloropropene, 1888-71-7; and
- I. 2-Hexanone, 591-78-6.

Subp. 10. **"I" constituents.** Hazardous constituents beginning with the letter I are as follows:

- A. Indeno(1,2,3-cd)pyrene, 193-39-5;

- B. Isobutyl alcohol, 78-83-1;
- C. Isodrin, 465-73-6;
- D. Isophorone, 78-59-1; and
- E. Isosafrole, 120-58-1.

Subp. 12. **"K" constituents.** Hazardous constituents beginning with the letter K are as follows: Kepone, 143-50-0.

Subp. 13. **"L" constituents.** Hazardous constituents beginning with the letter L are as follows: Lead, (Total).

Subp. 14. **"M" constituents.** Hazardous constituents beginning with the letter M are as follows:

- A. Mercury, (Total);
- B. Methacrylonitrile, 126-98-7;
- C. Methapyrilene, 91-80-5;
- D. Methoxychlor, 72-43-5;
- E. Methyl bromide; Bromomethane, 74-83-9;
- F. Methyl chloride; Chloromethane, 74-87-3;
- G. 3-Methylcholanthrene, 56-49-5;
- H. Methylene bromide; Dibromomethane, 74-95-3;
- I. Methylene chloride; Dichloromethane, 75-09-2;
- J. Methyl ethyl ketone; MEK, 78-93-3;
- K. Methyl iodide; Iodomethane, 74-88-4;
- L. Methyl methacrylate, 80-62-6;
- M. Methyl methanesulfonate, 66-27-3;
- N. 2-Methylnaphthalene, 91-57-6;
- O. Methyl parathion; Parathion methyl, 298-00-0; and
- P. 4-Methyl-2-pentanone; Methyl isobutyl ketone, 108-10-1.

Subp. 15. **"N" constituents.** Hazardous constituents beginning with the letter N are as follows:

- A. Naphthalene, 91-20-3;
- B. 1,4-Naphthoquinone, 130-15-4;
- C. 1-Naphthylamine, 134-32-7;
- D. 2-Naphthylamine, 91-59-8;
- E. Nickel, (Total);
- F. o-Nitroaniline, 88-74-4;
- G. m-Nitroaniline, 99-09-2;
- H. p-Nitroaniline, 100-01-6;
- I. Nitrobenzene, 98-95-3;
- J. o-Nitrophenol, 88-75-5;
- K. p-Nitrophenol, 100-02-7;
- L. 4-Nitroquinoline 1-oxide, 56-57-5;
- M. N-Nitrosodi-n-butylamine, 924-16-3;
- N. N-Nitrosodiethylamine, 55-18-5;
- O. N-Nitrosodimethylamine, 62-75-9;
- P. N-Nitrosodiphenylamine, 86-30-6;
- Q. N-Nitrosodipropylamine; Di-n-propylnitrosamine, 621-64-7;
- R. N-Nitrosomethyl ethylamine, 10595-95-6;
- S. N-Nitrosomorpholine, 59-89-2;
- T. N-Nitrosopiperidine, 100-75-4;
- U. N-Nitrosopyrrolidine, 930-55-2; and
- V. 5-Nitro-o-toluidine, 99-55-8.

Subp. 17. **"P" constituents.** Hazardous constituents beginning with the letter P are as follows:

- A. Parathion, 56-38-2;
- B. Polychlorinated biphenyls; PCBs, 1336-36-3;
- C. Polychlorinated dibenzo-p-dioxins; PCDDs, _____;
- D. Polychlorinated dibenzofurans; PCDFs, _____;
- E. Pentachlorobenzene, 608-93-5;
- F. Pentachloroethane, 76-01-7;
- G. Pentachloronitrobenzene, 82-68-8;
- H. Pentachlorophenol, 87-86-5;
- I. Phenacetin, 62-44-2;
- J. Phenanthrene, 85-01-8;
- K. Phenol, 108-95-2;
- L. p-Phenylenediamine, 106-50-3;
- M. Phorate, 298-02-2;
- N. 2-Picoline, 109-06-8;
- O. Pronamide, 23950-58-5;
- P. Propionitrile; Ethyl cyanide, 107-12-0;
- Q. Pyrene, 129-00-0; and
- R. Pyridine, 110-86-1.

Subp. 20. **"S" constituents.** Hazardous constituents beginning with the letter S are as follows:

- A. Safrole, 94-59-7;
- B. Selenium, (Total);
- C. Silver, (Total);
- D. Silvex; 2,4,5-TP, 93-72-1;
- E. Styrene, 100-42-5; and
- F. Sulfide, 18496-25-8.

Subp. 21. **"T" constituents.** Hazardous constituents beginning with the letter T are as follows:

- A. 2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid, 93-76-5;
- B. 2,3,7,8-TCDD; 2,3,7,8-Tetrachlorodibenzo-p-dioxin, 1746-01-6;
- C. 1,2,4,5-Tetrachlorobenzene, 95-94-3;
- D. 1,1,1,2-Tetrachloroethane, 630-20-6;
- E. 1,1,2,2-Tetrachloroethane, 79-34-5;
- F. Tetrachloroethylene; Perchloroethylene; Tetrachloroethene, 127-18-4;
- G. 2,3,4,6-Tetrachlorophenol, 58-90-2;
- H. Tetraethyl dithiopyrophosphate; Suifotepp, 3689-24-5;
- I. Thallium, (Total);
- J. Tin, (Total);
- K. Toluene, 108-88-3;
- L. o-Toluidine, 95-53-4;
- M. Toxaphene, 8001-35-2;
- N. 1,2,4-Trichlorobenzene, 120-82-1;
- O. 1,1,1-Trichloroethane; Methylchloroform, 71-55-6;
- P. 1,1,2-Trichloroethane, 79-00-5;
- Q. Trichloroethylene; Trichloroethene, 79-01-6;
- R. Trichlorofluoromethane, 75-69-4;
- S. 2,4,5-Trichlorophenol, 95-95-4;
- T. 2,4,6-Trichlorophenol, 88-06-2;

- U. 1,2,3-Trichloropropane, 96-18-4;
- V. 0,0,0-Triethyl phosphorothioate, 126-68-1; and
- W. sym-Trinitrobenzene, 99-35-4.

Subp. 23. **"V" constituents.** Hazardous constituents beginning with the letter V are as follows:

- A. Vanadium, (Total);
- B. Vinyl acetate, 108-05-4; and
- C. Vinyl chloride, 75-01-4.

Subp. 25. **"X" constituents.** Hazardous constituents beginning with the letter X are as follows: Xylene(total), 1330-20-7.

Subp. 27. **"Z" constituents.** Hazardous constituents beginning with the letter Z are as follows: Zinc, (Total).

Statutory Authority: *MS s 116.07 subd 4*

History: *13 SR 577*

7045.0145 DELETION OF CERTAIN HAZARDOUS WASTE CODES FOLLOWING EQUIPMENT CLEANING AND REPLACEMENT AT WOOD PRESERVING PLANTS.

Subpart 1. **Scope.** Wastes from wood preserving processes at plants that do not resume or initiate use of chlorophenolic preservatives will not meet the listing definition of F032 once the generator has met all of the requirements of subparts 2 and 3. These wastes may, however, continue to meet another hazardous waste listing description or may exhibit one or more of the characteristics of hazardous waste.

Subp. 2. **Process equipment cleaning and replacement.** Generators must either clean or replace all process equipment that may have come into contact with chlorophenolic formulations or constituents thereof, including, but not limited to, treatment cylinders, sumps, tanks, piping systems, drip pads, fork lifts, and trams. Cleaning and replacement of process equipment must be performed in a manner which minimizes or eliminates the escape of hazardous waste or waste constituents, leachate, contaminated drippage, or hazardous waste decomposition products to the groundwater, surface water, or atmosphere. Generators must either:

A. prepare and follow an equipment cleaning plan and clean equipment in accordance with this item by:

(1) preparing and signing a written equipment cleaning plan that describes the equipment to be cleaned, how the equipment will be cleaned, the solvent chosen to be used in the cleaning, how solvent rinses will be tested, and how cleaning residues will be disposed;

(2) removing all visible residues from process equipment and rinsing process equipment with an appropriate solvent until dioxins and dibenzofurans in the final solvent rinse are found to be at or below the lower method calibration limit (MCL) found in SW-846, Method 8290, Table 1; and

(3) managing all residues from the cleaning process as F032 waste;

B. prepare and sign a written equipment replacement plan that describes the equipment to be replaced, how the equipment will be replaced, and how the equipment will be disposed of as F032 waste; or

C. document that previous equipment cleaning and/or replacement was performed in accordance with this part and occurred after cessation of use of chlorophenolic formulations.

Subp. 3. **Record keeping.** The generator must maintain the following records documenting the cleaning and replacement as part of the facility's operating record:

- A. the name and address of the facility;
- B. formulations previously used and the date on which their use ceased in each process at the plant;
- C. formulations currently used in each process at the plant;

- D. the equipment cleaning or replacement plan;
- E. the name and address of any persons who conducted the cleaning and replacement;
- F. the dates on which cleaning and replacement were accomplished;
- G. the dates of sampling and testing;
- H. a description of the sample handling and preparation techniques, including techniques used for extraction, containerization, preservation, and chain-of-custody for the samples;
- I. a description of the tests performed, the dates the tests were performed, and the results of the tests;
- J. the name and model numbers of the instruments used in performing the tests;
- K. quality assurance/quality control (QA/QC) documentation; and
- L. the following statement signed by the generator or the generator's authorized representative: "I certify under penalty of law that all process equipment required to be cleaned or replaced under Minnesota Rules, part 7045.0145, was cleaned or replaced as represented in the equipment cleaning and replacement plan and accompanying documentation. I am aware that there are significant penalties for providing false information, including the possibility of fine or imprisonment."

Statutory Authority: *MS s 116.07*

History: *17 SR 285*

7045.0150 [Repealed by amendment, 9 SR 115]

7045.0160 [Repealed by amendment, 9 SR 115]

7045.0170 [Repealed by amendment, 9 SR 115]

STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE

7045.0200 [Repealed by amendment, 9 SR 115]

7045.0205 APPLICABILITY OF GENERATOR STANDARDS.

Subpart 1. **Applicability to generators.** Parts 7045.0205 to 7045.0320 apply to generators of hazardous waste. A generator shall comply with the generator requirements applicable to generator size as determined under part 7045.0206.

Subp. 2. **Applicability to transporters.** The standards applicable to generators established in parts 7045.0205 to 7045.0320 apply to transporters of hazardous waste if a transporter transports hazardous waste into Minnesota from a foreign country or mixes hazardous waste of different United States Department of Transportation shipping descriptions by placing them into a single container as provided in part 7045.0355.

Subp. 3. **Applicability to owners or operators of hazardous waste facilities.** The standards applicable to generators established in parts 7045.0205 to 7045.0320 apply to owners or operators of hazardous waste treatment, storage, or disposal facilities if a hazardous waste facility initiates a shipment of hazardous waste as provided in parts 7045.0472 and 7045.0578.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 16 SR 2102*

7045.0206 GENERATOR SIZE DETERMINATION.

Subpart 1. **Applicability.** This part applies to all generators for purposes of determining generator size.

Subp. 2. **Large quantity generator.** A generator is a large quantity generator if, in a calendar month, waste is generated in any of the following quantities:

- A. greater than or equal to 1,000 kilograms of hazardous waste, excluding acute hazardous waste;
- B. greater than one kilogram of acute hazardous waste; or

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

Subp. 3. **Small quantity generator.** A generator is a small quantity generator if, in a calendar month, waste is generated in all of the following quantities:

A. greater than 100 kilograms and less than 1,000 kilograms of hazardous waste, excluding acute hazardous waste;

B. less than or equal to one kilogram of acute hazardous waste; and

C. less than or equal to 100 kilograms of any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill, into or on any land or water, of any acute hazardous waste.

Subp. 4. **Very small quantity generator.** A generator is a very small quantity generator if, in a calendar month, waste is generated in all of the following quantities:

A. less than or equal to 100 kilograms of hazardous waste, excluding acute hazardous waste;

B. less than or equal to one kilogram of acute hazardous waste; and

C. less than or equal to 100 kilograms of any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill, into or on any land or water, of any acute hazardous waste.

Subp. 5. **Waste exempt from size determination.** A generator shall not include the following waste when determining the quantity of hazardous waste generated:

A. exempt waste under part 7045.0120;

B. recycled waste under part 7045.0125, subparts 4, 5, and 6;

C. used oil managed as follows:

(1) used oil that is recycled in some other manner than being burned for energy recovery; and

(2) used oil that is to be burned for energy recovery as regulated under part 7045.0695;

D. sewered hazardous waste that is pretreated as provided in part 7045.0305, subpart 2;

E. for mixtures of nonhazardous waste and hazardous waste, waste that is nonhazardous under part 7045.0102, provided that the volume of the hazardous waste before mixing is counted; and

F. spent materials that are generated, reclaimed, and subsequently reused on site, provided that the spent materials have been counted once.

Subp. 6. **Change in generator size status.** If a small quantity generator exceeds the quantity limits listed in subpart 3, the generator loses small quantity generator status and is subject to all the generator requirements of this chapter unless the generator regains small quantity generator status under item A or B.

If a very small quantity generator exceeds the quantity limits listed in subpart 4, the generator loses very small quantity generator status and is subject to the small quantity generator requirements of this chapter unless very small quantity generator status is regained under item A or C.

A. Once generator size status is lost, the generator shall not regain that status until the generator is notified in writing by the commissioner that the original generator size status has been approved. The commissioner shall only approve generator size status under this item if the generator can demonstrate to the satisfaction of the commissioner that the waste quantities that will be generated in the future will meet the limits established in subpart 3 or 4, as applicable. The generator shall make this demonstration by submitting a written statement to the commissioner requesting reclassification as a small or very small quantity generator, as applicable, and including the information necessary for the commissioner to evaluate the request. The information shall include an explanation of the circumstances that resulted in each instance of overgeneration during the past year, an explanation of the measures that the generator has taken to correct the cause of overgeneration, and other information as necessary to document that the overgeneration will not reoccur.

B. For small quantity generators, if the quantity of hazardous waste generated in any calendar month exceeds the quantities listed in subpart 3 and the cause of the overgeneration is a spill or accidental release of hazardous waste that is not acute hazardous waste; the shutdown or cleanup of some part of the generation process; or the replacement of PCB containing equipment, the generator loses small quantity generator status and is subject to all the generator requirements of this chapter. However, in any of these cases, a generator will automatically regain small quantity generator status without applying to the commissioner for approval if the generator:

- (1) resumes generation within the quantity limits in subpart 3; and
- (2) complies with the quantity limits in subpart 3 during the other 11 months of the calendar year.

A generator who cannot automatically regain small quantity generator status under this subpart may apply for reclassification under item A.

C. For very small quantity generators, if the quantity of hazardous waste generated in any calendar month exceeds the quantities listed in subpart 4 but does not exceed the quantity listed in subpart 3, the generator loses very small quantity generator status and is subject to the small quantity generator requirements of this chapter. However, a generator shall automatically regain very small quantity generator status without applying to the commissioner for approval if the generator:

- (1) resumes generation within the quantity limits in subpart 4; and
- (2) complies with the quantity limits in subpart 4 during the other 11 months of the calendar year.

A generator who cannot automatically regain very small quantity generator status under this subpart may apply for reclassification under item A.

A very small quantity generator who generates hazardous waste in any calendar month exceeding the quantities listed in subpart 3 is subject to item A or B.

Statutory Authority: *MS s 116.07*

History: *16 SR 2102*

7045.0208 HAZARDOUS WASTE MANAGEMENT.

Subpart 1. **Management by generator.** A generator must manage hazardous waste by using one of the methods described in items A to D, unless otherwise specifically exempted under this chapter.

A. A generator may treat or dispose of at an on-site facility as provided under part 7045.0211.

B. A generator may ensure delivery to an off-site storage, treatment, or disposal facility. If located in the United States, the facility used must be permitted to accept hazardous waste under the agency's permitting procedures, have interim status under parts 7045.0552 to 7045.0642, or be authorized to manage hazardous waste by the Environmental Protection Agency or by a state with a hazardous waste management program authorized by the Environmental Protection Agency.

C. A generator may ensure delivery to a facility that under part 7045.0125 beneficially uses or reuses, legitimately recycles, or legitimately reclaims the waste, or treats the waste before beneficial use or reuse, legitimate recycling, or legitimate reclamation.

D. A generator may export to a foreign country under the limitations in part 7045.0302.

Subp. 2. **Relinquishing control.** A generator must not relinquish control of a hazardous waste if:

A. the generator has reason to believe that the hazardous waste will not be properly managed; or

B. the transporter or the treatment, storage, or disposal facility is not exempt under this chapter and has not:

- (1) received an identification number from a state with a hazardous waste program authorized by the Environmental Protection Agency pursuant to Code of Federal Regulations, title 40, part 271; or

(2) received an identification number from the Environmental Protection Agency.

Subp. 3. **Effect on liability.** Nothing in subpart 1 or 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: *16 SR 2102*

7045.0210 FINANCIAL RESPONSIBILITY OF HAZARDOUS WASTE GENERATORS.

No person shall produce a hazardous waste within the state of Minnesota or produce a hazardous waste outside the state of Minnesota that is transported to a hazardous waste facility within the state of Minnesota unless that person has adequate financial resources to insure that the hazardous waste is disposed of, treated, or processed at a hazardous waste facility permitted to manage such waste. Nothing in this provision is intended to restrict or 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 subds 4,4b*

History: *9 SR 115*

7045.0211 REQUIREMENTS FOR GENERATORS WITH ON-SITE FACILITIES.

Subpart 1. **Waste procedures.** A generator who treats, stores, or disposes of a hazardous waste on site which has been produced on site must comply with this chapter and chapter 7001, and parts 7023.9000 to 7023.9050, as applicable.

Subp. 2. [Repealed, 16 SR 2102]

Subp. 3. [Repealed, 16 SR 2102]

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 16 SR 2102; 18 SR 614*

7045.0212 IMPORTERS OF HAZARDOUS WASTE.

Any person who imports hazardous waste into the state of Minnesota from a source outside the United States must comply with the standards applicable to generators established in parts 7045.0205 to 7045.0320.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 16 SR 2102*

7045.0213 FARMERS; PESTICIDES.

Subpart 1. **General applicability.** A farmer who generates waste pesticides which are hazardous waste must comply with the standards applicable to generators established in parts 7045.0205 to 7045.0320 except as provided in subpart 2.

Subp. 2. **Special conditions.** A farmer who generates waste pesticides which are hazardous waste and who triple rinses each emptied pesticide container and disposes of the pesticide residues on the farmer's farm in a manner consistent with the disposal instructions on the pesticide label is not required with respect to those pesticides to comply with other standards in parts 7045.0205 to 7045.0320 or to comply with parts 7045.0450 to 7045.1380, or to obtain a hazardous waste facility permit, provided that:

A. the container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

B. the container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

C. in the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container has been removed.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 15 SR 1515; 16 SR 2102*

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. 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 reevaluated 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.

Subp. 2. **Method for evaluation.** The person evaluating the waste must determine if the waste meets any of the following criteria for a hazardous waste:

A. the waste is listed in part 7045.0135; or

B. if the waste is not listed in part 7045.0135, the person must then determine whether the waste is identified in part 7045.0131 by either:

(1) testing the waste according to the methods in part 7045.0131 or according to an equivalent method approved by the commissioner pursuant to part 7045.0075, subpart 1; or

(2) applying knowledge of the hazard characteristics of the waste in light of the materials or the processes used.

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

A. Except as provided in items B, C, and D, any waste generated from the treatment, storage, or disposal of hazardous waste, including any sludge, spill residue, ash, emission control dust or leachate, but not including precipitation run-off, is a hazardous waste if it meets the criteria of subpart 2 or if it is derived from a waste that is listed in part 7045.0135.

B. Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from iron and steel industry facilities which are classified as number 331 or 332 facilities under the Office of Management and Budget Standard Industrial Classification Manual, is not a hazardous waste unless it exhibits one or more characteristics of hazardous waste under part 7045.0131.

C. Materials that have been reclaimed from hazardous wastes and from wastes that have been reclaimed that are beneficially used are not hazardous wastes unless the reclaimed material is used in a manner constituting disposal under part 7045.0665 or burned for energy recovery under part 7045.0692.

D. Wastes from burning any of the materials exempted from regulation by part 7045.0125, subpart 4, items D to J, are not hazardous wastes.

Statutory Authority: *MS s 115.03; 116.07; 116.37*

History: *9 SR 115; 10 SR 70; 10 SR 1688; 11 SR 1832; L 1987 c 186 s 15; 13 SR 1238; 14 SR 1718; 16 SR 2239*

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.

Subp. 2. **Reevaluations.** The person must reevaluate the waste whenever the person has reason to believe that the composition of the waste is altered so that the results of the previous evaluation are no longer representative of the waste.

Subp. 3. **Representative evaluations.** A person who produces two or more wastes that are substantively identical or are from substantively identical processes, such that one waste is representative of the other wastes, may use one evaluation for all such wastes.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0216 EVALUATION REPORTS TO THE COMMISSIONER.

Subpart 1. **Necessary information.** The commissioner may request at any time that a person producing a waste submit the results of the evaluation of the waste. The person must submit the following information as requested by the commissioner:

A. The type of waste and the source or process from which it was produced.

B. The chemical composition of the waste and the anticipated fluctuations in its chemical composition.

C. The concentration of each component listed in part 7045.0131, subpart 8 found in the leachate of the waste. The person evaluating the waste may submit soft data in lieu of testing the waste if the data is sufficient to demonstrate whether the waste is hazardous or nonhazardous due to the toxicity characteristic.

D. The results of the evaluation to determine whether the waste has any characteristics listed in part 7045.0131.

E. If any tests were conducted to evaluate the waste, the person must submit the results of all tests conducted.

Subp. 2. **Consequences of failure to report.** If the person who is requested by the commissioner to submit the results of an evaluation of a waste fails to submit the required information within 30 days after the request, the waste must be managed as a hazardous waste, and the person who produces the waste must be considered a generator until the commissioner has determined whether the waste is hazardous or not.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; L 1987 c 186 s 15; 15 SR 1878*

7045.0217 ADDITIONAL EVALUATIONS ORDERED BY THE COMMISSIONER.

If the commissioner determines that the results of the evaluation are not adequate to determine whether the waste is hazardous, the commissioner may require the person to conduct an additional evaluation. The commissioner shall notify the person in writing of such determination, the reasons therefor, and the additional tests that must be run or additional data that must be obtained. If the results of the additional evaluation are not reported to the commissioner within 30 days of the request, the waste must be managed as a hazardous waste and the person who produces the waste must be considered a generator until the commissioner has determined whether the waste is hazardous or not. The commissioner may grant additional time for evaluation when the person demonstrates that an extension is necessary.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.0218 CLASSIFICATION OF WASTES AS HAZARDOUS BY THE AGENCY.

If the commissioner recommends to the agency that a specific generator's waste be classified as a hazardous waste pursuant to part 7045.0129, subpart 4, the commissioner shall notify the person producing the waste in writing of the recommendation and the person shall have at least 30 days to submit any additional material or written comments to the agency before the agency makes a determination. The agency shall notify the person in writing of its decision. The agency shall hold a contested case hearing pursuant to Minnesota Statutes, chapter 14 upon request of the person producing the waste. The waste must be managed as a hazardous waste and the person who produces the waste must be considered a hazardous waste generator until the agency has determined whether the waste is hazardous or until six months after the date of the commissioner's recommendation whichever occurs first; provided, however, that the person shall not be required to obtain a hazardous waste facility per-

mit for storage of the waste on-site during this time. Any recommendation by the commissioner shall be considered on an expeditious basis.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.0219 [Repealed, 16 SR 2102]

7045.0220 [Repealed, 16 SR 2102]

7045.0221 IDENTIFICATION NUMBER.

Prior to transportation, treatment, storage, or disposal of any hazardous waste a generator must obtain a generator identification number on forms provided by the commissioner.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.0225 GENERATOR LICENSE.

Subpart 1. **Applicability.** A person who generates hazardous waste must obtain a hazardous waste generator license for each individual generation site. The procedures for application and issuance are described in parts 7045.0225 to 7045.0250. The fees associated with the license are set forth in parts 7046.0031 to 7046.0070.

Subp. 2. **Posting.** A generator must prominently display the hazardous waste generator license in a public area at the licensed site.

Statutory Authority: *MS s 116.07*

History: *16 SR 2102*

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:

A. the generator's company name, location address, mailing address, type of business, principal products or service, contact person, telephone number, and EPA identification number or date applied for;

B. a list of all hazardous wastes generated, their corresponding hazardous waste numbers from parts 7045.0131 and 7045.0135, the physical state, and the source or process from which the wastes are generated;

C. a list of all wastes of the generator that have been determined by the generator to be nonhazardous wastes. The list must include the type of waste, the physical state, and the source or process from which the waste was produced;

D. a list of all used and waste oils generated, the physical state, and the source or process from which the waste was produced;

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

(1) the estimated amounts to be produced in a one year period;

(2) the names and identification numbers of the transporters to be used;

(3) the frequency with which the hazardous waste is expected to be transported or discharged;

(4) the name of the wastewater treatment works to which a sewerage hazardous waste is being discharged;

(5) the national pollutant discharge elimination system or state disposal permit number for discharges to sewers and waters of the state;

(6) the names of the hazardous waste 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 facilities located in the state of Minnesota, or the addresses and identification numbers of those facilities located outside the state of Minnesota; and

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

(8) the date hazardous waste was first produced; and

(9) in the event any tests were conducted to evaluate the waste, the results of all tests conducted; and

F. the following certification signed by the generator or authorized representative:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Subp. 1a. **Very small quantity generator license application.** An application for a very small quantity generator license must be on a form provided by the commissioner and must include the following information:

A. the generator's company name, location address, mailing address, type of business, contact person, telephone number, and identification number;

B. the date each hazardous waste was first produced;

C. the name or a description of each hazardous waste generated;

D. the estimated amount of each hazardous waste to be produced in a one year period;

E. the methods of treatment and/or disposal;

F. the certification required under subpart 1, item F; and

G. additional information required under subpart 1 as requested by the commissioner.

Subp. 2. [Repealed by amendment, 9 SR 115]

Subp. 3. [Repealed, 16 SR 2102]

Subp. 4. **Laboratory waste.** A person who produces a waste from a laboratory or pilot plant that is a mixture of small amounts of unrelated but compatible chemicals such that the description of any sample or set of samples is not representative of the total waste is exempt from subpart 1, item E, subitem (9).

Statutory Authority: *MS s 116.07*

History: *9 SR 115; L 1987 c 186 s 15; 15 SR 1878; 16 SR 2102*

7045.0235 [Repealed, 16 SR 2102]

7045.0240 SUBMITTAL OF LICENSE APPLICATION.

Subpart 1. [Repealed, 16 SR 2102]

Subp. 2. [Repealed, 16 SR 2102]

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 submitted to the commissioner. In the period between 15 days after the generator's license application submittal 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.

Subp. 4. **Prohibition on generation.** A generator who is denied a generator license or who fails to submit a timely application for a generator license shall immediately stop generating the hazardous waste until a license is obtained.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; L 1987 c 186 s 15; 16 SR 2102*

7045.0243 TERM AND CONDITIONS OF LICENSE.

Subpart 1. **Term of license.** A hazardous waste generator license is issued for a term to be determined by the commissioner. The term of a license shall not exceed two years.

Subp. 2. **Special conditions.** Each license will contain or reference conditions necessary for the licensee to achieve compliance with applicable Minnesota or federal statutes or rules, including each of the applicable requirements in parts 7045.0205 to 7045.0320, and any conditions that the commissioner determines and shows with reasonable justification to be necessary to protect human health and the environment.

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.

A. The commissioner's issuance of a license does not release the licensee from any liability, penalty, or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the license.

B. The commissioner's issuance of a license does not prevent the future adoption by the agency of pollution control rules, standards, or orders more stringent than those now in existence and does not prevent the enforcement of this chapter, standards, or orders against the licensee.

C. The commissioner's issuance of a license does not obligate the agency to enforce local laws, rules, or plans beyond that authorized by Minnesota statutes.

D. The licensee may not knowingly make a false or misleading statement, representation, or certification in a record, report, or other document required to be submitted to the agency or to the commissioner by the license or this chapter. The licensee must immediately upon discovery report to the commissioner an error or omission in these records, reports, or other documents.

E. When authorized by Minnesota Statutes, sections 115.04; 115B.17, subdivision 4; and 116.091, and upon presentation of proper credentials, the agency, or an authorized employee or agent of the agency, shall be allowed by the licensee to enter at reasonable times upon the licensed property of the licensee to examine and copy books, papers, records, or memoranda pertaining to the activity covered by the license; and to conduct surveys and investigations, including sampling or monitoring, pertaining to the activity covered by the license.

F. If the licensee discovers, through any means, including notification by the commissioner, that noncompliance with a condition of the license has occurred, the licensee shall take all reasonable steps to minimize the adverse impacts on human health, public drinking water supplies, or the environment resulting from the noncompliance.

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 submitted to the commissioner. In the period between 15 days after submittal 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.

H. If the licensee changes management of a hazardous waste during the term of the license, the licensee must report the change in the next license renewal application required under part 7045.0248.

I. The license is not transferable. If the owner or operator to whom the license has been issued changes, the new owner or operator must apply for a new license not later than 30 days after the change.

J. The license authorizes the licensee to perform the activities described in or referenced by the license under the conditions of the license. In issuing the license, the state and agency assume no responsibility for damage to persons, property, or the environment caused by the activities of the licensee in the conduct of its actions, including those activities authorized under the license. To the extent the state and agency may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act, Minnesota Statutes, section 3.736.

Statutory Authority: *MS s 116.07*

History: *16 SR 2102*

7045.0245 LICENSE APPROVAL AND ISSUANCE.

Subpart 1. **Review and approval.** The commissioner shall conduct a review of the license application and shall:

- A. approve the hazardous waste generator license application;
- B. require the submission of additional information or management plans or both to make the license application complete and approvable;
- C. require changes in the management of the hazardous waste or wastes to make the license application approvable; or
- D. deny the license.

Subp. 2. **License issuance.** The commissioner will issue a hazardous waste generator license upon approval of the application under subpart 1 and payment in full of generator fees required under chapter 7046.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; L 1987 c 186 s 15; 16 SR 2102*

7045.0247 LICENSE RENEWAL AND CONTINUATION OF EXPIRED LICENSE.

Subpart 1. **License renewal.** The commissioner will renew the license after receipt, review, and approval of the license renewal application required under part 7045.0248 and payment in full of generator fees required under chapter 7046.

Subp. 2. **Continuation of expired license.** A generator who holds an expired license may continue to conduct the licensed activity according to the terms and conditions of the expired license until the commissioner takes final action on the renewal application if the commissioner determines that items A to D are true.

- A. The licensee has submitted the application required under part 7045.0248 no later than 30 days after receipt of license renewal application.
- B. The licensee responds to requests by the commissioner for additional application information within 14 days of receiving the written request.
- C. The licensee is in compliance with the terms and conditions of the expired license.
- D. The licensee has made payment in full of generator fees required under chapter 7046.

Statutory Authority: *MS s 116.07*

History: *16 SR 2102*

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:

A. the generator's company name, location address, mailing address, type of business, principal products or service, contact person, telephone number, and EPA identification number;

B. the calendar year covered by the renewal application;

C. a list of all hazardous wastes generated, their corresponding hazardous waste numbers from parts 7045.0131 and 7045.0135, and the physical state;

D. a list of all used and waste oils generated, the type of waste, and the physical state;

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

(1) the amounts produced;

(2) the names and identification numbers of the transporters used;

(3) the frequency with which the hazardous waste was transported or discharged;

(4) the name of the wastewater treatment works to which a sewer hazardous waste was discharged;

(5) the national pollutant discharge elimination system or state disposal permit number for discharges to sewers and waters of the state;

(6) the names of the hazardous waste facilities 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 facilities located in Minnesota, or the addresses and identification numbers of those facilities located outside of Minnesota;

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

(8) the date hazardous waste was first produced;

F. a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated;

G. a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent the information is available before 1984; and

H. the following certification signed by the generator or authorized representative:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Subp. 2. Very small quantity generator license renewal application. A very small quantity 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. The application must contain the following information for each hazardous waste produced during the preceding calendar year:

A. the name or a description of the hazardous waste;

B. the amount of each hazardous waste produced;

C. the methods of treatment and/or disposal;

D. the certification required under subpart 1, item H; and

E. additional information required under subpart 1 as requested by the commissioner.

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 report required under subpart 1 or 2:

A. evidence that the waste was recycled; and

B. evidence that a continuing market exists for the waste.

Subp. 4. **Exported waste.** Reporting for exports of hazardous waste is not required under this part. Export reporting requirements are set out in part 7045.0302, subpart 6.

Subp. 5. **Approval of application.** License renewal applications shall be subject to the commissioner's review and approval procedures under part 7045.0245, subpart 1.

Statutory Authority: *MS s 116.07*

History: *16 SR 2102*

7045.0249 [Repealed, 16 SR 2102]

7045.0250 [Repealed by amendment, 9 SR 115]

7045.0250 LICENSE REVOCATION.

Subpart 1. **Justification to revoke.** The following constitute justification for the commissioner to revoke a license:

A. existence at the licensed site of unresolved noncompliance with applicable state and federal pollution statutes or rules or a condition of the license, and failure of the licensee to undertake a schedule of compliance to resolve the noncompliance;

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

C. licensee failure to pay or escrow a penalty owed under Minnesota Statutes, section 116.072.

Subp. 2. **Procedure.** The commissioner must give a written 30-day notice to the licensee of the commissioner's intent to revoke the hazardous waste generator license. Included in the notice must be specific justification for the revocation as described under subpart 1.

Subp. 3. **Reinstatement.** The licensee may apply to the commissioner for license reinstatement by providing written documentation that the justifications for revocation have been remedied. The commissioner will review the request within 30 calendar days and deny or approve the request in writing. A reinstatement is for the remaining term of the license. Generator fees under chapter 7046 will not be refunded for the period that the license is revoked nor will the fees be credited towards a subsequent fee cycle.

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 1400.8402.

Statutory Authority: *MS s 116.07*

History: *16 SR 2102*

7045.0255 ONE-TIME DISPOSAL REQUIREMENTS.

A person having hazardous waste subject to regulation under this chapter who is only a hazardous waste generator for the one-time disposal of hazardous waste which is not currently being produced, must comply with this chapter except as provided in items A and B.

A. The generator is exempt from parts 7045.0225 to 7045.0250, license and license reporting, except that the generator must submit a management plan meeting the requirements of part 7045.0230, subpart 1, item E, for approval by the commissioner on forms provided by the commissioner.

B. For accumulation requirements, the generator is exempt from the large quantity generator requirements of part 7045.0292. The generator must meet requirements applicable to small quantity generators in part 7045.0292, subparts 5, 9, 10, and 11.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; L 1987 c 186 s 15; 14 SR 2248; 16 SR 2102*

7045.0260 [Repealed by amendment, 9 SR 115]

7045.0261 MANIFEST DOCUMENT; GENERAL REQUIREMENTS.

Subpart 1. **When required.** A generator who transports or offers for transportation hazardous waste for off-site treatment, storage, or disposal must prepare a manifest before transporting the waste off-site. Generators shall use manifests in accordance with the requirements of items A to C and shall complete the manifest in accordance with the instructions on the manifest.

A. For shipments from either in state or out of state to a facility located in Minnesota, the generator shall use a Minnesota manifest and, if necessary, continuation sheets as provided in subpart 10.

B. For shipments from Minnesota to a facility located in a state (consignment state) that neither supplies nor requires the use of a manifest which is specific for that state, the generator shall use a Minnesota manifest and, if necessary, continuation sheets as provided in subpart 10.

C. For shipments from Minnesota to a facility located in a state (consignment state) that requires the use of a manifest which is specific for that state, the generator shall use that manifest.

Subp. 1a. **Exemptions.** A generator may transport without a manifest as described in item A or B. Transporters exempt under this subpart must comply with all applicable requirements of Minnesota Statutes, sections 221.033 and 221.034, and Code of Federal Regulations, title 49, parts 171 to 199.

A. A very small quantity generator may transport the generator's own hazardous waste without a manifest if transportation is via the generator's own vehicle and if that transportation is to a very small quantity generator hazardous waste collection program under part 7045.0320.

B. A small quantity or a very small quantity generator may use an alternate manifest system as provided under part 7045.0075, subpart 5.

Subp. 2. **Designation of facility.** A generator must designate on the manifest either one facility which is permitted to handle the waste described on the manifest or one facility which in accordance with part 7045.0125 beneficially uses or reuses, or legitimately recycles, or reclaims the waste or treats the waste before beneficial use or reuse, or legitimate recycling or reclamation.

Subp. 3. **Alternate facility.** A generator may also designate on the manifest one alternate facility which meets the requirements of subpart 2 in the event an emergency prevents delivery of the waste to the primary designated facility.

Subp. 4. **Unable to deliver.** If the transporter is unable to deliver the hazardous waste to the designated facility or the alternate facility, the generator must either designate another facility or instruct the transporter to return the waste.

Subp. 5. **Permitted facilities.** The facilities shall be permitted by:

A. the agency if the hazardous waste facility is located in Minnesota; or

B. the state agency with a hazardous waste program authorized by the Environmental Protection Agency pursuant to Code of Federal Regulations, title 40, part 271 (1983); or

C. the Environmental Protection Agency; or

D. having interim status.

Subp. 6. **Specific Minnesota hazardous wastes.** If a generator located in the state of Minnesota produces a waste classified as hazardous in Minnesota which is not classified as hazardous in the state where the receiving facility is located, the generator must ensure that the facility is permitted to accept and manage the waste by the appropriate state agency.

Subp. 7. **Manifest information.** The Minnesota manifest is based on the Uniform National Manifest that is required under United States Department of Transportation and United States Environmental Protection Agency regulations, as contained in Code of Federal Regulations, title 40, part 262, and Code of Federal Regulations, title 49, part 172. Manifest information requirements include those required by United States Department of Transportation and United States Environmental Protection Agency regulations and consist of the numbered items on the manifest set forth in the Appendix to Code of Federal Regulations,

title 40, part 262. Additional state information requirements consist of the telephone number of the designated facility and the hazardous waste numbers specified in parts 7045.0100 to 7045.0143 for each hazardous waste specified on the manifest. Manifests must include the information specified in this subpart and in the instructions on the manifest.

Subp. 8. Availability of manifests. Minnesota manifests are available from the agency or the Print Communications Division of the Minnesota Department of Administration, 117 University Avenue, Saint Paul, Minnesota 55155.

Subp. 9. Number of copies. The manifest must consist of at least the number of copies which will provide the generator, each transporter, and the owner or operator of the designated facility with one copy each for their records, another copy to be returned to the generator by the facility, and the required copies to be returned to the commissioner, pursuant to parts 7045.0265; 7045.0474, subpart 2, item D; and 7045.0580, subpart 2, item D, and any additional copies required by the generator's or designated facility's state, if other than Minnesota. Copies to be returned to the commissioner shall be sent to: Minnesota Pollution Control Agency, Hazardous Waste Division, 520 Lafayette Road, Saint Paul, Minnesota 55155, Attention: HWIMS.

Subp. 10. Continuation sheets. A generator using a Minnesota manifest shall use a continuation sheet to the manifest if more than two transporters are to be used to transport the waste. A generator using a Minnesota manifest shall use either a continuation sheet to the manifest or an additional manifest which is completed in its entirety, if more space is required for the United States Department of Transportation description and related information on the manifest. Any United States Environmental Protection Agency approved continuation sheet may be used if it is completed and copies are distributed in accordance with this part and United States Environmental Protection Agency regulations as contained in Code of Federal Regulations, title 40, part 262. A generator using a continuation sheet to a Minnesota manifest shall enter the preprinted State Manifest Document Number of the manifest into the appropriate space on the continuation sheet, and shall attach the sheet to the manifest. Continuation sheets are not provided by the state. For shipments not requiring a Minnesota manifest, generators shall use continuation sheets in accordance with applicable consignment state requirements.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 9 SR 2118; 11 SR 1832; 11 SR 1950; L 1987 c 186 s 15; 16 SR 2102*

7045.0265 USE OF MANIFEST.

Subpart 1. General requirements. The generator must:

- A. sign the manifest certification by hand;
- B. obtain the handwritten signature of the initial transporter and the date of acceptance on the manifest;
- C. retain one copy, in accordance with part 7045.0294, subpart 1;
- D. send one copy to the commissioner within five working days of the initial transporter's acceptance of the hazardous waste shipment; and
- E. give the transporter the remaining copies of the manifest except as provided in subparts 2 and 3;

Subp. 2. Shipments by water. For bulk shipments of hazardous waste within the United States solely by water the generator must:

- A. send three copies of the manifest dated and signed in accordance with subpart 1 to the owner or operator of the designated facility, or the last bulk shipment water transporter to handle the waste in the United States if exported by water; and
- B. send one copy to the commissioner within five working days of the initial transporter's acceptance of the hazardous waste shipment.

Subp. 3. Shipments by rail. For a rail shipment of hazardous waste within the United States which originates at the site of generation, the generator must:

- A. send at least three copies of the manifest dated and signed in accordance with subpart 1 to:

- (1) the next nonrail transporter, if any;
- (2) the designated facility if transported solely by rail; or
- (3) the last rail transporter to handle the waste in the United States if exported

by rail; and

B. send one copy to the commissioner within five working days of the initial transporter's acceptance of the hazardous waste shipment.

Subp. 4. **Out-of-state shipments.** When a shipment of hazardous waste is to be delivered to a hazardous waste facility located outside the state of Minnesota, the generator must ensure that:

A. the copy of the hazardous waste manifest signed by the facility operator is sent to the commissioner within 40 days of the acceptance of the hazardous waste by the hazardous waste facility; and

B. for shipments of a hazardous waste to a designated facility in a United States Environmental Protection Agency authorized state which has not yet obtained authorization to regulate that particular waste as hazardous, the designated facility agrees to sign the manifest and return the manifest to the generator, and that any out-of-state transporter signs and forwards the manifest to the designated facility.

Subp. 5. **Commissioner's request for manifest.** Upon the request of the commissioner any generator must submit the original or a copy of the hazardous waste manifest at the time and in the manner specified by the commissioner. If the request requires the generator to inform all transporters and facility operators managing the hazardous waste of the request, the generator must so inform the transporters and facility operators, and the generator, transporters, and facility operators shall comply with the commissioner's request.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; L 1987 c 186 s 15; 16 SR 197*

7045.0270 PRETRANSPORT REQUIREMENTS.

Subpart 1. **Marking.** Before transporting or offering hazardous waste for transportation off-site, a generator must:

A. mark each package of hazardous waste in accordance with the applicable United States Department of Transportation regulations on hazardous materials under Code of Federal Regulations, title 49, part 172 (1983); and

B. mark each container of 110 gallons or less used in such transportation with the following words and information according to the Code of Federal Regulations, title 49, section 172.304 (1983):

(1) HAZARDOUS WASTE – Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

(2) Generator Name and Address _____

(3) Manifest Document Number _____

Subp. 2. [Repealed by amendment, 9 SR 115]

Subp. 3. **Storage tank label.** Any generator or other person who maintains a storage tank containing hazardous waste shall display the words "Hazardous Waste" on the storage tank in a legible and conspicuous manner. The words "Hazardous Waste" shall be plainly visible and legible to any person who may operate any outlet valve.

Subp. 4. **Packaging.** Before transporting hazardous waste or offering a hazardous waste for transportation off-site, a generator must package the waste in accordance with the applicable United States Department of Transportation regulations on packaging under Code of Federal Regulations, title 49, parts 173, 178, and 179 (1983).

Subp. 5. **Labeling.** Before transporting or offering hazardous waste for transportation off-site, a generator must label each package in accordance with the applicable United States Department of Transportation regulations on hazardous materials under Code of Federal Regulations, title 49, part 172 (1983).

Subp. 6. **Placarding.** Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must placard or offer the initial transporter the ap-

propriate placards according to United States Department of Transportation regulations for hazardous materials under Code of Federal Regulations, title 49, part 172, subpart F (1983).

Subp. 7. **Loading of hazardous waste.** A generator who is responsible for loading hazardous waste on a transport vehicle in lieu of the transporter must comply with the provisions of part 7045.0371.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0275 MANAGEMENT OF HAZARDOUS WASTE SPILLS.

Subpart 1. [Repealed, 16 SR 2102]

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 agency's 24 hour telephone number, (612) 296-8100.

Subp. 3. **Spills; duty to recover.** Any person who generates a hazardous waste that spills, leaks, or otherwise escapes from a container, tank, or other containment system, including its associated piping, shall recover the hazardous waste as rapidly and as thoroughly as possible and shall immediately take other action as may be reasonably possible to protect human life and health and minimize or abate pollution of the water, air, or land resources of the state.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 11 SR 1832; 16 SR 2102*

7045.0280 [Repealed by amendment, 9 SR 115]

7045.0290 [Repealed, 16 SR 2102]

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:

A. all accumulated hazardous waste is, within 90 days of the accumulation start date, 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; or in tanks provided the generator complies with the requirements of part 7045.0628 except part 7045.0628, subpart 9, item C, and subpart 12;

C. tanks and containers are clearly labeled with the waste accumulation start date; alternatively, containers are so labeled while a clearly designated and legible log of tank transactions which includes accumulation start dates is maintained; all of these dates must be available for inspection;

D. each container and tank is properly labeled and marked according to part 7045.0270, subparts 1 and 5;

E. outdoor storage areas are protected from unauthorized access and inadvertent damage from vehicles or equipment;

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

G. containers holding hazardous wastes which exhibit the characteristics of ignitability or reactivity or which exhibit the potential for creating vapor pressures capable of causing containers to leak, deform, or otherwise fail if not shaded are shaded from direct sunlight; however, nothing in this item shall relieve the generator from the obligation to comply with any local, state, or federal law governing storage of these wastes;

H. 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

I. 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, and contingency planning.

Subp. 2. **Starting date.** A generator's accumulation starting date begins when the generator initiates accumulation in a container or tank, except as provided in subpart 6 for very small quantity generators, subpart 7 for acute hazardous waste, and subpart 8, item B, subitem (3), for satellite accumulation.

Subp. 3. [Repealed, 16 SR 2102]

Subp. 4. [Repealed, 16 SR 2102]

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:

A. all accumulated hazardous waste is, within 180 days of the accumulation start date, 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; or in tanks provided the generator complies with the requirements of part 7045.0629;

C. tanks and containers are clearly labeled with the waste accumulation start date; alternatively, containers are so labeled while a clearly designated and legible log of tank transactions which includes accumulation start dates is maintained; all of these dates must be available for inspection;

D. each container and tank is properly labeled and marked according to part 7045.0270, subparts 1 and 5;

E. outdoor storage areas are protected from unauthorized access and inadvertent damage from vehicles or equipment;

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

G. containers holding hazardous wastes which exhibit the characteristics of ignitability or reactivity or which exhibit the potential for creating vapor pressures capable of causing containers to leak, deform, or otherwise fail if not shaded are shaded from direct sunlight; however, nothing in this item shall relieve the generator from the obligation to comply with any local, state, or federal law governing storage of these wastes;

H. 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;

I. the generator meets the requirements of parts 7045.0566, relating to preparedness and prevention, and 7045.0568, relating to the arrangements with local authorities for emergencies; and

J. the generator complies with the following requirements:

(1) the generator must ensure that there is available at all times at least one employee, identified as the emergency coordinator, responsible for coordinating all emergency response measures provided in subitem (4); the emergency coordinator must be either on the generator's premises or available to respond to an emergency by reaching the premises within a short period of time;

(2) the generator must post the following information next to the telephone on the premises: the name and telephone number of the emergency coordinator, the location of fire extinguishers and spill control material, the fire alarm, if present, and the telephone number of the fire department, unless there is a direct alarm;

(3) the generator must ensure and document that all employees are thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities during normal facility operations and emergencies; and

(4) the emergency coordinator or a designee must respond to any emergencies that arise. Appropriate responses include: in the event of a fire, call the fire department

or try to extinguish the fire by using a fire extinguisher; in the event of a spill, contain the flow of hazardous waste to the extent possible and as soon as practicable, clean up the hazardous waste and any contaminated materials or soils; in the event of a fire, explosion, or other release that could threaten human health outside the premises or when the generator has knowledge that a spill has reached surface water, the generator must immediately comply with part 7045.0275, subparts 2 and 3, and notify the National Response Center using its 24-hour toll free number (800) 424-8802 and provide the name, address, identification number of the generator, date, time, type of incident, and the estimated quantity and disposition of any recovered materials.

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

A. all accumulated hazardous waste is, within 180 days of the date the 1,000 kilogram limit is reached, 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; or in tanks provided the generator complies with the requirements of part 7045.0629;

C. tanks and containers are clearly labeled with the waste accumulation start date; alternatively, containers are so labeled while a clearly designated and legible log of tank transactions which includes accumulation start dates is maintained; all of these dates must be available for inspection;

D. each container and tank is properly labeled and marked according to part 7045.0270, subparts 1 and 5;

E. outdoor storage areas are protected from unauthorized access and inadvertent damage from vehicles or equipment;

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

G. containers holding hazardous wastes which exhibit the characteristics of ignitability or reactivity or which exhibit the potential for creating vapor pressures capable of causing containers to leak, deform, or otherwise fail if not shaded are shaded from direct sunlight; however, nothing in this item shall relieve the generator from the obligation to comply with any local, state, or federal law governing storage of these wastes;

H. 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

I. 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.

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 (accumulation start date), 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 J.

B. For the period following the accumulation start date, the generator must comply with subpart 1.

Subp. 8. Satellite accumulation. Items A to C 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, as applicable, 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, in containers located at or near any point of generation where wastes initially accumulate that is under the control of the operator of the process generating the waste, provided the generator complies with items B and C.

B. The generator must:

- (1) comply with part 7045.0626;
- (2) clearly label each container with the words "Hazardous Waste" and a description that clearly identifies its contents to employees and emergency personnel; and
- (3) clearly label each container with the earliest of either the date on which the container became full or the date on which the volume limits prescribed in item A are reached.

C. A generator of any size who accumulates either hazardous waste or acute hazardous waste listed in part 7045.0135, subpart 4, item E, in excess of the amounts listed in item A at or near any point of generation must, with respect to the amount of excess waste, comply within three days with subparts 1 to 7, as applicable. During the three-day period for compliance, the generator must continue to comply with item B.

Subp. 9. Transportation time extension. If waste accumulated under subparts 5 and 6 must be transported 200 miles or more to a facility, the generator may store the waste for an additional 90 days beyond the established limits. In this event, the generator must maintain evidence on site that arrangements have been made for the transport of the waste to the facility and, if requested, show the evidence to the commissioner.

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.

Subp. 11. Accumulation requiring a permit. A large quantity generator who accumulates hazardous waste for more than 90 days is an operator of a storage facility and is subject to the requirements of parts 7045.0450 to 7045.0642 and the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050 unless the generator has been granted a time extension under subpart 10.

For small quantity and very small quantity generators, if the quantity of hazardous waste accumulated at any time exceeds the quantities in subpart 5 or 6, whichever applies, the generator must manage all of the accumulated waste in accordance with all the generator requirements of parts 7045.0205 to 7045.0320. The generator does not lose small quantity or very small quantity generator status, as applicable.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 10 SR 929; 11 SR 1950; L 1987 c 186 s 15; 13 SR 259; 14 SR 2248; 16 SR 2102; 16 SR 2239; 18 SR 614*

7045.0294 RECORD KEEPING.

Subpart 1. Manifests. A generator must keep a copy of each manifest signed according to part 7045.0265, subpart 1, for three years or until the generator receives a signed copy from the designated facility which received the waste. This signed copy must be retained as a record for at least three years from the date the waste was accepted by the initial transporter.

Subp. 1a. Alternate manifests. Record keeping requirements under the alternate manifest system provided in part 7045.0075, subpart 5, include:

A. a generator must maintain a copy of the reclamation and transport agreement during the term of the agreement and for a period of at least three years after termination or expiration of the agreement; and

B. for each shipment of waste using an alternate manifest, a generator must submit a completed copy of that alternate manifest to the commissioner within five working days of the transporter's acceptance of the waste shipment.

Subp. 1b. Very small quantity generator collection program receipt. A generator must keep a copy of each signed receipt for waste delivered to a collection site under part 7045.0320. This signed copy must be retained as a record for at least three years from the date the waste was accepted at the collection site.

Subp. 2. **Reports.** A generator must keep a copy of the license application, each license renewal application, and each exception report for at least three years from the due date of the report.

Subp. 2a. **Container inspection reports.** A generator must keep a copy of each weekly container inspection report required for generator accumulation under part 7045.0292 for a period of at least three years from the date of the inspection.

Subp. 3. **Test results.** A generator must keep records of any test results, waste analyses, or other determinations made in accordance with parts 7045.0214 to 7045.0217 for at least three years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal.

Subp. 4. **Extension of retention period.** The periods of retention referred to in subparts 1 to 3 are extended automatically during the course of any unresolved enforcement action regarding the regulated activity.

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

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 16 SR 2102*

7045.0296 [Repealed, 16 SR 2102]

7045.0298 EXCEPTION REPORTING.

Subpart 1. **When applicable.** A generator who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 35 days of the date the waste was accepted by the initial transporter must contact the transporter and the owner or operator of the designated facility to determine the status of the hazardous waste. A generator must submit an exception report to the commissioner if the generator has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 45 days of the date the waste was accepted by the initial transporter.

Subp. 2. **Content of report.** The exception report must include:

A. a legible copy of the manifest for which the generator does not have confirmation of delivery; and

B. a cover letter signed by the generator or the generator's authorized representative explaining the efforts taken to locate the hazardous waste and the results of those efforts.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; L 1987 c 186 s 15; 16 SR 2102*

7045.0300 ADDITIONAL REPORTING.

The commissioner, when necessary to determine compliance with the requirements of this chapter, may require generators to furnish additional reports concerning the quantities and disposition of waste identified or listed in parts 7045.0100 to 7045.0143.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; L 1987 c 186 s 15; 16 SR 2102*

7045.0302 INTERNATIONAL SHIPMENTS; SPECIAL CONDITIONS.

Subpart 1. **General requirement.** Any person who exports hazardous waste to a foreign country from Minnesota or imports hazardous waste from a foreign country into Minnesota must comply with the special requirements of subparts 2 to 7.

Exports of hazardous waste are prohibited except in compliance with the applicable requirements of this part and parts 7045.0351 to 7045.0397. Exports of hazardous waste are prohibited unless:

A. notification in accordance with subpart 2 has been provided;

B. the receiving country has consented to accept the hazardous waste;

C. a copy of the EPA Acknowledgment of Consent to the shipment accompanies the hazardous waste shipment and, unless exported by rail, is attached to the manifest, or for bulk shipment exports by water to the shipping paper; and

D. the hazardous waste shipment conforms to the terms of the receiving country's written consent as reflected in the EPA Acknowledgment of Consent.

Subp. 2. Notification. When shipping hazardous waste outside the state of Minnesota to a foreign country the primary exporter must notify the commissioner and the EPA of an intended export before the waste is scheduled to leave the United States. A complete notification should be submitted 60 days before the initial shipment is intended to be shipped off site. This notification may cover export activities extending over a 12-month or lesser period. The notification must be in writing, signed by the primary exporter, and include the following information:

A. name, mailing address, telephone number, and EPA identification number of the primary exporter; and

B. by consignee, for each hazardous waste type:

(1) a description of the hazardous waste and the EPA hazardous waste number (from Code of Federal Regulations, title 40, part 261, subpart C or D), United States Department of Transportation proper shipping name, hazard class, and identification number (UN/NA) for each hazardous waste as identified in Code of Federal Regulations, title 49, parts 171 to 177;

(2) the estimated frequency or rate at which the waste is to be exported and the period over which the waste is to be exported;

(3) the estimated total quantity of the hazardous waste in units as specified in the instructions to the Uniform Hazardous Waste Manifest Form (8700-22);

(4) all points of entry to and departure from each foreign country through which the hazardous waste will pass;

(5) a description of the means by which each shipment of the hazardous waste will be transported, such as by air, highway, rail, water, etc., and the types of container to be used, such as drums, boxes, or tanks;

(6) a description of how the hazardous waste will be treated, stored, or disposed of in the receiving country, such as land or ocean incineration, other land disposal, ocean dumping, or recycling;

(7) the name and site address of the consignee and any alternate consignee;

(8) the name of any transit countries through which the hazardous waste will be sent and a description of the approximate length of time the hazardous waste will remain in those countries and the nature of its handling while there; and

(9) upon request by the EPA, a primary exporter shall furnish to the EPA and the commissioner any additional information which a receiving country requests in order to respond to a notification.

The notification shall be sent to the commissioner at 520 Lafayette Road, Saint Paul, Minnesota 55155, and to the Office of International Activities (A-106), EPA, 401 M Street, S.W., Washington, DC 20460, with the phrase "Attention: Notification to Export" prominently displayed on the front of the envelope.

The primary exporter must provide the commissioner and the EPA with written renotification of any changes to the notification, except for changes to the telephone number, decreases in the quantity indicated in subitem (3), and changes in the means of transport in subitem (5). The waste shall not be shipped until the primary exporter receives an EPA Acknowledgment of Consent reflecting the receiving country's consent to the changes.

Subp. 3. Exception report. A primary exporter must file an exception report with the EPA and the commissioner at the addresses listed in subpart 2, item B if:

A. the primary exporter has not received a copy of the manifest signed by the transporter stating the date and place of departure from Minnesota within 45 days from the date it was accepted by the initial transporter;

B. within 90 days from the date the waste was accepted by the initial transporter, the primary exporter has not received written confirmation from the consignee that the hazardous waste was received; or

C. the waste is returned to the United States.

Subp. 4. **Importers manifest requirements.** When importing hazardous waste, a person must use a Minnesota manifest and meet all requirements of parts 7045.0261 and 7045.0265 for the manifest except that:

A. in place of the generator's name, address, and identification number, the name and address of the foreign generator and the importer's name, address, and identification number must be used; and

B. in place of the generator's signature on the certification statement, the United States importer or the importer's agent must sign and date the certification and obtain the signature of the initial transporter.

Subp. 5. **Exporters manifest requirements.** When exporting hazardous waste, a primary exporter must use a Minnesota manifest and comply with parts 7045.0351 to 7045.0397, except that:

A. In lieu of the name, site address, and the EPA identification number of the designated permitted facility, the primary exporter must enter the name and site address of the consignee.

B. In lieu of the name, site address, and the EPA identification number of a permitted alternate facility, the primary exporter may enter the name and site address of any alternate consignee.

C. In special handling instructions and additional information, the primary exporter must identify the point of departure from the United States.

D. The following statement must be added to the end of the first sentence of the certification, Uniform Hazardous Waste Manifest Form, item 16: "and conforms to the terms of the attached EPA Acknowledgment of Consent."

E. The primary exporter must require the consignee to confirm in writing the delivery of the hazardous waste to that facility and to describe any significant discrepancies, as described in part 7045.0476, between the manifest and the shipment. A copy of the manifest signed by the facility may be used to confirm delivery of the hazardous waste.

F. In lieu of the requirements of part 7045.0261, subpart 4, where a shipment cannot be delivered for any reason to the designated or alternate consignee, the primary exporter must:

(1) renotify the EPA and the commissioner of a change in the conditions of the original notification to allow shipment to a new consignee in accordance with subpart 2 and obtain an EPA Acknowledgment of Consent before delivery; or

(2) instruct the transporter to return the waste to the primary exporter in the United States or designate another facility within the United States; and

(3) instruct the transporter to revise the manifest in accordance with the primary exporter's instructions.

G. The primary exporter must attach a copy of the EPA Acknowledgment of Consent for the shipment to the manifest which must accompany the hazardous waste shipment. For exports by rail or bulk shipments by water, the primary exporter must provide the transporter with an EPA Acknowledgment of Consent which must accompany the hazardous waste but which need not be attached to the manifest except that for bulk shipment exports by water, the primary exporter must attach the copy of the EPA Acknowledgment of Consent to the shipping paper.

H. The primary exporter shall provide the transporter with an additional copy of the manifest for delivery to the United States Customs official at the point the hazardous waste leaves the United States under part 7045.0381, subpart 4, item D.

Subp. 6. **Annual reports.** Primary exporters of hazardous waste identified or listed under this chapter shall file with the commissioner and the EPA no later than March 1 of each year, a report summarizing the types, quantities, frequency, and ultimate destination of all hazardous waste exported during the previous calendar year. The reports shall include the following:

A. the EPA identification number, name, and mailing and site address of the exporter;

B. the calendar year covered by the report;

C. the name and site address of each consignee;

D. by consignee, for each hazardous waste exported, a description of the hazardous waste, the EPA hazardous waste number (from Code of Federal Regulations, title 40, part 261, subpart C or D), the Department of Transportation hazard class, the name and United States EPA identification number, where applicable, for each transporter used, the total amount of waste shipped, and number of shipments pursuant to each notification;

E. a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated and a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent the information is available for years before 1984; and

F. a certification signed by the primary exporter which states:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.”

Reports shall be sent to the commissioner at 520 Lafayette Road, Saint Paul, Minnesota 55155, and to the Office of International Activities (A-106), Environmental Protection Agency, 401 M Street S.W., Washington, DC 20460.

Subp. 7. Recordkeeping. For all exports, a primary exporter must:

A. keep a copy of each notification of intent to export for a period of at least three years from the date the hazardous waste was accepted by the initial transporter;

B. keep a copy of each EPA Acknowledgment of Consent for a period of at least three years from the date the hazardous waste was accepted by the initial transporter;

C. keep a copy of each confirmation of delivery of the hazardous waste from the consignee for at least three years from the date the hazardous waste was accepted by the initial transporter; and

D. keep a copy of each annual report for a period of at least three years from the due date of the report.

The periods of retention referred to in this part are extended automatically during any unresolved enforcement action regarding the regulated activity or at the request of the commissioner.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: 9 SR 115; 9 SR 2118; 11 SR 1832; L 1987 c 186 s 15; 12 SR 1660; 17 SR 1279

7045.0304 [Repealed, 16 SR 2102]

7045.0305 STANDARDS FOR GENERATORS WHO SEWER HAZARDOUS WASTE.

Subpart 1. Applicability. This part applies to generators who discharge their own hazardous waste to a sanitary sewer.

Subp. 2. Generator size determination. A generator who sewers hazardous waste shall include the quantity of sewered hazardous waste in their size determination under part 7045.0206 except for the volume of a hazardous waste that has been pretreated provided that:

A. an 80 percent reduction of the quantity of the hazardous waste constituent mass is achieved before sewerage;

B. the discharge is approved by a publicly owned treatment works permitted under part 7001.0520, subpart 3, item B;

C. the generator is licensed to sewer their waste under parts 7045.0225 to 7045.0250; and

D. the generator has met the conditions of part 7001.0520, subpart 3, item C.

Subp. 3. Management. A generator who sewers hazardous waste shall comply with the requirements of this chapter applicable to their generator size with the following exception.

A generator whose quantity determination is zero because the generator meets the conditions of subpart 2 will be classified as a very small quantity generator and shall meet the requirements of this chapter that apply to very small quantity generators:

Statutory Authority: *MS s 116.07*

History: *16 SR 2102*

7045.0310 SPECIAL REQUIREMENTS FOR WASTE COLLECTED AS RESULT OF HOUSEHOLD HAZARDOUS WASTE MANAGEMENT PROGRAM.

Subpart 1. Applicability. An operator who establishes or operates all or part of a household hazardous waste management program is only required to comply with the requirements in this part with respect to collected household hazardous waste. "Household hazardous waste management program" means:

A. a program established to accept or collect household hazardous waste from households, except as otherwise provided in part 7045.0685;

B. a program established by a resource recovery facility to segregate household hazardous waste from household waste; or

C. a program established by a solid waste disposal facility to segregate household hazardous waste from household waste during processing activities.

Subp. 2. Notification. An operator who intends to establish or operate all or part of a household hazardous waste management program shall ensure that the information required in items A to J is submitted to the commissioner at least 30 days before initiating the household hazardous waste management program.

The notification shall provide a complete description of the program including, as applicable:

A. the name, address, and telephone number of operators establishing the program;

B. the location of all household hazardous waste collection sites;

C. the duration and operating hours of the program;

D. the intended program service area;

E. the manner in which waste will be collected, stored, treated, transported, and disposed of;

F. the amount of time the operator intends to store collected waste at individual collection sites;

G. a description of the physical structures to be used to collect and store collected waste;

H. a description of personnel safety training to be given;

I. a description of the safety and emergency procedures established for the program; and

J. the name and address of all waste transporters and the facilities which will treat or dispose of the waste.

Operators who submit a notification and subsequently change any aspect of the program as described in the notification must submit, within 30 days of making the change, an amended notification to the commissioner fully describing the program changes.

Subp. 3. Management requirements. An operator who establishes or operates all or part of a household hazardous waste management program must comply with the standards applicable to large quantity generators established in parts 7045.0205 to 7045.0320, except as modified in items A to E.

A. The operator need not comply with the license and license reporting requirements of parts 7045.0225 to 7045.0250.

B. The operator may transport or offer for transport household hazardous waste for off-site activities as provided in part 7045.0208 or to a collection site that has obtained the commissioner's approval under subpart 6.

C. If the operator transports or offers for transport household hazardous waste for off-site activities at a collection site that has obtained the commissioner's approval under subpart 6, the operator:

(1) may, in lieu of a manifest, prepare and use a shipping paper containing all the information required on a manifest in part 7045.0261, excluding the identification number, to comply with the requirements of parts 7045.0205 to 7045.0320;

(2) may designate an alternate collection site which meets the requirements of subpart 6 or an alternate facility and must indicate the alternate collection site or facility on the shipping paper prepared under subitem (1); and

(3) must instruct the transporter to return the waste, if the transporter is unable to deliver the household hazardous waste to the facility or collection site designated on the shipping paper.

D. If the operator intends to store household hazardous waste for more than 90 days after the accumulation start date, the operator must obtain the approval of the commissioner as set out in subpart 6, but no facility permit is required unless the operator intends to perform treatment procedures other than those specified in subpart 7 or disposes of the waste on site.

E. The operator need not comply with the record keeping requirements of part 7045.0294, subparts 2 and 3.

Subp. 4. [Repealed, 16 SR 2102]

Subp. 5. **Transportation requirements.** An operator or other persons who transport waste collected as a result of a household hazardous waste management program shall transport collected waste in compliance with the requirements in items A to D.

A. A transporter may not accept household hazardous waste from any operator who establishes or operates all or part of a household hazardous waste management program unless the waste is accompanied by either a manifest signed by the generator according to parts 7045.0205 to 7045.0320 or a shipping paper prepared according to subpart 3, item E, subitem (1).

B. If the household hazardous waste is destined for a hazardous waste facility, the transporter shall comply with all of the hazardous waste transporter requirements in parts 7045.0351 to 7045.0397.

C. If the household hazardous waste is destined for a collection site that has obtained approval from the commissioner under subpart 6, the transporter shall comply with the hazardous waste transporter requirements in parts 7045.0351 to 7045.0397, except:

(1) part 7045.0361; and

(2) a shipping paper prepared according to subpart 3, item E, subitem (1), may be used, in lieu of a manifest, to comply with the requirements of parts 7045.0351 to 7045.0395.

D. An operator who transports waste for hire in Minnesota must obtain for-hire operating authority from the Minnesota Transportation Regulation Board as required by Minnesota Statutes, chapter 221.

Subp. 6. **Storage of collected wastes.** An operator who accepts household hazardous waste from another collection site or stores household hazardous waste for more than 90 days must comply with the requirements of items A to E.

A. No operator may accept household hazardous waste from another collection site or store household hazardous waste for more than 90 days after the accumulation start date as provided in part 7045.0292, without the approval of the commissioner.

B. An operator intending to accept household hazardous waste from another collection site or store household hazardous waste for more than 90 days must submit a request for approval to the commissioner at least 30 days before initiating a household hazardous waste program. The commissioner shall approve the request if the commissioner determines that, based on the information contained in the request, the storage and management practices employed at the storage facility will appropriately protect human health and the environment from any adverse effects associated with the household hazardous waste.

C. If the commissioner approves a request, the operator shall manage the waste in compliance with the applicable standards in parts 7045.0526 and 7045.0528 for the use and management of containers and tanks.

D. If the commissioner does not approve a request, the operator must transport or arrange to transport the household hazardous waste for off-site activities at a facility that ei-

ther has a hazardous waste permit or a collection site that has obtained the commissioner's approval under this subpart. Operators who store household hazardous waste for more than 90 days without the commissioner's approval are in violation of this chapter.

E. If the operator has not submitted a request as required under item B, or if the commissioner does not approve a request, the commissioner may still grant a storage extension if household hazardous waste must remain on-site for longer than 90 days due to unforeseen, temporary, and uncontrollable circumstances as provided in part 7045.0292, subparts 10 and 11.

Subp. 7. Treatment. Operators conducting treatment of collected household hazardous wastes are subject to the requirements of items A to C.

A. An operator intending to perform any treatment not specified in item B must submit a request for approval to the commissioner. The commissioner shall approve the request if the commissioner determines that the requirements of item C have been satisfied and that all other management practices at the collection site are adequate to protect human health and the environment.

B. Treatment methods which do not require approval of the commissioner are bulking of:

- (1) paints;
- (2) solvents;
- (3) used or waste oil; and
- (4) antifreeze.

While bulking is being done, the personnel training and safety procedures must specifically address how this activity will be conducted.

C. All other methods of waste treatment must be identified in the notification required under subpart 2 and the commissioner's approval obtained for those specific activities before any of those activities are begun. In addition to the information required in subpart 2, the notification must provide the following information:

- (1) the name of the person appointed to direct and oversee the treatment process; and
- (2) a detailed description of the treatment activity and an explanation of how human health and the environment will be protected.

Statutory Authority: *MS s 116.07*

History: *15 SR 801; 15 SR 2106; 16 SR 2102*

7045.0320 VERY SMALL QUANTITY GENERATOR HAZARDOUS WASTE COLLECTION PROGRAMS.

Subpart 1. Applicability. This part provides the requirements for the management and transportation of waste collected as part of a very small quantity generator hazardous waste collection program. Full compliance with this part exempts the program operator from the permit requirements of part 7001.0520.

An operator of a hazardous waste facility permitted under chapter 7001 and parts 7023.9000 to 7023.9050 is exempt from the requirements of this part to the extent that the facility permit specifically allows the facility to accept and store waste from other generators.

Subp. 2. Generators who operate collection programs. A generator who is also a program operator must comply with the applicable provisions of parts 7045.0205 to 7045.0320 as they apply to the generator's hazardous waste. A generator who operates a collection program must maintain separate records for the collected waste and waste generated by the generator.

Subp. 3. Definitions. When used in this part, the terms in items A to D have the meanings given them.

A. "Collection program" means a program licensed under this part to accept, collect, transport, store, or treat hazardous waste from very small quantity generators.

B. "Collection site" means a site established as part of a collection program under this part.

C. "Program operator" means a person or persons who establish a collection program and arrange for the acceptance, collection, transportation, storage, and treatment of collected hazardous waste from very small quantity generators.

D. "Site operator" means a person or persons who operate a collection site.

Subp. 4. **Program license.** A program operator must apply for and obtain a collection program license from the commissioner before accepting any waste. The program operator must renew the license annually.

Subp. 5. **License application.** The license application must provide a complete description of the program including, as applicable:

A. the name, address, and telephone number of persons establishing the program;
B. the name, address, and telephone number of persons operating the program, if different than item A;

C. the location and EPA identification number of all collection sites, designating central facilities and satellite facilities;

D. the duration and operating hours of the program;

E. the intended program service area;

F. a description of the operator's administrative process for accepting waste from very small quantity generators;

G. the anticipated types and amounts of waste to be collected, stored, treated, transported, and disposed of;

H. a description of how the waste is to be collected, analyzed, stored, treated, transported, and disposed of;

I. except as provided in item J, if treatment of collected waste is applied for under this license, the following additional information must be submitted for each method of waste treatment proposed:

(1) the name of the person appointed to direct and oversee the treatment process;

(2) a detailed description of the treatment activity and an explanation of how human health and the environment will be protected; and

(3) evidence of compliance with part 7045.0210 addressing financial responsibility;

J. the bulking of paints, solvents, used or waste oil, and antifreeze does not require submittal of the additional information under item I but must be addressed under items G and H;

K. the amount of time the site operator intends to store collected waste at individual collection sites;

L. a description of the physical structures where collection and storage will occur;

M. a description of personnel safety training;

N. a description of the safety and emergency procedures established;

O. the name, address, and EPA identification number of all hazardous waste transporters to be used; and

P. the name, address, and EPA identification number of all hazardous waste facilities which will treat or dispose of the waste.

Subp. 6. **Changes to license conditions.** A program operator may change the conditions of management or operation during the time period for which the license is valid, except for treatment changes approved under subpart 5, item I, which require the commissioner's written approval before the operator may implement the treatment changes. If the program operator changes any of the conditions of management or operation during the life of the license, the operator shall report the changes in the next annual report.

Subp. 7. **License issuance and renewal.** After receiving the license application or annual report, as applicable, the commissioner will conduct a review of the submitted information and will:

A. issue or reissue, as applicable, a collection program license;

B. request in writing the submittal of additional information to make the license application or annual report, as applicable, complete and approvable;

C. request in writing facility operational or waste management changes to make the application or annual report, as applicable, approvable; or

D. deny approval of license application within 45 days of last submittal of information by license applicant.

Subp. 8. Reporting requirements. A program operator must meet the reporting requirements established in part 7045.0248, subpart 1.

In addition, the site operator must keep a written operating record at the collection site and available for inspection that contains the following information for each time a waste is collected:

A. the generator names and identification numbers as required under part 7045.0221 from whom waste was collected;

B. the name or a description of the hazardous waste collected;

C. the amount of each hazardous waste collected;

D. the date the waste was received at the collection site; and

E. the date the waste was treated or shipped from the collection site.

Subp. 9. Management requirements. A person or persons involved in management of hazardous waste from very small quantity generators as part of a collection program shall comply with the requirements of items A to F.

A. The program operator must comply with the standards applicable to large quantity generators established in parts 7045.0205 to 7045.0320 with respect to collected hazardous waste except as modified in this part.

B. The license requirements of parts 7045.0225 to 7045.0250 are replaced by the requirements of subparts 4 to 8.

C. A site operator may accumulate hazardous waste on site without a permit or without interim status if the site operator complies with the accumulation time limits and management requirements provided in part 7045.0292. The site operator is a generator whose size shall be determined by applying part 7045.0206. The site operator shall comply with the requirements applicable to a generator of the appropriate size.

D. The site operator may transport or offer for transport collected waste for off-site activities as provided in part 7045.0208 or to a collection site that is part of the same collection program licensed under this part.

E. If the site operator transports or offers for transport collected waste for off-site activities to a collection site that is part of the same collection program licensed under this part, the operator:

(1) may, in lieu of a manifest, prepare and use a shipping paper containing all the information required on a manifest in part 7045.0261, excluding the identification number, to comply with the requirements of parts 7045.0261 to 7045.0265;

(2) may designate an alternate collection site that has obtained the commissioner's approval or an alternate facility and must indicate the alternate collection site or facility on the shipping paper prepared under subitem (1); and

(3) must instruct the transporter to return the waste, if the transporter is unable to deliver the collected waste to the facility or collection site designated on the shipping paper.

F. The site operator must provide a written receipt to the generator immediately upon receipt of waste. The receipt must include:

(1) the date the waste was received at the collection site;

(2) the name or a description of the hazardous waste received;

(3) the amount of each hazardous waste received;

(4) the generator name and identification number; and

(5) the signature of the generator or authorized representative.

Subp. 10. Transport requirements. A person or persons who transport waste collected as a result of a collection program licensed under this part shall transport collected waste in compliance with the requirements in items A to D.

A. A transporter may not accept collected waste from a program operator or a site operator unless the waste is accompanied by either a manifest signed by the program operator or a shipping paper prepared according to subpart 9, item E, subitem (1).

B. If the collected waste is destined for a hazardous waste facility, the transporter shall comply with all of the hazardous waste transporter requirements in parts 7045.0351 to 7045.0397.

C. If the collected waste is destined for a collection site that has obtained approval from the commissioner under the licensing provisions of this part, the transporter shall comply with the hazardous waste transporter requirements in parts 7045.0351 to 7045.0397, except:

(1) a transporter identification number under part 7045.0361 is not required; and

(2) a shipping paper prepared according to subpart 9, item E, subitem (1), may be used, in lieu of a manifest, to comply with the manifest requirements of parts 7045.0351 to 7045.0395.

D. An operator who transports waste for hire in Minnesota must obtain for-hire operating authority from the Minnesota Transportation Regulation Board as required by Minnesota Statutes, chapter 221.

Statutory Authority: *MS s 116.07*

History: *16 SR 2102; 18 SR 614*

7045.0350 [Repealed, 9 SR 115]

STANDARDS APPLICABLE TO TRANSPORTERS OF HAZARDOUS WASTE

7045.0351 APPLICABILITY AND EXEMPTIONS.

Subpart 1. **Applicability.** The provisions of parts 7045.0355 to 7045.0391 establish standards that apply to persons transporting hazardous waste that originates or terminates within the state of Minnesota if the transportation requires a manifest under parts 7045.0205 to 7045.0304. Parts 7045.0395 and 7045.0397 apply to the transportation of all hazardous waste within the state of Minnesota.

Subp. 2. **Exemptions.** The provisions of parts 7045.0355 to 7045.0397 do not apply to:

A. the on-site transportation of hazardous waste by generators or by owners or operators of permitted hazardous waste management facilities; or

B. hazardous waste that is sewered on-site and flows directly to a wastewater treatment facility operated according to a national pollutant discharge elimination system or a state disposal permit.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 16 SR 2102*

7045.0355 APPLICABILITY OF GENERATOR REQUIREMENTS.

A transporter of hazardous waste must comply with standards applicable to generators of hazardous waste if he or she transports hazardous waste into Minnesota from a foreign country or mixes hazardous waste of different United States Department of Transportation shipping descriptions, as described in Code of Federal Regulations, title 49, section 172.101 (1983), by placing them into a single container.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0360 [Repealed, 9 SR 115]

7045.0361 IDENTIFICATION NUMBERS.

A person who transports hazardous waste that originates or terminates in Minnesota must obtain an identification number from the Environmental Protection Agency on forms provided by the agency before transporting the hazardous waste.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0365 TRANSFER FACILITY REQUIREMENTS.

Subpart 1. **Applicability.** A transporter who stores manifested shipments of hazardous waste in containers meeting the requirements of part 7045.0270, subpart 4 at a transfer facility for a period of ten days or fewer is not subject to regulation under parts 7045.0450 to 7045.0642 and 7045.1300 to 7045.1380, and a hazardous waste facility permit with respect to the storage of those wastes. The owner or operator must notify the commissioner in writing of his or her activity.

Subp. 2. **Storage of less than 1,000 kilograms.** A transporter who stores less than 1,000 kilograms of hazardous waste is exempt from further regulation.

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:

- A. part 7045.0275, subparts 2 and 3;
- B. part 7045.0292, subpart 1, items E to G;
- C. part 7045.0556, subpart 5, items A, C, and D;
- D. part 7045.0558;
- E. part 7045.0562, subpart 1;
- F. part 7045.0566, subparts 2 to 4, and 6;
- G. part 7045.0572, subparts 2 to 6;
- H. part 7045.0626, subpart 4;

I. the transporter shall keep at the transfer facility a written operating record that contains the following information for each shipment:

- (1) the generator name and manifest document number;
- (2) the date the waste was received by the transfer facility; and
- (3) the date the waste was shipped by the transfer facility; and

J. storage areas must be protected from unauthorized access and inadvertent damage from vehicles or equipment.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; 10 SR 929; L 1987 c 186 s 15; 13 SR 1238*

7045.0370 [Repealed, 9 SR 115]

7045.0371 TRANSPORTATION OF HAZARDOUS WASTE.

Hazardous waste shall be transported in accordance with all applicable requirements of Minnesota Statutes, sections 221.033 and 221.034, and with 221.035 if applicable, and Code of Federal Regulations, title 49, parts 171 to 179 (1983).

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 14 SR 976*

7045.0375 THE MANIFEST SYSTEM; GENERAL REQUIREMENTS.

Subpart 1. **Acceptance of shipment.** A transporter may not accept hazardous waste from a generator unless it is accompanied by a manifest signed by the generator according to parts 7045.0205 to 7045.0320. In the case of exports, a transporter may not accept waste:

- A. if the shipment does not conform to the EPA Acknowledgment of Consent; and
- B. unless in addition to a signed manifest, the waste is also accompanied by an EPA Acknowledgment of Consent that, except for shipment by rail, is attached to the manifest or for bulk shipment exports by water to the shipping paper.

Subp. 2. **Prior to acceptance of shipment.** Before transporting the hazardous waste, the transporter must sign and date the manifest acknowledging acceptance of the hazardous waste from the generator. The transporter must return a signed copy to the generator before leaving the generator's property.

Subp. 3. **Manifest with shipment.** The transporter must ensure that the manifest accompanies the hazardous waste shipment and is maintained in an accessible location during transportation if required by part 7045.0381. In the case of exports, the transporter must en-

sure that a copy of the EPA Acknowledgment of Consent also accompanies the hazardous waste.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 12 SR 1660; 16 SR 2102*

7045.0380 [Repealed, 9 SR 115]

7045.0381 USE OF MANIFEST.

Subpart 1. Delivery of shipment. A transporter who delivers a hazardous waste to another transporter or to the designated facility must:

A. obtain the date of delivery and the handwritten signature of that transporter or of the owner or operator of the designated facility on the manifest;

B. retain one copy of the manifest according to part 7045.0391; and

C. give the remaining copies of the manifest to the accepting transporter or designated facility.

Subp. 2. Delivery of bulk shipments by water. The requirements of subpart 1 do not apply to bulk shipments by water if:

A. the bulk shipment of hazardous waste is delivered by water to the designated facility;

B. a shipping paper containing all the information required on the manifest, excluding the identification numbers, generator certification, and signatures, and, for exports, an EPA Acknowledgment of Consent accompanies the hazardous waste;

C. the delivering transporter obtains the date of delivery and handwritten signature of the owner or operator of the designated facility on either the manifest or the shipping paper;

D. the person delivering the hazardous waste to the initial bulk shipment water transporter obtains the date of delivery and signature of the bulk shipment water transporter on the manifest and forwards it to the designated facility; and

E. a copy of the shipping paper or manifest is retained by each bulk shipment water transporter in accordance with part 7045.0391.

Subp. 3. Delivery of shipments by rail. The requirements of subparts 1 and 2 do not apply to shipments by rail and the requirements of items A to F do apply.

A. When accepting hazardous waste from a nonrail transporter, the initial rail transporter must:

(1) sign and date the manifest acknowledging acceptance of the hazardous waste;

(2) return a signed copy of the manifest to the nonrail transporter;

(3) forward at least three copies of the manifest to the next nonrail transporter, if any, or the designated facility, if the shipment is delivered to that facility by rail, or the last rail transporter designated to handle the waste in the United States; and

(4) retain one copy of the manifest and rail shipping paper according to part 7045.0391.

B. Rail transporters must ensure that a shipping paper containing all the information required on the manifest excluding the identification numbers, generator certification, and signatures and, for exports, an EPA Acknowledgment of Consent accompanies the hazardous waste at all times.

C. Intermediate rail transporters are not required to sign either the manifest or shipping paper.

D. When delivering hazardous waste to the designated facility, a rail transporter must:

(1) obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper, if the manifest has not been received by the facility; and

(2) retain a copy of the manifest or signed shipping paper according to part 7045.0391.

E. When delivering hazardous waste to a nonrail transporter, a rail transporter must:

(1) obtain the date of delivery and the handwritten signature of the next non-rail transporter on the manifest; and

(2) retain a copy of the manifest according to part 7045.0391.

F. Before accepting hazardous waste from a rail transporter, a nonrail transporter must sign and date the manifest and provide a copy to the rail transporter.

Subp. 4. Transportation to foreign country from Minnesota. Transporters who transport hazardous waste to a foreign country from Minnesota must:

A. indicate on the manifest the date the hazardous waste left the United States;

B. sign the manifest and retain one copy according to part 7045.0391;

C. return a signed copy of the manifest to the generator; and

D. give a copy of the manifest to a United States Customs official at the point of departure from the United States.

Subp. 5. Use of an alternate manifest. Transporters who transport hazardous waste accompanied by an alternate manifest as provided in part 7045.0075, subpart 5 must:

A. for each shipment, record on a log or shipping paper the name, address, and United States Environmental Protection Agency identification number of the waste generator, the quantity of waste accepted, all United States Department of Transportation shipping information, and the date the waste was accepted;

B. carry the information required in item A when transporting waste to the reclamation facility; and

C. maintain a copy of the information required in item A and the reclamation agreement during the term of the agreement and for three years after termination or expiration of the agreement.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; 11 SR 1950; 12 SR 1660*

7045.0385 COMPLIANCE WITH THE MANIFEST.

Subpart 1. Acceptable destinations for shipments. The transporter must deliver the entire quantity of hazardous waste which he or she has accepted from a generator or a transporter to:

A. the designated facility listed on the manifest;

B. the alternate designated facility if an emergency prevents delivery to the designated facility listed on the manifest;

C. the next designated transporter; or

D. the place outside the United States designated by the generator.

Subp. 2. Return of shipment to generator. If the hazardous waste cannot be delivered according to subpart 1, or if a shipment or partial shipment of hazardous waste is not accepted by the facility operator after arrival at the destination or if the facility operator does not sign the hazardous waste manifest, the transporter must immediately contact the generator for further instructions and must revise the manifest according to the generator's instructions.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0390 [Repealed, 9 SR 115]

7045.0391 RECORD KEEPING.

Subpart 1. Manifest. A transporter of hazardous waste must keep a copy of the manifest signed by the generator, by himself or herself, and by the next designated transporter or the owner or operator of the designated facility for a period of three years from the date the hazardous waste was accepted by the initial transporter.

Subp. 2. Manifest; bulk shipments by water. For bulk shipments delivered by water to the designated facility, each bulk shipment water transporter must retain a copy of the ship-

ping paper containing all the information required in part 7045.0381, subpart 2 for a period of three years from the date the hazardous waste was accepted by the initial transporter.

Subp. 3. **Manifest; shipments by rail.** The provisions of items A to C apply to shipments of hazardous waste by rail within the United States.

A. The initial rail transporter must keep a copy of the manifest and shipping paper with all the information required in part 7045.0381, subpart 3, item B for a period of three years from the date the hazardous waste was accepted by the initial transporter.

B. Intermediate rail transporters are not required to keep records pursuant to this part.

C. The final rail transporter must keep a copy of the signed manifest or the shipping paper, if signed by the designated facility in lieu of the manifest, for a period of three years from the date the hazardous waste was accepted by the initial transporter.

Subp. 4. **Manifest; transportation out of United States.** A transporter who transports hazardous waste out of the United States must keep a copy of the manifest indicating that the hazardous waste left the United States for a period of three years from the date the hazardous waste was accepted by the initial transporter.

Subp. 5. **Extension of retention period.** The periods of retention referred to in subparts 1 to 4 are extended automatically during the course of any unresolved enforcement action regarding the regulated activity.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; 17 SR 1279*

7045.0395 HAZARDOUS WASTE DISCHARGES.

Subpart 1. **Immediate action.** If during the course of transportation, a container is discovered to be broken or leaking, or a discharge of hazardous waste occurs, the transporter must take appropriate immediate action to protect human health and the environment including the notification of local authorities and the generator, and the diking of the discharge area. The generator shall render all reasonable assistance to the transporter in repackaging, packing, and cleaning up the waste so that the trip may be resumed. "All reasonable assistance" means providing the transporter with all necessary information about the waste and about procedures for repackaging, packing, and cleaning up the waste and, in addition, providing any physical assistance that the generator is uniquely suited to provide and for which the transporter is willing to bear the costs. Nothing in this provision, however, is intended to restrict or enlarge or affect in any way the liability the generator may have to repackage, pack, and clean up the waste.

Subp. 2. **Removal without a manifest.** If a discharge of hazardous waste occurs during transportation and an official of a state or local government or a federal agency acting within the scope of his or her official responsibilities determines that immediate removal of the waste is necessary to protect human health or the environment, that official may authorize the removal of the waste by transporters who do not have identification numbers and without the preparation of a manifest.

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 agency's 24 hour telephone notification service (612) 296-8100;

B. Give notice, if required by Code of Federal Regulations, title 49, section 171.15 (1983), to the National Response Center (800) 424-8802 or (202) 426-2675;

C. Immediately notify the generator of any spill or leak during transit; and

D. Give the same notice as required by Code of Federal Regulations, title 33, section 153.203 (1983), for oil and hazardous substances if the transporter is a water transporter of bulk shipments.

Subp. 4. **Duty to recover.** A transporter who owns, has possession of, or otherwise has control of a hazardous waste that spills, leaks, or otherwise escapes from a container, vehicle tank, storage tank, portable tank, or other containment system, including its associated pip-

ing, shall recover the hazardous waste as rapidly and as thoroughly as possible and shall immediately take other action as may be reasonably possible to protect human life and health and minimize or abate pollution of the water, air, or land resources of the state caused thereby.

Subp. 5. Reporting. Any air, rail, highway, or water transporter who has discharged hazardous waste must:

A. report in writing as required by Code of Federal Regulations, title 49, section 171.16 (1983), to the Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, D.C. 20590;

B. submit a copy or photocopy of the report required in item A within 15 days of the incident to the commissioner; and

C. in the case of a spill or leakage of hazardous waste during transit, the amount spilled, the location of the spill site, and the name of the state or federal agency responsible for overseeing the cleanup of the site shall be noted on or attached to the hazardous waste manifest by the transporter.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; 11 SR 1832; L 1987 c 186 s 15*

7045.0397 DELIVERY OF HAZARDOUS WASTE.

No person shall deliver hazardous waste to a hazardous waste facility or give hazardous waste to a transporter for shipment to a hazardous waste facility located in the state of Minnesota, if the facility operator has not obtained a hazardous waste facility permit from the agency unless the facility is specifically exempt from a hazardous waste facility permit pursuant to this chapter. Nothing in this provision is intended to require the transporter to undertake any evaluation of a waste to determine whether it is hazardous.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0400 [Repealed, 9 SR 115]

7045.0410 [Repealed, 9 SR 115]

7045.0420 [Repealed, 9 SR 115]

7045.0430 [Repealed, 9 SR 115]

FACILITY STANDARDS

7045.0450 FACILITIES GOVERNED BY FACILITY STANDARDS.

Subpart 1. General requirements. Parts 7045.0450 to 7045.0544 apply to owners and operators of all facilities that treat, store, or dispose of hazardous waste except as specifically provided otherwise in this part or in parts 7045.0100 to 7045.0320.

Parts 7045.0450 to 7045.0544 apply to the owners or operators of publicly owned treatment works that treat, store, or dispose of hazardous waste only to the extent they are included in a permit-by-rule granted under the agency's permitting procedures.

Parts 7045.0450 to 7045.0544 apply to a person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act of 1972, United States Code, title 16, sections 1431 to 1434, as amended through December 31, 1982, and United States Code, title 33, section 1401, as amended through December 31, 1982, only to the extent they are included in a permit-by-rule granted under the agency's permitting procedures. Parts 7045.0450 to 7045.0544 apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea.

Parts 7045.0450 to 7045.0544 apply to the owners and operators of all facilities that treat, store, or dispose of hazardous waste referred to in parts 7045.1300 to 7045.1380.

Subp. 2. Relationship to interim status standards. A facility owner or operator who has fully complied with the requirements for interim status under part 7045.0554 shall comply with parts 7045.0552 to 7045.0642 in lieu of parts 7045.0450 to 7045.0544 until final

administrative disposition of the permit application is made. The treatment, storage, or disposal of hazardous waste is prohibited except in accordance with a permit and except for the extent to which parts 7045.0552 to 7045.0642 provide for the continued operation of an existing facility which meets certain conditions until final administrative disposition of the owner's or operator's permit application is made.

Subp. 3. Exemptions. Parts 7045.0450 to 7045.0544 do not apply to the following:

A. the owner or operator of a facility managing recyclable hazardous wastes subject to regulation under part 7045.0125, 7045.0665, 7045.0675, or 7045.0685; however, this exemption does not apply where part 7045.0125, 7045.0665, 7045.0675, or 7045.0685 makes the requirements of parts 7045.0450 to 7045.0544 applicable by cross-reference.

B. a generator accumulating waste on-site in compliance with part 7045.0292;

C. a farmer disposing of waste pesticides from the farmer's own use in compliance with part 7045.0213, subpart 2;

D. the owner or operator of a totally enclosed treatment facility;

E. the owner or operator of an elementary neutralization unit, pretreatment unit, or a wastewater treatment unit, but only if the unit does not receive hazardous waste from generators other than the owner or operator of the unit;

F. the owner or operator of a publicly owned treatment works with respect to the treatment or storage of hazardous waste which is delivered to the treatment works by a transport vehicle or vessel or through a pipe, unless the requirements of parts 7045.0450 to 7045.0544 are included in a permit-by-rule;

G. the owner or operator of that portion of a combustion waste facility which is used to manage hazardous waste produced in conjunction with the combustion of fossil fuels provided that the wastes:

(1) are generated on-site;

(2) traditionally have been and actually are mixed with and codisposed or co-treated with fly ash, bottom ash, boiler slag, or flue gas emission control wastes from coal combustion; and

(3) are necessarily associated with the production of energy; such as boiler cleaning solutions, boiler blowdown, demineralizer regenerant, pyrites, and cooling tower blowdown;

H. a transporter storing manifested shipments of hazardous waste in containers meeting the requirements of part 7045.0270, subpart 4 at a transfer facility for a period of ten days or less in compliance with part 7045.0365;

I. persons with respect to the addition of absorbent material to hazardous waste in a container or the addition of hazardous waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container, and parts 7045.0456, subpart 2, and 7045.0526, subparts 2 and 3 are complied with; or

J. (1) except as provided in subitem (2), a person engaged in treatment or containment activities during immediate response to any of the following situations: a discharge of a hazardous waste, an imminent and substantial threat of a discharge of hazardous waste, or a discharge of a material which, when discharged, becomes a hazardous waste;

(2) an owner or operator of a facility otherwise regulated by parts 7045.0450 to 7045.0544 who must comply with all applicable requirements of parts 7045.0395, 7045.0397, 7045.0454, and 7045.0462 to 7045.0470;

(3) a person who is covered by subitem (1) and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of parts 7045.0450 to 7045.0544 and the agency's permitting procedures for those activities.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 10 SR 929; 10 SR 1688; 13 SR 1238; 16 SR 2102*

7045.0452 GENERAL FACILITY STANDARDS.

Subpart 1. Scope. The requirements of subparts 2 to 5 apply to owners and operators of all hazardous waste facilities except as provided by part 7045.0450.

Subp. 2. **Identification number.** Every facility owner or operator shall apply for an identification number in accordance with the agency's procedures.

Subp. 3. **Required notices.** The owner or operator of a facility shall give notice in the following situations:

A. The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source shall notify the commissioner as well as the Environmental Protection Agency's Region V administrator in writing at least four weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

B. No facility owner or operator may accept a shipment of hazardous waste which he or she is not allowed to manage under the hazardous waste facility permit. The owner or operator shall notify the commissioner immediately upon receiving the hazardous wastes.

C. Except when the owner or operator is also the generator, the owner or operator of a facility that receives hazardous waste from an off-site source shall inform the generator in writing that he or she has the appropriate permit or permits for, and will accept, the waste the generator is shipping. The owner or operator shall keep a copy of this written notice as part of the operating record.

D. Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post closure care period, the owner or operator shall notify the new owner or operator in writing of the requirements of parts 7045.0450 to 7045.0544 and all permit requirements. An owner's or operator's failure to notify the new owner or operator of these requirements does not relieve the new owner or operator of the obligation to comply with all applicable requirements.

Subp. 4. **Security.** The owner or operator shall prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of the facility, unless he or she can demonstrate to the commissioner in the permit application that:

A. physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which could enter the active portion of a facility; and

B. disturbance of the waste or equipment by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility will not cause a violation of parts 7045.0450 to 7045.0544.

Unless the owner or operator has made a successful demonstration in the permit application that has been approved by the commissioner, a facility must have a 24-hour surveillance system which continuously monitors and controls entry onto the active portion of the facility, or an artificial or natural barrier which completely surrounds the active portion of the facility and a means to control entry at all times through the gates or other entrances to the active portion of the facility.

Unless the owner or operator has made a successful demonstration in the permit application that has been approved by the commissioner, a sign with the legend, "Danger - Unauthorized Personnel Keep Out," must be posted at each entrance to the active portion of a facility and at other locations in sufficient numbers to be seen from any approach to the active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility and must be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger - Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion and that entry onto the active portion can be dangerous.

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

A. The owner or operator shall inspect the facility for malfunctions and deterioration, operator errors, and discharges which may be causing or may lead to the release of hazardous waste constituents to the environment or a threat to human health. The owner or operator shall conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

B. The owner or operator shall develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment that are important to preventing, detecting, or responding to environmental or human health hazards. This schedule must be kept at the facility. The schedule must identify the types of problems which are to be looked for during the inspection such as inoperative sump pumps, leaking fittings, and eroding dikes.

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, 5, and 7; 7045.0532, subpart 5; 7045.0534, subparts 5 and 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.

D. The owner or operator shall remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

E. The owner or operator shall record inspections in an inspection log or summary and shall keep these records for at least three years from the date of inspection. These records must include the date and time of the inspection, the name of the inspector, a notation of the observation made, and the date and nature of any repairs or other remedial actions.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; L 1987 c 186 s 15; 13 SR 259; 13 SR 2761; 16 SR 2321*

7045.0454 PERSONNEL TRAINING.

Subpart 1. **General.** Hazardous waste facility personnel shall successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this chapter. The owner or operator shall ensure that this program includes all the elements described in the document required by subpart 6, item C.

Subp. 2. **Program director.** The training program must be directed by a person trained in hazardous waste management procedures.

Subp. 3. **Minimum program requirements.** The training program must include instruction which teaches facility personnel hazardous waste management procedures relevant to the positions in which they are employed, including contingency plan implementation procedures. The training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

A. procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

B. key parameters for automatic waste feed cutoff systems;

C. communications or alarm systems;

D. procedures for response to fires or explosions;

E. procedures for response to ground water contamination incidents; and

F. procedures for shutdown of operations.

Subp. 4. **Effective date.** Facility personnel shall successfully complete the program required in subpart 3 by July 16, 1984 or six months after the date of their employment or assignment to a facility or assignment to a new position at a facility, whichever is later. Facility personnel not subject to the requirements of Code of Federal Regulations, title 40, section 264.18 (1983) shall successfully complete the program required in subpart 3 within six

months after July 16, 1984 or six months after the date of their employment or assignment to a facility or assignment to a new position at a facility, whichever is later. Employees hired after July 16, 1984 shall not work in unsupervised positions until they have completed the training requirements of subparts 1 to 3.

Subp. 5. **Training review.** Facility personnel shall take part in an annual review of the initial training required in subparts 1 to 3.

Subp. 6. **Personnel records.** The following documents and records must be maintained at the facility:

A. the job title for each position at the facility related to hazardous waste management and the name of the employee filling each job;

B. a written job description for each position at the facility related to hazardous waste. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications and duties of employees assigned to each position;

C. a written description of the type and amount of both introductory and continuing training that will be given to each person filling a position described in item A; and

D. records that document that the training or job experience required under subparts 1 to 5 has been given to, and completed by, facility personnel.

Subp. 7. **Record retention.** Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 14 SR 2248*

7045.0456 GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE.

Subpart 1. **Required notices.** The owner or operator shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction, including but not limited to open flames, smoking, cutting and welding, hot surfaces, frictional heat, static sparks, electrical sparks, mechanical sparks, spontaneous ignition, and radiant heat. While ignitable or reactive waste is being handled, the owner or operator shall confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

Subp. 2. **Required precautions.** When specifically required by other rules in this chapter, the owner or operator of a facility that treats, stores, or disposes of ignitable or reactive waste or mixes incompatible waste or incompatible wastes and other materials, shall take precautions to prevent reactions which:

A. generate extreme heat, pressure, fire, explosions, or violent reactions unless the process has a permit to handle these types of reactions;

B. produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;

C. produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

D. damage the structural integrity of the device or facility; or

E. through other like means threaten human health or the environment.

Subp. 3. **Documentation of compliance.** When required to comply with subpart 1 or 2, the owner or operator shall document that compliance. This documentation may be based on reference to published scientific or engineering literature, data from trial tests, waste analyses, or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0458 WASTE ANALYSIS REQUIREMENTS.

Subpart 1. **Waste analysis.** Waste analysis procedures are listed in items A to D.

A. Before an owner or operator treats, stores, or disposes of any hazardous waste, or nonhazardous waste if applicable under part 7045.0488, subpart 2a, the owner or operator shall obtain a detailed chemical and physical analysis of a representative sample of the waste. This analysis must contain all the information which must be known in order to treat, store, or dispose of the waste in accordance with the requirements of parts 7045.0450 to 7045.0544 and 7045.1300 to 7045.1380, or with the conditions of a permit issued under the agency's permitting procedures.

B. The analysis may include data developed under parts 7045.0100 to 7045.0143 and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes, including data obtained from the generator.

C. The analysis must be repeated as necessary to ensure that it is accurate and up-to-date. The analysis must be repeated at the following times:

(1) when the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste, or nonhazardous waste if applicable under part 7045.0488, subpart 2a, has changed; and

(2) for off-site facilities, when the results of the inspection required in item D indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

D. The owner or operator of an off-site facility shall inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

Subp. 2. **Waste analysis plan.** The owner or operator shall develop and follow a written waste analysis plan which describes the procedures that will be used to comply with subpart 1. The owner or operator shall keep this plan at the facility. The plan must specify:

A. the parameters for which each hazardous waste, or nonhazardous waste if applicable under part 7045.0488, subpart 2a, will be analyzed and the rationale for the selection of these parameters;

B. the test methods which will be used to test for these parameters;

C. the sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(1) one of the sampling methods described in Code of Federal Regulations, title 40, part 261, appendix I (1983); or

(2) an equivalent sampling method as approved by the commissioner;

D. the frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up-to-date;

E. for off-site facilities, the waste analyses that hazardous waste generators have agreed to supply;

F. where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in parts 7045.0456; 7045.0538, subpart 10; 7045.0542, subpart 2; and 7045.1315; and the process vent and equipment leak test methods and procedures in Code of Federal Regulations, title 40, sections 264.1034(d) and 264.1063(d), as amended;

G. for off-site facilities, the waste analysis plan must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. The plan must describe:

(1) the procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) the sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling. The waste analysis plan must be submitted with the permit application; and

H. for surface impoundments exempted from the land disposal restrictions under part 7045.1310, the procedures and schedules for:

- (1) the sampling of impoundment contents;
- (2) the analysis of test data; and
- (3) the annual removal of residues which are not delisted under part 7045.0075, subpart 2, or which exhibit a characteristic of hazardous waste under part 7045.0131, and either do not meet the treatment standards of parts 7045.1350 to 7045.1360, or, where no treatment standards have been established, such residues are prohibited from land disposal under parts 7045.1320 to 7045.1333 or RCRA section 3004(d).

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 11 SR 1832; L 1987 c 186 s 15; 13 SR 1238; 16 SR 1225; 16 SR 2102; 16 SR 2239; 16 SR 2321*

7045.0460 LOCATION STANDARDS.

Subpart 1. **Floodplains.** A facility located in a 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood unless the owner or operator can demonstrate to the commissioner that the conditions in item A or B are met:

A. Procedures are in effect which will cause the waste to be removed safely before flood waters can reach the facility to a location where the wastes will not be vulnerable to floodwaters. The location to which wastes are moved must be a facility which is either permitted by this agency, the Environmental Protection Agency, or by a state with a hazardous waste management program authorized by the Environmental Protection Agency, or which has interim status.

B. For existing surface impoundments, waste piles, land treatment units, landfills, and miscellaneous units, no adverse effects on human health or the environment will result if washout occurs, considering:

- (1) the volume and physical and chemical characteristics of the waste in the facility;
- (2) the concentration of hazardous constituents that would potentially affect surface waters as a result of washout;
- (3) the impact of such concentrations on the current or potential uses of and water quality standards established for the affected surface waters; and
- (4) the impact of hazardous constituents on the sediments of affected surface waters or the soils of the 100-year floodplain that could result from washout.

As used in this subpart, "100-year floodplain" means any land area which is subject to a one percent or greater chance of flooding in any given year from any source; "washout" means the flow of hazardous waste from the active portion of the facility, the buildings, or equipment as a result of flooding; and "100-year flood" means a flood that has a one percent chance of being equalled or exceeded in any given year.

Subp. 2. **Other location standards.** No facility may be established or constructed in a wetland or within a shoreland.

No facility may be established or constructed in a location where the topography, geology, hydrology, or soil is unsuitable for the protection of the ground water and the surface water. Factors to be used in determining unsuitability of a site include:

- A. proximity to lakes, streams, or ponds;
- B. proximity to and type of bedrock;
- C. presence of natural aquicludes to protect ground water;
- D. value of the ground water as a water supply; and
- E. ground water flow patterns, particularly if the site is located in a zone of recharge to aquifers usable as sources of drinking water.

No facility may be established or constructed in a location where facility activity would result in emissions of air contaminants causing the violation of the ambient air quality standards established in parts 7009.0010 to 7009.0080.

Subp. 3. **Underground mines and caves.** The placement of any noncontainerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, or underground mine or cave is prohibited.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; 11 SR 1832; L 1987 c 186 s 15; 13 SR 2761*

7045.0462 PREPAREDNESS AND PREVENTION.

Subpart 1. **Scope.** The provisions of subparts 2 to 6 apply to owners and operators of all hazardous waste facilities except as otherwise provided in part 7045.0450.

Subp. 2. **Design and operation of facility.** Facilities must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or nonsudden release to air, land, or water of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Subp. 3. **Required equipment.** All facilities must be equipped with the following, unless it can be demonstrated to the commissioner that none of the hazards posed by waste handled at the facility could require the particular equipment specified below:

A. an internal communications or alarm system capable of providing immediate emergency instruction by voice or signal to facility personnel;

B. a device, such as a telephone or a hand-held two-way radio, which is immediately available at the scene of operations and which is capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;

C. portable fire extinguishers, spill control equipment, decontamination equipment, and fire control equipment, including special extinguishing devices such as those using foam, inert gas, or dry chemicals; and

D. water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems.

Subp. 4. **Testing and maintenance of equipment.** All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to ensure proper operation in time of emergency.

Subp. 5. **Access to communications or alarm system.** Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation shall have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless the commissioner has ruled that such a device is not required under subpart 3.

If at any time only one employee is on the premises while the facility is operating, that employee shall have immediate access to a device, such as a telephone or a hand-held, two-way radio, which is immediately available at the scene of operation and which is capable of summoning external emergency assistance unless the commissioner has ruled that such a device is not required under subpart 3.

Subp. 6. **Required aisle space.** The owner or operator shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency unless it can be demonstrated to the commissioner that aisle space is not needed for any of these purposes.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

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 layout of the facility, properties of hazardous waste handled at the fa-

cility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes;

B. if more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

C. agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and

D. arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

Subp. 2. **Refusal by authorities.** If state or local authorities decline to enter into arrangements required under subpart 1, the owner or operator shall document the refusal in the operating record.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0466 CONTINGENCY PLAN.

Subpart 1. **Scope.** The provisions of subparts 2 to 6, parts 7045.0464, 7045.0468, and 7045.0470 apply to owners and operators of all hazardous waste facilities except as otherwise provided in part 7045.0450.

Subp. 2. **General requirements.** Each owner or operator shall have a contingency plan for the facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, land, or water.

Subp. 3. **Implementation of plan.** The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Subp. 4. **Content of contingency plan.** The contingency plan must contain the following:

A. A description of the actions that facility personnel shall take to comply with subparts 2 and 3, and part 7045.0468.

B. If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures Plan in accordance with Code of Federal Regulations, title 40, sections 112 and 1510 (1983), or another emergency or contingency plan, that plan must only be amended to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this chapter.

C. A description of arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services pursuant to part 7045.0464.

D. An up-to-date list of names, addresses, and office and home telephone numbers of all persons qualified to act as emergency coordinator. If more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates. For new facilities, this information must be supplied to the commissioner at the time of certification rather than at the time of permit application.

E. A list of all emergency equipment at the facility such as fire extinguishing systems, spill control equipment, internal and external communications and alarm systems, and decontamination equipment, where this equipment is required. This list must be kept up-to-date. In addition, the plan must include the location and a physical description of each item on the list and a brief outline of its capabilities.

F. An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe the signal or signals to be used to begin evacuation, evacuation routes, and alternate evacuation routes in cases where the primary routes could be blocked by the release of hazardous waste or fire.

Subp. 5. **Copies of contingency plan.** A copy of the contingency plan and all revisions to the plan must be:

- A. maintained at the facility;
- B. submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services; and
- C. submitted to the commissioner with the permit application and, after modification or approval, will become a condition of any permit issued.

Subp. 6. **Amendment of contingency plan.** The contingency plan must be reviewed, and immediately amended if necessary, whenever:

- A. the facility permit is revised;
- B. the plan fails in an emergency;
- C. the facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or the release of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;
- D. the list of emergency coordinators changes; or
- E. the list of emergency equipment changes.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.0468 EMERGENCY PROCEDURES.

Subpart 1. **Emergency coordinator.** At all times, there must be at least one employee either on the facility premises or on call with the responsibility for coordinating all emergency response measures. This emergency coordinator shall be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. This person shall also have the authority to commit the resources needed to carry out the contingency plan. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste handled by the facility and type and complexity of the facility.

Subp. 2. **Notification of emergency.** Whenever there is an imminent or actual emergency situation, 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 there is a release, fire, or explosion, 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 release, fire, or explosion. 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 facility has had a release, fire, or explosion which could threaten human health or the environment outside the facility, the findings must be reported as provided in items A and B.

A. If the assessment indicates that evacuation of local areas may be advisable, the appropriate local authorities must be immediately notified, and the emergency coordinator shall be available to help appropriate officials decide whether local areas should be evacuated.

B. The agency's emergency response unit must be immediately notified at the 24 hour telephone number, (612) 296-8100, and notification must also be given to either the

governmental official designated as the on-scene coordinator for that geographical area in the applicable regional contingency plan under Code of Federal Regulations, title 40, part 1510 (1983) or to the National Response Center using their 24 hour toll free telephone number, (800) 424-8802. The report must include:

- (1) name and telephone number of reporter;
- (2) name and address of facility;
- (3) time and type of incident;
- (4) name and quantity of material involved, to the extent known;
- (5) the extent of injuries, if any; and
- (6) the possible hazards to human health or the environment outside the facility.

ity.

Subp. 6. Duty to notify. The hazardous waste coordinator shall immediately notify the agency if the released hazardous waste may cause pollution of the air, land resources, or waters of the state. The emergency coordinator shall use the agency's 24 hour telephone number (612) 296-8100.

Subp. 7. Containment measures. During an emergency, 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 a fire, explosion, or release, 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 subds 4,4b*

History: *9 SR 115; 11 SR 1832*

7045.0470 POST EMERGENCY REQUIREMENTS.

Subpart 1. Cleanup. Immediately after an emergency, 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 7045.0100 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.

Subp. 2. Notice before resuming operations. The owner or operator shall notify the regional administrator, the commissioner, and other appropriate state and local authorities that the facility is in compliance with subpart 1 before operations are resumed in the affected area or areas of the facility.

Subp. 3. Report to agency. The owner or operator shall note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he or she must submit a written report on the incident to the commissioner. The report must include:

- A. name, address, and telephone number of the owner or operator;
- B. name, address, and telephone number of the facility;
- C. date, time, and type of incident;
- D. name and quantity of material involved;
- E. the extent of injuries, if any;

F. an assessment of actual or potential hazards to human health or the environment, where this is applicable; and

G. estimated quantity and disposition of recovered material that resulted from the incident.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.0472 FACILITY SHIPPING REQUIREMENTS.

When a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility shall comply with the requirements of parts 7045.0205 to 7045.0320.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 16 SR 2102*

7045.0474 MANIFEST SYSTEM.

Subpart 1. **Scope.** This part applies to owners and operators of both on-site and off-site facilities, except as part 7045.0450 provides otherwise. The provisions of subpart 2 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources.

Subp. 2. **General manifest requirements.** If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or this person's agent, shall:

A. sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received;

B. note any discrepancies in the manifest on each copy of the manifest. The owner or operator of a facility whose procedures under part 7045.0458, subpart 2, item G, include waste analysis need not perform that analysis before signing the manifest and giving it to the transporter. However, part 7045.0476 requires reporting any discrepancy discovered during later analysis;

C. immediately give the transporter at least one copy of the signed manifest;

D. within ten days after the delivery, send a copy of the manifest to the generator and the commissioner; and

E. retain at the facility a copy of each manifest for at least three years from the date of delivery.

Subp. 3. **Rail and water shipment requirements.** If a facility receives hazardous waste from a rail or water bulk shipment transporter and the waste is accompanied by a shipping paper containing all the information required on the manifest, excluding the identification numbers, generator's certification, and signatures, the owner or operator, or this person's agent, shall do all of the following:

A. Sign and date each copy of the manifest or shipping paper, if the manifest has not been received, to certify that the hazardous waste covered by the manifest or shipping paper was received.

B. Note any discrepancies in the manifest, or in the shipping paper if the manifest has not been received, on each copy of the manifest or shipping paper. The owner or operator of a facility whose procedures under part 7045.0458, subpart 2, item G include waste analysis need not perform that analysis before signing the shipping paper and giving it to the transporter. However, part 7045.0476 requires reporting any discrepancy discovered during later analysis.

C. Immediately give the rail or water bulk shipment transporter at least one copy of the signed manifest, or shipping paper if the manifest has not been received.

D. Within ten days after the delivery, send a copy of the signed and dated manifest to the generator; however, if the manifest has not been received within ten days after delivery, the owner or operator, or this person's agent, must send a copy of the shipping paper signed and dated to the generator. The generator is required under part 7045.0265 to send three copies of the manifest to the facility when hazardous waste is sent by rail or water bulk shipment.

E. Retain at the facility a copy of the manifest and shipping paper if signed in lieu of the manifest at the time of delivery, for at least three years from the date of delivery.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15; 17 SR 1279*

7045.0476 MANIFEST DISCREPANCIES.

Subpart 1. **Scope.** This part applies to owners and operators of both on-site and off-site facilities, except as part 7045.0450 provides otherwise. This part does not apply to owners or operators of on-site facilities that do not receive any hazardous waste from off-site sources.

Subp. 2. **Definition of a discrepancy.** Manifest discrepancies are defined as significant or minor as follows:

A. Significant discrepancies include differences between the quantity or type of hazardous waste designated on the manifest or shipping paper and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are weight differences for bulk wastes greater than ten percent and any variation in piece count for batch waste, such as a difference of one drum in a truckload. Significant discrepancies in types of waste are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

B. Minor discrepancies are all other discrepancies including, but not limited to, manifests other than the required Minnesota manifest, incomplete manifests or shipping papers, manifests or shipping papers which are inconsistent, and a container or portable tank containing hazardous waste which is not properly labeled.

Subp. 3. **Handling of discrepancies.** Upon discovering a discrepancy, the owner or operator of a treatment, storage, or disposal facility shall take action as described in item A, B, or C, as applicable:

A. Upon discovering a significant discrepancy, the owner or operator shall attempt to reconcile the discrepancy with the waste generator and the transporter. If the discrepancy is not resolved in ten days, the owner or operator shall immediately submit to the commissioner a letter describing the discrepancy, attempts made to reconcile it, and a copy of the manifest or shipping paper. The type of discrepancy must be noted on the manifest.

B. Upon discovering a minor discrepancy, the owner or operator shall attempt to reconcile the discrepancy with the waste generator and the transporter. The owner or operator shall indicate the type of discrepancy and its resolution on the manifest. If the discrepancy cannot be reconciled, the owner or operator shall note this on the manifest with a brief explanation.

C. If a movement of hazardous waste is delivered to a facility not allowed to manage the waste under the facility's hazardous waste permit, the owner or operator shall notify the commissioner immediately.

Statutory Authority: *MS s 116.07 subs 4,4b*

History: *9 SR 115; 9 SR 2118; 11 SR 1832; L 1987 c 186 s 15*

7045.0478 OPERATING RECORD.

Subpart 1. **Scope.** This part applies to owners and operators of both on-site and off-site facilities, except as part 7045.0450 provides otherwise.

Subp. 2. **Record requirement.** The owner or operator shall keep a written operating record at the facility.

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

A. The names of the generators of the hazardous waste and their identification numbers.

B. The date of arrival of each shipment along with the transporter's name and identification numbers.

C. A description and the quantity of each hazardous waste received, and the method and date of treatment, storage, or disposal at the facility.

D. The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of the hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this information must include cross references to specific manifest document numbers if the waste was accompanied by a manifest.

E. Records and results of waste analyses performed as specified in parts 7045.0456, 7045.0458, 7045.0538, subpart 10, 7045.0542, subpart 2, 7045.1310, and 7045.1315; and the process vent and equipment leak test methods and procedures in Code of Federal Regulations, title 40, sections 264.1034 and 264.1063, as amended.

F. Summary reports and details of all incidents that require implementing the contingency plan as specified in part 7045.0470.

G. Records and results of inspections as required by part 7045.0452, subpart 5.

H. Monitoring, testing, or analytical data and corrective action where required by parts 7045.0484; 7045.0528, subparts 2, 4, 5, and 7; 7045.0532, subpart 5; 7045.0534, subparts 5 and 6; 7045.0536, subparts 5, 6, and 8; 7045.0538, subparts 5 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.

I. For off-site facilities, notices to generators as specified in part 7045.0452, subpart 3, item C.

J. All closure cost estimates under part 7045.0502 and, for disposal facilities, all post closure cost estimates under part 7045.0506.

K. A certification that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that the permittee generates to the degree determined by the permittee to be economically practicable; and the method of treatment, storage, or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment.

L. The certification signed by the owner or operator of the facility or an authorized representative.

M. Records of the quantities and date of placement for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted under part 7045.0075, subpart 8, a petition under part 7045.0075, subpart 9, or a certification under Code of Federal Regulations, title 40, section 268.8, and the applicable notice required of a generator under part 7045.1315, subpart 1.

N. For an off-site treatment facility, a copy of the notice, and the certification and demonstration, if applicable, required of the generator or the owner under Code of Federal Regulations, title 40, section 268.8, or part 7045.1315, subpart 1, item A.

O. For an on-site treatment facility, the information contained in the notice, except the manifest number, and the certification and demonstration, if applicable, required of the generator or owner or operator under Code of Federal Regulations, title 40, section 268.8, or part 7045.1315, subpart 1, item A.

P. For an off-site land disposal facility, a copy of the notice, and the certification and demonstration, if applicable, required of the generator or the owner or operator of a treatment facility under Code of Federal Regulations, title 40, section 268.8, and part 7045.1315, whichever is applicable.

Q. For an on-site land disposal facility, the information contained in the notice required of the generator or owner or operator of a treatment facility under part 7045.1315, except for the manifest number, and the certification and demonstration, if applicable, required under Code of Federal Regulations, title 40, section 268.8, whichever is applicable.

R. For an off-site storage facility, a copy of the notice, and the certification and demonstration if applicable, required of the generator or the owner or operator under Code of Federal Regulations, title 40, section 268.8, or part 7045.1315.

S. For an on-site storage facility, the information contained in the notice, except the manifest number, and the certification and demonstration if applicable, required of the generator or the owner or operator under Code of Federal Regulations, title 40, section 268.8, or part 7045.1315.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 11 SR 1832; 13 SR 259; 13 SR 1238; 13 SR 2761; 16 SR 2239; 16 SR 2321*

7045.0480 RETENTION AND DISPOSITION OF RECORDS.

Subpart 1. **Scope.** This part applies to owners and operators of both on-site and off-site facilities, except as part 7045.0450 provides otherwise.

Subp. 2. **Retention of records.** The retention period for all records required under parts 7045.0450 to 7045.0544 is three years and is extended automatically during the course of an unresolved enforcement action regarding the facility.

Subp. 3. **Disposition of records.** A copy of records of waste disposal locations and quantities under part 7045.0478, subpart 3, must be submitted to the commissioner and the local land authority upon closure of the facility.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.0482 REQUIRED REPORTS.

Subpart 1. **Scope.** This part applies to owners and operators of both on-site and off-site facilities, except as part 7045.0450 provides otherwise. The requirements of subpart 3 do not apply to owners or operators of on-site facilities that do not receive any hazardous waste from off-site sources.

Subp. 2. **Annual report.** The owner or operator shall prepare and submit a single copy of an annual report to the commissioner no later than March 1 for the preceding calendar year. The report form and instructions to be used may be obtained from the commissioner. The annual report must cover facility activities during the previous calendar year and must include the following information:

- A. the identification number, name, and address of the facility;
- B. the year covered by the report;
- C. for off-site facilities, the identification number of each hazardous waste generator for whom the facility treated, disposed of, or stored a hazardous waste during the year and for imported shipments, the report must give the name and address of the foreign generator;
- D. a description and the quantity of each hazardous waste the facility treated, disposed of, or stored during the year. For off-site facilities, this information must be listed by identification number of the generator;
- E. the method of treatment, storage, or disposal for each hazardous waste;
- F. the most recent closure cost estimate under part 7045.0502 and, for disposal facilities, the most recent post closure cost estimates under part 7045.0506;
- G. for generators who treat, store, or dispose of hazardous waste on-site, a description of the efforts undertaken during the year to reduce the volume and toxicity of the waste generated;
- H. for generators who treat, store, or dispose of hazardous waste on-site, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for the years before 1984; and
- I. the certification signed by the owner or operator of the facility or an authorized representative.

Subp. 3. **Unmanifested waste report.** If a shipment of hazardous waste is delivered to a hazardous waste facility from an off-site source without an accompanying manifest or without an accompanying shipping paper, the facility operator shall attempt to reconcile the discrepancy with the waste generator or transporter. If the discrepancy cannot be resolved, the owner or operator shall notify the commissioner prior to acceptance of the waste. Within ten days, a follow-up report must be mailed to the commissioner. The report must include all of the following:

- A. The identification number, name, and address of the facility.
- B. The date the facility received the waste.
- C. The transporter's name, vehicle license, address, and identification number, if available.
- D. The generator's name, address, and identification number, if available.

E. A description and the quantity of each unmanifested hazardous waste the facility received.

F. The method of treatment, storage, or disposal for each hazardous waste.

G. A brief explanation of why the waste was unmanifested, if known.

H. The certification signed by the owner or operator of the facility or an authorized representative.

Subp. 4. Additional reports. In addition to submitting the manifest discrepancy report described in part 7045.0476, subpart 3, and the annual reports and the unmanifested waste reports described in subparts 2 and 3, the owner or operator shall also report to the commissioner:

A. releases, fires, and explosions as specified in part 7045.0468;

B. facility closures as specified in part 7045.0488, subpart 4; and

C. as otherwise required by parts 7045.0484, 7045.0532 to 7045.0538; and the process vent and equipment leak standards in Code of Federal Regulations, title 40, part 264, subparts AA and BB, as amended.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 11 SR 1832; L 1987 c 186 s 15; 16 SR 2321; 17 SR 1279*

7045.0484 GROUNDWATER PROTECTION.

Subpart 1. Scope. This part applies as follows:

A. Except as provided in item B, the requirements of this part apply to owners or operators of facilities that treat, store, or dispose of hazardous waste. The owner or operator must comply with the requirements in subitems (1) to (3) for all wastes or waste constituents contained in solid or hazardous waste management units at the facility regardless of the time the waste was placed in such units:

(1) all solid waste management units must comply with part 7045.0485;

(2) a surface impoundment, waste pile, land treatment unit, or landfill that receives hazardous waste after July 26, 1982, is a regulated unit and must comply with the requirements of subparts 2 to 14 for detecting, characterizing, and responding to releases; and

(3) the financial responsibility requirements of part 7045.0485 apply to regulated units.

B. The owner or operator is not subject to subparts 2 to 14 if the criteria in subitem (1), (2), or (3) are met:

(1) the owner or operator is exempted under part 7045.0450;

(2) the owner or operator designs and operates a waste pile in compliance with part 7045.0534, subpart 1; or

(3) the commissioner finds, under part 7045.0536, subpart 8, item D, that the treatment zone of a land treatment unit that qualifies as a regulated unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of part 7045.0536, subpart 6, has not shown a statistically significant increase in hazardous constituents below the treatment zone during the operating life of the unit. An exemption can only relieve an owner or operator of responsibility to meet the requirements of subparts 2 to 14 during the post closure care period.

C. The agency may impose any or all of the requirements of subparts 2 to 14 on the owner or operator of a facility that treats or stores hazardous waste in tanks or containers if it determines that the facility has the potential to adversely impact ground water quality. The agency shall specify in the facility permit which requirements of subparts 2 to 14 shall apply.

D. The requirements under subparts 2 to 14 apply during the active life of the regulated unit, including the closure period. After closure of the regulated unit, the applicability of the requirements in subparts 2 to 14 is as described in subitems (1) to (3):

(1) The requirements of subparts 2 to 14 do not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure. The owner or operator shall conduct sufficient soil

analyses and ground water analyses for all hazardous constituents which are reasonably expected to be in or derived from the waste contained in the regulated unit to ensure that all waste residues and contaminated soil have been removed or decontaminated.

(2) The requirements of subparts 2 to 14 apply during the post closure care period under part 7045.0492 if the owner or operator is conducting a detection monitoring program.

(3) The requirements of subparts 2 to 14 apply during the compliance period if the owner or operator is conducting a compliance monitoring program or a corrective action program.

Subp. 2. Required programs. Required programs include the following:

A. Owners and operators subject to this rule shall conduct a monitoring and response program as follows:

(1) If hazardous constituents or monitoring parameters from a regulated unit are detected and show a statistically significant increase at the compliance point, the owner or operator shall implement the compliance monitoring program.

(2) If the ground water protection standard is exceeded, the owner or operator shall institute a corrective action program.

(3) If hazardous constituents from a regulated unit exceed concentration limits in ground water at or past the compliance point, the owner or operator shall institute a corrective action program.

(4) In all other cases, the owner or operator shall institute a detection monitoring program.

B. All facilities must have a detection monitoring program, a compliance monitoring program, and a corrective action plan as part of the permit.

C. The agency shall specify in the facility permit the specific elements of the monitoring and response program and the circumstances under which each of the programs will be required.

D. The owner or operator shall submit a corrective action plan for the regulated unit with the permit application. The corrective action plan must demonstrate that corrective action is feasible. The plan must address the measures necessary to meet the requirements specified in subpart 14, items B to F to remove or treat in place the hazardous constituents which exceed their concentration limits, and to monitor or demonstrate the effectiveness of the corrective action program. The plan must also include estimates of the time which may be necessary to complete corrective action if implemented when a concentration limit is first exceeded at the compliance point and the cost for completing the corrective action.

Subp. 3. Groundwater protection standard. The owner or operator shall comply with conditions specified in the facility permit that are designed to ensure that hazardous constituents detected in the groundwater from a regulated unit do not exceed the concentration limits in the groundwater at and beyond the point of compliance during the compliance period. The agency shall establish the groundwater protection standard in the facility permit when hazardous constituents have been detected in the groundwater based on data provided by monitoring of the groundwater quality as specified in subparts 11 and 12.

Subp. 4. Hazardous constituents. The agency shall specify in the facility permit the hazardous constituents to which the groundwater protection standard applies. Hazardous constituents are constituents identified in part 7045.0141, or constituents which are not listed in part 7045.0141, but which are contained in wastes that meet criteria established in part 7045.0131, subpart 6, for lethality and which may reasonably be expected to contribute to the lethality.

Subp. 5. Hazardous constituent exemptions. The agency shall exclude a hazardous constituent from the list of hazardous constituents specified in the facility permit if it finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. In deciding whether to grant an exemption, the agency shall consider the following:

A. potential adverse effects on ground water quality, considering:

(1) the physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

- (2) the hydrogeological characteristics of the facility and surrounding land;
- (3) the quantity of ground water and the directions of ground water flow;
- (4) the proximity and withdrawal rates of ground water users;
- (5) the current and future uses of ground water in the area;
- (6) the existing quality of ground water, including other sources of contamination and their cumulative impact on the ground water quality;
- (7) the potential for health risks caused by human exposure to waste constituents;
- (8) the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;
- (9) the persistence and permanence of the potential adverse effects; and

B. potential adverse effects on hydraulically connected surface water quality, considering:

- (1) the volume and physical and chemical characteristics of the waste in the regulated unit including its potential for migration;
- (2) the hydrogeological characteristics of the facility and surrounding land;
- (3) the quantity and quality of the ground water, and the directions of ground water flow;
- (4) the patterns of precipitation in the region;
- (5) the proximity of the regulated unit to surface waters;
- (6) the current and future uses of surface waters in the area and any water quality standards established for those surface waters;
- (7) the existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;
- (8) the potential for health risks caused by human exposure to waste constituents;
- (9) the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and
- (10) the persistence and permanence of the potential adverse effects.

Subp. 6. **Concentration limits.** The agency shall specify in the facility permit the concentration limits in the ground water for hazardous constituents which are reasonably expected to be in or derived from waste contained in a regulated unit or which are detected as a result of ground water monitoring at the unit. The concentration of a hazardous constituent:

A. must not exceed the background level of that constituent in the ground water at the time that limit is specified in the permit;

B. for any of the constituents listed in subpart 7 must not exceed the respective value given in that exhibit if the background level of the constituent is below the value given in subpart 7; or

C. must not exceed an alternate limit established by the agency under subpart 8.

Subp. 7. Maximum concentration of constituents for ground water protection.

Constituent	Maximum Concentration (milligrams per liter)
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Lead	0.05
Mercury	0.002
Selenium	0.01
Silver	0.05
Endrin (1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo,endo-5,8-dimethano naphthalene)	0.0002

Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer)	0.004
Methoxychlor (1,1,1-Trichloro-2,2-bis (p-methoxyphenyl)ethane)	0.1
Toxaphene (C ₁₀ -C ₁₀ -Cl ₈ , Technical chlorinated camphene, 67-69 percent chlorine)	0.005
2,4-D (2,4-Dichlorophenoxyacetic acid)	0.1
2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)	0.01

Subp. 8. **Alternate concentration limits.** The agency shall establish in the permit an alternate concentration limit for a hazardous constituent if it finds that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In establishing alternate concentration limits, the agency shall consider the following factors:

A. potentially adverse effects on ground water quality, considering:

- (1) the physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;
- (2) the hydrogeological characteristics of the facility and surrounding land;
- (3) the quantity of ground water and the directions and rates of ground water flow;
- (4) the proximity and withdrawal rates of ground water users;
- (5) the current and future uses of ground water in the area;
- (6) the existing quality of ground water, including other sources of contamination and their cumulative impact on the ground water quality;
- (7) the potential for health risks caused by human exposure to waste constituents;
- (8) the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;
- (9) the persistence and permanence of the potential adverse effects; and

B. potential adverse effects on hydraulically connected surface water quality, considering:

- (1) the volume and physical and chemical characteristics of the waste in the regulated unit;
- (2) the hydrogeological characteristics of the facility and surrounding land;
- (3) the quantity and quality of ground water, and the directions and rates of ground water flow;
- (4) the patterns of rainfall in the region;
- (5) the proximity of the regulated unit to surface waters;
- (6) the current and future uses of surface waters in the area and any water quality standards established for those surface waters;
- (7) the existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;
- (8) the potential for health risks caused by human exposure to waste constituents;
- (9) the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and
- (10) the persistence and permanence of the potentially adverse effects.

Subp. 9. **Point of compliance.** The agency shall specify in the facility permit the point of compliance at which the ground water protection standard applies and at which monitoring must be conducted. The point of compliance is a vertical surface located at the hydraulically downgradient limit of the waste management area that extends to the bottom of potentially affected ground water underlying the regulated units.

The waste management area is the limit projected in the horizontal plane of the area on which waste will be placed during the active life of a regulated unit. The waste management

area includes horizontal space taken up by any liner, dike, or other barrier designed to contain waste in a regulated unit.

If the facility contains more than one regulated unit, the agency shall establish compliance points for each unit. The agency may establish a single compliance point for more than one unit if the owner or operator demonstrates that ground water contamination can be detected from all units in a timely manner.

Subp. 10. Compliance period. The agency shall specify in the facility permit the compliance period during which the ground water protection standard applies. The compliance period is the number of years equal to the active life of the waste management area, including any waste management activity prior to permitting, and the closure period. The compliance period begins when the owner or operator initiates a compliance monitoring program meeting the requirements of subpart 13. If the owner or operator is engaged in a corrective action program at the end of the compliance period, the compliance period is extended until the owner or operator demonstrates that the ground water protection standard has not been exceeded for a period of five consecutive years.

Subp. 11. General groundwater monitoring requirements. The owner or operator shall comply with the requirements of items A to J for any groundwater monitoring program developed to satisfy subpart 12, 13, or 14:

A. The groundwater monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths to yield groundwater samples from groundwater that:

(1) represent the quality of background groundwater that has not been affected by leakage from a regulated unit;

(a) a determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

i. hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; and

ii. sampling at other wells will provide an indication of background groundwater quality that is representative or more representative than that provided by the upgradient wells; and

(2) represent the quality of ground water passing the point of compliance; and

(3) allow for the detection of potential contamination from the regulated unit.

B. If a facility contains more than one regulated unit, the agency shall require a separate ground water monitoring system for each unit. The agency may require a single ground water monitoring system for more than one unit if the owner or operator of a multiunit facility demonstrates that a single ground water monitoring system enables timely detection and measurement at the compliance point of hazardous constituents from the regulated units.

C. Monitoring wells must be constructed and installed in accordance with chapter 4725 and cased in a manner that maintains the integrity of the monitoring well bore hole. The hole must be screened and packed with gravel or sand, where necessary, to enable collection of ground water samples. Where necessary, wells must be properly developed to enable collection of representative ground water samples. The annular space, that is, the space between the bore hole and well casing, above the sampling depth must be sealed to prevent contamination of samples and the ground water. Materials used in well construction must be compatible with the intended use of the well.

D. The ground water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of ground water quality below the waste management area. The program must include procedures and techniques for: sample collection, sample preservation and shipment, analytical procedures, and chain of custody control.

E. The ground water monitoring program must include sampling and analytical methods that are appropriate for ground water sampling and that accurately measure hazardous constituents and monitoring parameters in ground water samples. "Monitoring parameter" means waste reaction products, nonhazardous waste constituents, and indicator parameters that provide a reliable indication of the presence of hazardous constituents in the ground water.

F. The ground water monitoring program must include a determination of the potentiometric surface and ground water flow directions at least quarterly and immediately prior to each time ground water is sampled. At least annually, the owner or operator shall determine the flow rates of the ground water being monitored. The agency must be notified of the results and if significant change has been detected, the appropriate changes must be made in the facility permit.

G. In detection monitoring or where appropriate in compliance monitoring, data on each hazardous constituent specified in the permit shall be collected from background wells and wells at the compliance points. The number and kinds of samples collected to establish background shall be appropriate for the form of statistical test employed, following generally accepted statistical principles. The sample size shall be as large as necessary to ensure with reasonable confidence that a contaminant release to groundwater from a facility will be detected. The owner or operator shall determine an appropriate sampling procedure and interval for each hazardous constituent listed in the facility permit which shall be specified in the facility permit upon approval by the agency. This sampling procedure shall be:

(1) a sequence of at least four samples, taken at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained, by reference to the uppermost aquifer's effective porosity, hydraulic conductivity, and hydraulic gradient, and the fate and transport characteristics of the potential contaminants; or

(2) an alternate sampling procedure proposed by the owner or operator and approved by the commissioner.

H. The owner or operator shall specify one of the following statistical methods to be used in evaluating groundwater monitoring data for each hazardous constituent which, upon approval by the commissioner, will be specified in the facility permit. The statistical test chosen shall be conducted separately for each hazardous constituent in each well. Where practical quantification limits are used in any of the following statistical procedures to comply with item I, subitem (5), the practical quantification limits must be proposed by the owner or operator and approved by the commissioner. Use of any of the following statistical methods must be protective of human health and the environment and must comply with the performance standards outlined in item I.

(1) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

(2) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

(3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

(4) A control chart approach that gives control limits for each constituent.

(5) Another statistical test method submitted by the owner or operator and approved by the commissioner.

I. Any statistical method chosen under item H for specification in the facility permit shall comply with the following performance standards, as appropriate:

(1) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experi-

ment wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

(3) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be proposed by the owner or operator and approved by the commissioner to be protective of human health and the environment.

(4) If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be proposed by the owner or operator and subject to an approval by the agency to be protective of human health and the environment. These parameters will be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantification limit approved by the commissioner which is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

J. Groundwater monitoring data collected in accordance with item G, including actual levels of constituents, must be maintained in the facility operating record. The agency shall specify in the permit when the data must be submitted for review.

Subp. 12. Detection monitoring program. An owner or operator required to establish a detection monitoring program under this part shall perform the following:

A. The owner or operator shall monitor for monitoring parameters and hazardous constituents established in the permit to indicate the presence of hazardous constituents in the ground water. The monitoring parameters and hazardous constituents in the facility permit shall be determined after considering the following factors:

(1) the types, quantities, and concentrations of hazardous constituents and monitoring parameters in wastes managed at the regulated unit;

(2) the mobility, stability, and persistence of hazardous constituents and monitoring parameters in the unsaturated zone beneath the waste management area;

(3) the detectability of hazardous constituents and monitoring parameters in ground water; and

(4) the concentrations or values and coefficients of variation of proposed monitoring parameters or hazardous constituents in the ground water background.

B. The owner or operator shall install a ground water monitoring system at the compliance point. The ground water monitoring system must comply with subpart 11, items A, subitems (2) and (3); B; and C.

C. The owner or operator shall conduct a groundwater monitoring program for each chemical parameter and hazardous constituent specified in the permit under item A in accordance with subpart 11, item G. The owner or operator shall maintain a record of groundwater analytical data as measured and in a form necessary for the determination of statistical significance under subpart 11, item H.

D. The agency shall specify the frequencies for collecting samples and conducting statistical tests to determine whether there is statistically significant evidence of contamination for any parameter or hazardous constituent specified in the permit under item A in accordance with subpart 11, item G. A sequence of at least four samples from each well, background, and compliance wells, must be collected at least semiannually during detection monitoring.

E. The owner or operator of waste piles, land treatment units that have detected a significant increase in hazardous constituents or monitoring parameters below the treatment

zone, and double lined surface impoundments and landfills where liquids have been detected in the leak detection system, shall comply with subitems (1) and (2):

(1) Ground water quality shall be determined at the compliance point at least quarterly during the active life of a regulated unit, including the closure period, and the post closure period.

(2) The analysis of ground water samples must include analysis for hazardous constituents that are reasonably expected to be in or derived from the waste contained in the unit. The owner or operator shall express the ground water quality at a monitoring well in a form necessary for the determination of statistically significant increases under subpart 11, items H and I.

F. The owner or operator must determine whether there is statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in the permit under item A at a frequency specified under item D.

(1) In determining whether statistically significant evidence of contamination exists, the owner or operator must use the methods specified in the permit under subpart 11, item H. These methods must compare data collected at the compliance points to the background groundwater quality data.

(2) The owner or operator must determine whether there is statistically significant evidence of contamination at each monitoring well as the compliance point within a reasonable period of time after completion of sampling. The agency shall specify in the facility permit what period of time is reasonable, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

G. If the owner or operator determines under item F that there is statistically significant evidence of contamination for chemical parameters or hazardous constituents specified under item A at any monitoring well at the compliance point, the owner or operator must:

(1) Notify the commissioner of this finding in writing within seven days. The notification must indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination.

(2) Immediately sample the groundwater in all monitoring wells and determine whether constituents in the list of part 7045.0143 are present, and if so, in what concentration.

(3) For part 7045.0143 compounds found in the analysis under subitem (2), the owner or operator may resample within one month and repeat the analysis for those compounds detected. If the results of the second analysis confirm the initial results, then these constituents shall form the basis for compliance monitoring. If the owner or operator does not resample, the hazardous constituents found during this initial part 7045.0143 analysis shall form the basis for compliance monitoring.

(4) Within 90 days, submit to the commissioner an application for a permit modification to establish a compliance monitoring program meeting the requirements of subpart 13. The application must include the following information:

(a) an identification of the concentration of a part 7045.0143 constituent detected in the groundwater at each monitoring well at the compliance point;

(b) proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of subpart 13;

(c) proposed additions or changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical methods used at the facility necessary to meet the requirements of subpart 13; and

(d) for each hazardous constituent detected at the compliance point, a proposed concentration limit under subpart 6, item A or B, or a notice of intent to seek an alternate concentration limit under subpart 8.

(5) Within 180 days, submit to the commissioner all data necessary to justify an alternate concentration limit sought under subpart 8, and an engineering feasibility plan for a corrective action program necessary to meet the requirement of subpart 14, unless:

(a) all hazardous constituents identified under subitem (2), are listed in subpart 7 and their concentrations do not exceed the respective values given in that table; or

(b) the owner or operator has sought an alternate concentration limit under subpart 8 for every hazardous constituent identified under subitem (2).

(6) If the owner or operator determines, under item F, that there is a statistically significant difference for chemical parameters or hazardous constituents specified under item A at any monitoring well at the compliance point, the owner or operator may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the groundwater. The owner or operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under subitem (4); however, the owner or operator is not relieved of the requirement to submit a permit modification application within the time specified in subitem (4) unless the demonstration made under this subitem successfully shows that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration, the owner or operator shall:

(a) notify the commissioner in writing within seven days of determining statistically significant evidence of contamination at the compliance point that the owner or operator intends to make a demonstration under this subunit;

(b) within 90 days, submit a report to the commissioner which demonstrates that a source other than a regulated unit caused the contamination or that the contamination resulted from an error in sampling, analysis, or evaluation;

(c) within 90 days, submit to the commissioner an application for a permit modification to make any appropriate changes to the detection monitoring program facility; and

(d) continue to monitor in accordance with the detection monitoring program established under this subpart.

H. If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this subpart, the owner or operator must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

Subp. 13. Compliance monitoring program. An owner or operator required to establish a compliance monitoring program under this part shall perform the following:

A. The owner or operator shall monitor the ground water to determine whether regulated units are in compliance with the ground water protection standard. The agency shall specify the ground water protection standard in the facility permit including:

- (1) a list of hazardous constituents;
- (2) concentration limits for each of those hazardous constituents;
- (3) the compliance point; and
- (4) the compliance period.

B. The owner or operator shall install a ground water monitoring system at the compliance point. The ground water monitoring system must comply with subpart 11, items A, subitems (2) and (3); B; and C.

C. The agency shall specify the sampling procedures and statistical methods appropriate for the constituents and the facility, consistent with subpart 11, items G and H as described in subitems (1) and (2).

(1) The owner or operator must conduct a sampling program for each chemical parameter or hazardous constituent in accordance with subpart 11, item G.

(2) The owner or operator must record groundwater analytical data as measured and in the form necessary for the determination of statistical significance under subpart 11, item H, for the compliance period of the facility.

D. The owner or operator must determine whether there is statistically significant evidence of increased contamination for any chemical parameter or hazardous constituent specified in the permit, under item A, at a frequency specified under item F.

(1) In determining whether statistically significant evidence of increased contamination exists, the owner or operator must use the methods specified in the permit under subpart 11, item H. The methods must compare data collected at the compliance points to a concentration limit developed in accordance with subpart 6.

(2) The owner or operator must determine whether there is statistically significant evidence of increased contamination at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The agency will specify that time period in the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities, to perform the analysis of groundwater samples.

E. The owner or operator shall analyze samples from all monitoring wells at the compliance point to determine whether hazardous constituents identified in the list in part 7045.0143 are present and, if they are present, determine the concentration of each. The analysis must be conducted at least annually to determine whether additional part 7045.0143 hazardous constituents are present in the monitoring wells. The owner or operator shall report the concentrations of all hazardous constituents to the commissioner within seven days after completion of the analysis. The agency shall require a permit modification to include additional hazardous constituents, which have been detected in the groundwater, in all subsequent quarterly groundwater monitoring under item D.

F. The agency shall specify the frequencies for collecting samples and conducting statistical tests to determine statistically significant evidence of increased contamination in accordance with subpart 11, item G. A sequence of at least four samples from each background and compliance well must be collected at least semiannually during the compliance period of the facility.

G. The owner or operator must analyze samples from all monitoring wells at the compliance point for all constituents contained in part 7045.0143 at least annually to determine whether additional hazardous constituents are present in the uppermost aquifer and, if so, at what concentration, according to procedures in subpart 12, item F. If the owner or operator finds part 7045.0143 constituents in the groundwater that are not already identified in the permit as monitoring constituents, the owner or operator may resample within one month and repeat the part 7045.0143 analysis. If the second analysis confirms the presence of new constituents, the owner or operator must report the concentration of these additional constituents to the commissioner within seven days after the completion of the second analysis and add them to the monitoring list. If the owner or operator chooses not to resample, then the owner or operator shall report the concentrations of these additional constituents to the commissioner within seven days after completion of the initial analysis and add them to the monitoring list.

H. If the owner or operator determines that the ground water protection standard is being exceeded at any monitoring well at the point of compliance, he or she shall comply with the requirements of subitems (1) to (3):

(1) The owner or operator shall notify the commissioner of this finding in writing within seven days. The notification must indicate the concentration limits that have been exceeded.

(2) The owner or operator shall institute the corrective action program specified in the permit and submit to the agency an application for permit modification, if necessary to supplement the corrective action program to meet the requirements of subpart 14, within 90 days. The application must include a detailed description of corrective actions that will achieve compliance with the ground water protection standard specified in the permit and a plan for a ground water monitoring program that will demonstrate the effectiveness of the corrective action program. The ground water monitoring program may be based on a compliance monitoring program developed to meet the requirements of items A to G. The ground water monitoring program must also be capable of demonstrating compliance with the concentration limits in the ground water at the downgradient portion of the property line of the facility.

(3) If the owner, operator, or commissioner determines that the concentration limits are being exceeded at a monitoring well at the property line pursuant to subitem (2), the owner or operator shall cease accepting wastes at the facility. If he or she can demonstrate that specific individual units have not violated the ground water protection standard, those units for which a demonstration can be made may resume accepting wastes following agency approval of the demonstration.

I. If the owner or operator determines, under item G or H, that the groundwater protection standard is being exceeded at any monitoring well at the point of compliance, the

owner or operator may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, statistical evaluation, or natural variation in the groundwater. Until the owner or operator makes a demonstration, the owner or operator is not relieved of the requirement to submit a permit modification application if necessary to comply with item H within the time specified in item H, subitem (2) or of the requirement to institute corrective actions as established in item H, subitem (2). In making a demonstration, the owner or operator shall:

- (1) notify the commissioner in writing within seven days of the intent to make a demonstration;
- (2) within 90 days, submit a report to the commissioner which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent noncompliance with the standards resulted from error in sampling, analysis, or evaluation;
- (3) within 90 days, submit to the agency an application for a permit modification to make any appropriate changes to the compliance monitoring program at the facility; and
- (4) continue to monitor in accordance with the compliance monitoring program.

J. If the owner, operator, or commissioner determines that the compliance monitoring program no longer satisfies the requirements of items A to I the owner or operator shall, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

K. The owner or operator shall ensure that monitoring and corrective action measures necessary to achieve compliance with the ground water protection standard are taken during the term of the permit.

Subp. 14. Corrective action program. An owner or operator required to establish a corrective action program shall perform the following:

A. The owner or operator shall take corrective action to ensure that regulated units are in compliance with the ground water protection standard. The agency shall specify the ground water protection standard in the facility permit, including:

- (1) a list of the hazardous constituents;
- (2) concentration limits for each of those hazardous constituents;
- (3) the compliance point; and
- (4) the compliance period.

B. The owner or operator shall implement a corrective action program that prevents hazardous constituents from exceeding their respective concentration limits at the compliance point by removing the hazardous waste constituents or treating them in place. The permit must indicate the specific measures that will be taken.

C. The owner or operator shall begin corrective action within one week after the ground water protection standard is exceeded, unless a different period is established in the permit.

D. In conjunction with a corrective action program, the owner or operator shall establish and implement a ground water monitoring program to demonstrate the effectiveness of the corrective action program. The monitoring program may be based on the requirements for a compliance monitoring program and must be as effective as that program in determining compliance with the ground water protection standard, and in determining the success of a corrective action program under item E where appropriate. This monitoring program must also be capable of demonstrating compliance with the concentration limits in the permit in the ground water at the downgradient portion of the facility property line.

E. In addition to the other requirements the owner or operator shall conduct a corrective action program to remove or treat in place hazardous constituents established under subpart 4 that exceed concentration limits in groundwater established under subparts 6, 7, and 8:

- (1) between the compliance point established under subpart 9 and the downgradient property boundary; and

(2) beyond the facility boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the commissioner that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake the action. The owner or operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address the releases will be determined on a case-by-case basis.

Corrective action measures must be initiated and completed within a reasonable period of time considering the extent and magnitude of contamination. If the owner, operator, or commissioner determines that corrective action measures are not initiated or completed within a reasonable period of time considering the extent and magnitude of contamination, the owner or operator shall cease accepting wastes at the facility.

Corrective action measures may be terminated once the concentration of hazardous constituents is reduced to levels below their respective concentration limits at the compliance point and areas downgradient of the compliance point including areas beyond the facility property line.

F. The owner or operator shall continue corrective action measures during the compliance period to the extent necessary to ensure that the ground water protection standard is not exceeded at a monitoring well. If the owner or operator is conducting corrective action at the end of the compliance period, he or she shall continue that corrective action for as long as necessary to achieve compliance with the ground water protection standard at all monitoring wells. The owner or operator may terminate corrective action measures taken beyond the period equal to the active life of the waste management area, including the closure period, if he or she can demonstrate, based on data from the ground water monitoring program under item D that the ground water protection standard has not been exceeded for a period of five consecutive years at any monitoring well.

G. The owner or operator shall report semiannually in writing to the commissioner on the effectiveness of the corrective action program.

H. If the owner, operator, or commissioner determines that the corrective action program no longer satisfies the requirements of items A to G, the owner or operator shall, within 90 days, submit an application for a permit modification to make appropriate changes to the program.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 11 SR 1832; L 1987 c 186 s 15; 13 SR 577; 13 SR 2761; 15 SR 1515; 15 SR 1878*

7045.0485 CORRECTIVE ACTION FOR SOLID AND HAZARDOUS WASTE MANAGEMENT UNITS.

Subpart 1. Applicability. The owner or operator of a facility seeking a permit for the treatment, storage, or disposal of hazardous waste must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any hazardous or solid waste management unit at the facility, regardless of the time at which waste was placed in the unit.

Subp. 2. Conditions. Corrective action as required under subpart 1 must be specified in the permit. The permit must contain schedules of compliance for corrective action and assurances of financial responsibility for completing corrective action. Assurance of financial responsibility must be provided in addition to the applicable requirements of parts 7045.0498 to 7045.0524.

Subp. 3. Corrective actions beyond the facility boundary. The owner or operator must implement corrective actions beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the commissioner that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake the actions. The owner or operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to ad-

dress the releases will be determined on a case-by-case basis. Assurances of financial responsibility for the corrective action must be provided.

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832; 13 SR 2761*

7045.0486 CLOSURE.

Subpart 1. **Scope.** Except as part 7045.0450 provides otherwise, the provisions of subparts 2 to 6 and part 7045.0488 apply to the owner or operator of a hazardous waste facility.

Subp. 2. **Closure performance standard.** The owner or operator shall close the facility in a manner minimizing the need for further maintenance. Closure procedures must result in controlling, minimizing, or eliminating, to the extent necessary to protect human health and the environment, postclosure escape of hazardous waste, hazardous constituents, leachate, contaminated run off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, in accordance with the closure requirements, including the requirements of parts 7045.0526, subpart 9; 7045.0532, subpart 7; 7045.0534, subpart 7; 7045.0536, subpart 8; 7045.0538, subpart 7; 7045.0539, subparts 2 to 4; and 7045.0542, subpart 8.

Subp. 3. **Submittal and contents of closure plan.** The owner or operator of a hazardous waste facility shall submit a closure plan with the permit application, and the closure plan must be approved by the agency as part of the permit issuance procedure. The approved closure plan shall become a condition of any permit. The agency's approval must ensure that the approved closure plan is consistent with subparts 2, 4, and 5, and part 7045.0488, and the applicable closure requirements of parts 7045.0526, subpart 9; 7045.0532, subpart 7; 7045.0534, subpart 7; 7045.0536, subpart 8; 7045.0538, subpart 7; 7045.0539, subpart 2; and 7045.0542, subpart 8.

A copy of the approved closure plan and all revisions to the plan must be furnished to the commissioner upon request, including request by mail, until final closure is completed and certified. The plan must identify steps necessary to completely or partially close the facility at any point during its intended operating life and to completely close the facility at the end of its intended operating life. The closure plan must at least include all of the following:

A. A description of how each hazardous waste management unit will be closed, and how the facility will be finally closed. The description must identify the maximum extent of the operation which will be unclosed during the active life of the facility and how the requirements of subparts 2, 4, and 5, and part 7045.0488, and the applicable closure requirements of parts 7045.0526, subpart 9; 7045.0532, subpart 7; 7045.0534, subpart 7; 7045.0536, subpart 8; 7045.0538, subpart 7; 7045.0539, subpart 2; and 7045.0542, subpart 8, will be met.

B. An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial closures and final closure, including, methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of the type of off-site hazardous waste management units to be used, if applicable.

C. A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, facility equipment, structures, and soils during partial and final closure, including, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard.

D. A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, ground water monitoring, leachate collection, and run on and runoff control.

E. A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure.

F. An estimate of the expected year of closure for facilities that use trust funds to establish financial assurance under part 7045.0504 or 7045.0508 and that are expected to close before the expiration of the permit.

Subp. 4. Amendment of plan. The owner or operator must submit a written request to the commissioner for a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050. The written request must include a copy of the closure plan amendments for approval. The owner or operator may request a permit modification to amend the closure plan at any time before notification of partial or final closure of the facility. The owner or operator shall request a permit modification to amend the plan whenever:

A. changes in operating plans or facility design affect the closure plan; or

B. there is a change in the expected year of closure for those facilities that use trust funds to establish financial assurance as provided in subpart 3; or

C. in conducting partial or final closure activities, unexpected events require a modification of the approved closure plan.

The commissioner may request modifications to the plan under the conditions described in items A to C. The owner or operator must submit the modified plan within 60 days of the commissioner's request, or within 30 days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the commissioner will be approved in accordance with the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050. The owner or operator must submit a written request for a permit modification including a copy of the amended closure plan for approval at least 60 days before the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must request a permit modification no later than 30 days after the unexpected event.

Subp. 5. Notification of partial and final closure.

A. The owner or operator shall notify the commissioner in writing at least:

(1) 60 days before the date the owner or operator expects to begin closure of a surface impoundment, waste pile, landfill, or land treatment unit, or final closure of a facility involving such a unit; or

(2) 45 days before the date the owner or operator expects to begin final closure of a facility with only tanks, container storage, or incinerator units remaining to be closed.

B. The date on which the owner or operator "expects to begin closure" is defined as follows:

(1) Where the owner or operator of a hazardous waste management unit anticipates receiving a volume of hazardous wastes the owner or operator knows will be the final volume, then the date on which the owner or operator "expects to begin closure" is 30 days after the date the final volume is anticipated to be received.

(2) Where the owner or operator of a hazardous waste management unit reasonably anticipates that the owner or operator will continue to receive hazardous wastes, then the date on which the owner or operator "expects to begin closure" is one year after the date the last volume of hazardous waste was received by the hazardous waste management unit. An owner or operator shall only be considered to "reasonably anticipate receiving additional volumes of hazardous waste" if the owner or operator in fact receives hazardous wastes within one year after the last volume was received. The commissioner may approve an extension to this one-year limit if the owner or operator of a hazardous waste management unit can demonstrate to the commissioner that the unit or facility has the capacity to receive additional hazardous wastes and he or she has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements.

For units meeting the requirements of part 7045.0488, subpart 2a, the date on which the owner or operator expects to begin closure must be no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of nonhazard-

ous wastes, or if there is a reasonable possibility that the hazardous wastes management unit will receive additional nonhazardous wastes, no later than one year after the date on which the unit received the most recent volume of nonhazardous wastes. If the owner or operator can demonstrate to the commissioner that the hazardous waste management unit has the capacity to receive additional nonhazardous wastes and the owner or operator has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the commissioner shall approve an extension to this one-year limit.

If the facility's permit or interim status is terminated, or if the facility is otherwise ordered by judicial decree or compliance order to cease receiving hazardous waste or to close, then the requirement in this item does not apply. However, the owner or operator shall close the facility in accordance with established deadlines.

Subp. 6. Removal of wastes and decontamination or dismantling of equipment. Nothing in this part precludes the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved closure plan at any time before or after notification of partial or final closure.

Statutory Authority: *MS s 116.07*

History: 9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 13 SR 2761; 16 SR 1225; 18 SR 614

7045.0488 CLOSURE ACTIVITIES.

Subpart 1. Time allowance to begin closure activities. Within 90 days after receiving the final volume of hazardous waste, or the final volume of nonhazardous waste if the owner or operator complies with all applicable requirements of subpart 2a, at a hazardous waste management unit or facility, the owner or operator shall treat, remove from the unit or facility, or dispose of on-site all hazardous waste in accordance with the approved closure plan. The commissioner may approve a longer period if the owner or operator demonstrates at least 30 days before expiration of the 90 day period, that the owner or operator has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all permit requirements and:

A. the activities required to comply with the approved closure plan will, of necessity, take longer than 90 days to complete; or

B. the hazardous waste management unit or facility has the capacity to receive additional hazardous waste, or has the capacity to receive nonhazardous waste if the owner or operator complies with subpart 2a, there is a reasonable likelihood that the owner or operator or another person will recommence operation of the unit or facility within one year, and closure of the unit or facility would be incompatible with continued operation of the site; and

C. the owner or operator complies with all applicable requirements for requesting a modification to the permit.

If the owner or operator of a facility required to maintain financial assurance for closure, post closure care, or corrective action fails to make a required payment or to substitute alternative financial assurance when required to do so, the commissioner shall order the owner or operator to begin closure activities.

Subp. 2. Time extension for closure activities. The owner or operator shall complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous waste, or the final volume of nonhazardous waste if the owner or operator complies with all applicable requirements in subpart 2a, at the hazardous waste management unit or facility. The commissioner may approve a longer closure period if the owner or operator demonstrates at least 30 days before expiration of the 180 day period that the owner or operator has taken, unless the owner or operator is otherwise subject to the deadlines of subpart 2a, and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable permit requirements and:

A. the partial or final closure activities will, of necessity, take longer than 180 days to complete; or

B. the hazardous waste management unit or facility has capacity to receive additional hazardous waste, or has the capacity to receive nonhazardous waste if the owner or operator complies with subpart 2a, there is a reasonable likelihood the owner or operator or another person will recommence operation of the unit or facility within one year, and closure of the unit or facility would be incompatible with continued operation of the site; and

C. the owner or operator complies with all applicable requirements for requesting a modification to the permit.

If operation of the site is recommended, the commissioner may defer completion of closure activities until the new operation is terminated.

Subp. 2a. Conditions for receiving nonhazardous waste. The commissioner shall allow an owner or operator to receive only nonhazardous waste in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous waste at that unit if:

A. the owner or operator requests a permit modification in compliance with all applicable requirements of chapter 7001 and parts 7023.9000 to 7023.9050 and in the permit modification request demonstrates that:

(1) the unit has the existing design capacity, as previously indicated by the owner or operator on the Part A application, to receive nonhazardous wastes;

(2) there is a reasonable likelihood that the owner or operator or another person will receive nonhazardous wastes in the unit within one year after the final receipt of hazardous waste;

(3) the nonhazardous waste will not be incompatible with any remaining wastes in the unit, or with the facility design and operating requirements of the unit or facility under parts 7045.0450 to 7045.0544;

(4) closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and

(5) the owner or operator is operating and will continue to operate in compliance with all applicable permit requirements;

B. the request to modify the permit includes an amended waste analysis plan required under part 7045.0458, groundwater monitoring and response program required under part 7045.0484, human exposure assessment required under parts 7001.0590 and 7001.0620, closure and postclosure plans required under parts 7045.0486 and 7045.0490, and updated cost estimates and demonstration of financial assurance for closure and postclosure care as necessary and appropriate required under parts 7045.0502 to 7045.0508, to reflect any changes due to the presence of hazardous constituents in the nonhazardous wastes, and changes in closure activities required under part 7045.0488, including the expected year of closure if applicable under part 7045.0486, subpart 4, as a result of the receipt of nonhazardous wastes following the final receipt of hazardous wastes;

C. the request to modify the permit includes revisions, as necessary and appropriate, to affected conditions of the permit to account for the receipt of nonhazardous wastes following receipt of the final volume of hazardous wastes; and

D. the request to modify the permit and the demonstrations referred to in items A and B are submitted to the commissioner no later than 120 days before the date on which the owner or operator of the facility receives the known final volume of hazardous wastes at the unit.

If the owner or operator of a surface impoundment is not in compliance with the liner and leachate collection system minimum technology requirements of part 7045.0532, subpart 3, the owner or operator may not delay closure in order to accept nonhazardous wastes.

Subp. 3. Disposal or decontamination of equipment, structures, and soils. During the partial and final closure periods, all contaminated facility equipment, structures, and soils must be properly disposed of or decontaminated unless otherwise specified in part 7045.0528, subpart 9; 7045.0532, subpart 7; 7045.0534, subpart 7; 7045.0536, subpart 8; or 7045.0538, subpart 7, or under the authority of part 7045.0539, subparts 2 and 4. By removing any hazardous waste or hazardous waste constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that waste according to all applicable requirements of parts 7045.0205 to 7045.0320.

Subp. 4. Certification of closure. Within 60 days after each hazardous waste surface impoundment, waste pile, land treatment, and landfill 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; 116.37*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 13 SR 2761; 15 SR 1515; 16 SR 1225; 16 SR 2102; 18 SR 614*

7045.0490 POSTCLOSURE.

Subpart 1. Scope. Except as otherwise provided in part 7045.0450, the provisions of subparts 2, 3, and parts 7045.0492 to 7045.0496 apply to:

- A. the owner or operator of a hazardous waste disposal facility;
- B. the owner or operator of a waste pile or surface impoundment that is required by part 7045.0532, subpart 7, or 7045.0534, subpart 7, to have a post closure plan; and
- C. the owner or operator of tank systems that are required under part 7045.0528, subpart 9, to meet the requirements for landfills.

Subp. 2. Submittal of post closure plan. The owner or operator of a facility shall submit a post closure plan with the permit application, and the plan must be approved by the agency as part of the permit issuance procedure. The approved post closure plan will become a condition of any permit issued.

Owners or operators of surface impoundments and waste piles which are not otherwise required by part 7045.0532, subpart 7 or 7045.0534, subpart 7 to prepare a post closure plan, must submit a post closure plan to the commissioner within 90 days after the owner or operator or the commissioner determines that the unit must be closed as a landfill and is subject to the post closure care requirements of parts 7045.0490 to 7045.0496.

Subp. 3. Postclosure plan; amendment of plan. A copy of the approved plan and all revisions to the plan must be furnished to the commissioner upon request, including request by mail until final closure of the facility. After final closure has been certified, the person or office in item C must keep the approved postclosure plan during the remainder of the postclosure period. For each hazardous waste management unit subject to postclosure care requirements the plan must identify the activities which will be carried on after closure and the frequency of these activities, and it must include at least:

A. a description of the planned monitoring activities and frequencies at which they will be performed to comply with parts 7045.0484 and 7045.0532 to 7045.0539 during the postclosure care period;

B. a description of the planned maintenance activities and frequencies at which they will be performed to ensure the integrity of the cap and final cover or other containment systems according to parts 7045.0532 to 7045.0539, and the function of the facility monitoring equipment according to parts 7045.0484 and 7045.0532 to 7045.0539; and

C. the name, address, and telephone number of the person or office to contact about the disposal facility during the post closure period. This person or office must keep an updated post closure plan during the post closure period.

The owner or operator may submit a written request for a permit modification to amend the post closure plan at any time during the active life of the disposal facility or during the post closure period in accordance with the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050. The owner or operator shall request a permit modification to amend the plan whenever changes in operating plans, or facility design, or events which occur during the active life of the facility including partial and final closures, or during the post closure period affect the post closure plan. He or she shall also amend the plan whenever there is a change in the expected year of final closure, if applicable. In addition, the commissioner may request modifications to the post closure plan under these conditions.

When a permit modification is requested during the active life of the facility to authorize a change in operating plans or facility design, modification of the post closure plan must be requested at the same time. The owner or operator must submit a written request for a permit modification at least 60 days before the proposed changes in operating plans or facility design, or no later than 60 days after the unexpected events which affect the post closure plan occur. If the commissioner requests modification of the post closure plan, the owner or operator must submit the modified plan no later than 60 days after the commissioner's request, or no later than 90 days if the unit is a surface impoundment or waste pile not previously required to prepare a contingent post closure plan. Any modifications requested by the commissioner will be approved, disapproved, or modified in accordance with the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050.

Statutory Authority: *MS s 116.07 subd 4*

History: 9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 13 SR 259; 13 SR 2761; 18 SR 614

7045.0492 POSTCLOSURE CARE AND USE OF PROPERTY.

Subpart 1. **Postclosure care requirements.** Postclosure care requirements are as follows:

A. Postclosure care of each hazardous waste management unit subject to parts 7045.0490 to 7045.0496 must continue for 30 years after the date of completing closure of the unit and must consist of at least monitoring and reporting according to parts 7045.0484 and 7045.0532 to 7045.0539, and the maintenance of monitoring and waste containment systems, according to parts 7045.0484 and 7045.0532 to 7045.0539.

B. Any time preceding closure of a hazardous waste management unit subject to the postclosure care requirements or final closure, or at any time during the postclosure period for a particular unit, the commissioner may reduce the postclosure care period in accordance with the agency's permit modification procedures in chapter 7001 and parts 7023.9000 to 7023.9050 for the hazardous waste management unit or facility, if all disposal units have been closed if it is found that the reduced period is sufficient to protect human health and the environment. This determination must be based on leachate or groundwater monitoring results, waste characteristics, application of advanced technology, or alternative disposal, treatment, or reuse techniques indicating the hazardous waste management unit or facility is secure.

C. Before the time that the postclosure care period is due to expire, the commissioner may extend the postclosure care period in accordance with the agency's permit modification procedures in chapter 7001 and parts 7023.9000 to 7023.9050 for the hazardous waste management unit or facility if it is found that the extended period is necessary to protect human health and the environment. This determination must be based on factors such as leachate or groundwater monitoring results that indicate a potential for migration of hazardous waste at levels which may be harmful to human health and the environment.

D. All postclosure care activities must be in accordance with the approved postclosure plan.

Subp. 2. **Continuation of security requirements.** The commissioner may require, at partial and final closure, continuation of any of the security requirements during part of or all of the postclosure period after the date of completing closure when hazardous wastes may remain exposed after completion of partial or final closure or when access by the public or domestic livestock may pose a hazard to human health.

Subp. 3. **Postclosure use of property.** Postclosure use of property on or in which hazardous wastes remain after partial or final closure shall never be allowed by the owner or operator to disturb the integrity of the final cover, liners, or any other components of any containment system or the function of the facility's monitoring systems, unless the owner or operator can demonstrate to the commissioner either in the postclosure plan or by petition that the disturbance:

A. is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

B. is necessary to reduce a threat to human health or the environment.

Subp. 4. **Certification of completion of postclosure care.** Within 60 days after completion of the established postclosure care period for each hazardous waste disposal unit, 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 postclosure care period for the hazardous waste disposal unit was performed in accordance with the approved postclosure 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 postclosure care under part 7045.0508, subpart 10.

Statutory Authority: *MS s 116.07*

History: 9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 13 SR 2761; 18 SR 614

7045.0494 NOTICE TO LOCAL LAND AUTHORITY.

Subpart 1. **Submission of survey plat.** No later than submission of the certification of closure of each hazardous waste disposal unit, the owner or operator shall submit to the local zoning authority or the authority with jurisdiction over local land use and to the commissioner a survey plat indicating the location and dimensions of landfill cells or other disposal areas with respect to permanently surveyed bench marks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority or authority with jurisdiction over local land use must contain a prominently displayed note which states the owner's or operator's obligation to restrict disturbance of the site as specified.

Subp. 2. **Post closure notices.** Within 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator shall submit to the local zoning authority or the authority with jurisdiction over local land use and to the commissioner a record of the type, location, and quantity of hazardous waste disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator shall comply with all requirements of Code of Federal Regulations, title 40, section 264.119 (1983). The owner or operator shall identify the type, location, and quantity of the waste to the best of his or her knowledge and in accordance with any records he or she has kept. A change in the type, location, or quantity of hazardous waste disposed of within each cell or area of the facility that occurs after the survey plat and record of waste have been filed must be reported to the local zoning authority or the authority with jurisdiction over local land use and to the commissioner.

Statutory Authority: *MS s 116.07 subd 4*

History: 9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 13 SR 577

7045.0496 NOTICE IN DEED TO PROPERTY.

Subpart 1. **Deed notation.** Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit the owner or operator shall:

A. record, in accordance with state law, a notation on the deed to the facility property, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the property that:

- (1) the land has been used to manage hazardous waste;
- (2) the land use is restricted; and

(3) the survey plat and record of the type, location, and quantity of hazardous waste disposed of within each cell or other hazardous waste disposal unit of the facility required in part 7045.0494 have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the commissioner; and

B. submit a certification signed by the owner or operator that he or she has recorded the notation specified in this subpart, including a copy of the document in which the notation has been placed, to the commissioner.

Subp. 2. **Changes to the deed.** If at any time the owner or operator or a subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove the hazardous wastes and hazardous waste residues, the liner, if any, or contaminated underlying and surrounding soil, he or she must request a permit modification to amend the

post closure plan in accordance with the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050. The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of part 7045.0492, subpart 3. If the owner or operator is granted approval to conduct removal activities, he or she may request that the commissioner approve either:

A. removal of the notation on the deed to the facility property or other instrument normally examined during title search; or

B. addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

By removing hazardous waste and hazardous waste residue, the liner, if any, and the contaminated soil, the owner or operator becomes a generator of hazardous waste and shall manage it in accordance with all applicable requirements of this chapter.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 18 SR 614*

7045.0498 FINANCIAL REQUIREMENTS.

Subpart 1. **Scope.** Parts 7045.0502, 7045.0504, and 7045.0518 to 7045.0524 apply to owners and operators of all hazardous waste facilities, except as provided otherwise in this part or in part 7045.0450, subpart 3.

Parts 7045.0506 and 7045.0508 apply only to owners and operators of:

A. disposal facilities;

B. waste piles, and surface impoundments from which the owner or operator intends to remove the wastes at closure, to the extent that he or she is required to develop a contingent closure and post closure care plan in parts 7045.0532, subpart 7; and 7045.0534, subpart 7; and

C. tank systems that are required under part 7045.0528, subpart 9, to meet the requirements for landfills.

Parts 7045.0512 to 7045.0516 apply only to owners and operators of facilities that treat, store, or dispose of hazardous waste in surface impoundments, waste piles, land treatment units, or landfills.

The state and the federal government are exempt from the requirements of parts 7045.0498 to 7045.0524.

Subp. 2. **Definitions.** The following definitions apply:

A. When used in parts 7045.0498 to 7045.0524, the following terms have the meanings given.

(1) "Closure plan" means the plan for closure prepared in accordance with part 7045.0486.

(2) "Corrective action plan" means the plan for corrective action prepared in accordance with part 7045.0484, subparts 2, item D, and 14.

(3) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with part 7045.0502, subparts 1, 2, and 3.

(4) "Current corrective action cost estimate" means the most recent of the estimates prepared in accordance with part 7045.0512, subparts 1, 2, and 3.

(5) "Current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities" means the most recent of the estimates prepared in accordance with Code of Federal Regulations, title 40, section 144.62 (a), (b), and (c).

(6) "Current post closure cost estimate" means the most recent of the estimates prepared in accordance with part 7045.0506, subparts 1, 2, and 3.

(7) "Parent corporation" means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the later corporation is deemed a "subsidiary" of the parent corporation.

(8) "Post closure plan" means the plan for post closure care prepared according to parts 7045.0490 to 7045.0496.

B. The following terms are used in the specifications for the financial tests for corrective action, closure, post closure care, and liability coverage. The following definitions

are intended to assist in the understanding of parts 7045.0498 to 7045.0524 and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices:

(1) "Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

(2) "Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

(3) "Current liabilities" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

(4) "Independently audited" means an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

(5) "Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

(6) "Net working capital" means current assets minus current liabilities.

(7) "Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

(8) "Tangible net worth" means the tangible assets that remain after deducting liabilities, not including intangibles such as goodwill and rights to patents or royalties.

C. In the liability insurance requirements the terms "bodily injury" and "property damage" have the meanings given these terms by applicable state law. However, these terms do not include liabilities which, consistent with standard industry practices, are excluded from coverage in liability policies for bodily injury and property damage. The agency intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The following definitions of several of the terms are intended to assist in the understanding of parts 7045.0498 to 7045.0524 and are not intended to limit their meanings in a way that conflicts with general insurance industry usage:

(1) "Accidental occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

(2) "Legal defense costs" means expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

(3) "Nonsudden accidental occurrence" means an occurrence which takes place over time and involves continuous or repeated exposure.

(4) "Sudden accidental occurrence" means an occurrence which is not continuous or repeated in nature.

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 11 SR 2415; 13 SR 259*

7045.0500 [Repealed by amendment, 9 SR 115]

7045.0502 COST ESTIMATE FOR FACILITY CLOSURE.

Subpart 1. **Cost estimate requirements.** The owner or operator shall have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with parts 7045.0486 and 7045.0488 and applicable closure requirements in parts 7045.0526, subpart 9; 7045.0532, subpart 7; 7045.0534, subpart 7; 7045.0536, subpart 8; 7045.0538, subpart 7; 7045.0539, subparts 2 to 4; and 7045.0542, subpart 8. The closure cost estimate must equal the cost of final closure at the point in the facility's active 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 disposa¹

if the operator can demonstrate that on-site disposal capacity will exist at all times through the life of the facility.

B. The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or nonhazardous wastes if applicable under part 7045.0488, subpart 2a, facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.

C. The owner or operator may not incorporate a zero cost for hazardous wastes, or nonhazardous wastes if applicable under part 7045.0488, subpart 2a, that might have economic value.

Subp. 2. Yearly update of cost estimate. During the active life of the facility, the owner or operator shall adjust the closure cost estimate for inflation within 60 days before each anniversary of the date on which the financial instruments used to comply with part 7045.0504 were established. Owners and operators using the financial test or corporate guarantee must adjust the closure cost estimate for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the commissioner as specified in part 7045.0504, subpart 7, item E. The adjustment must be made as specified in items A and B using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as found in the Survey of Current Business issued by the United States Department of Commerce. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year. Adjustments must be made as follows:

A. The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

B. Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

Subp. 3. Cost estimate revisions. During the active life of the facility, the owner or operator shall revise the closure cost estimate within 30 days after the commissioner approves the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in subpart 2.

Subp. 4. Record retention. The owner or operator shall supply the following to the commissioner upon request, including request by mail until final closure is completed: the latest closure cost estimate prepared in accordance with subparts 2 and 3 and, when this estimate has been adjusted in accordance with subpart 2, the latest adjusted closure cost estimate.

Statutory Authority: *MS s 116.07*

History: 9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 13 SR 2761; 16 SR 1225

7045.0504 FINANCIAL ASSURANCE FOR FACILITY CLOSURE.

Subpart 1. In general. An owner or operator of a facility shall establish financial assurance for closure of the facility by choosing from the options specified in subparts 2 to 7.

Subp. 2. Closure trust fund. The following apply to closure trust funds:

A. An owner or operator may satisfy the requirements of this part by establishing a closure trust fund that conforms to the requirements of items A to L, and by submitting to the commissioner an originally signed duplicate of the trust agreement. An owner or operator of a new facility shall submit the originally signed duplicate of the trust agreement to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

B. The wording of the trust agreement must be identical to the wording specified in part 7045.0524, subpart 1, item A, and must be accompanied by a formal certification of acknowledgment as shown in part 7045.0524, subpart 1, item B. Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

C. Payments into the trust fund must be made annually by the owner or operator over the term of the initial permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the closure trust fund must be made as described in subitems (1) and (2).

(1) For a new facility, the first payment must be made before the initial receipt of hazardous waste for treatment, storage, or disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the commissioner before this initial receipt of hazardous waste. The first payment must be at least equal to the current closure cost estimate, except as provided in subpart 8, divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{next payment} = \frac{\text{CE}-\text{CV}}{\text{Y}}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(2) If an owner or operator establishes a trust fund as specified in part 7045.0612, subpart 2, and the value of that trust fund is less than the current closure cost estimate when a permit is awarded for the facility, the amount of the current closure cost estimate still to be paid into the trust fund must be paid in over the pay-in period as defined in item C. Payments must continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to part 7045.0612, subpart 2. The amount of each payment must be determined by this formula:

$$\text{next payment} = \frac{\text{CE}-\text{CV}}{\text{Y}}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

D. The owner or operator may accelerate payments into the trust fund or may deposit the full amount of the current closure cost estimate at the time the fund is established. However, he or she shall maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in item C.

E. If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this part or in part 7045.0612, the first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this subpart and part 7045.0612, subpart 2, as applicable.

F. After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate and submit a receipt from the trustee for this payment to the commissioner, or obtain other financial assurance as specified in this part to cover the difference.

G. If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the commissioner for release of the amount in excess of the current closure cost estimate covered by the trust fund.

H. If an owner or operator substitutes other financial assurance as specified in this part for all or part of the trust fund, he or she may submit a written request to the commissioner for release of the amount in excess of the current closure cost estimate covered by the trust fund.

I. Within 60 days after receiving a request from the owner or operator for release of funds as specified in item G or H the commissioner shall instruct the trustee to release to the owner or operator such funds as the commissioner specifies in writing.

J. The trustee shall notify the owner or operator and the commissioner by certified mail within ten days following the expiration of the 30-day period after the anniversary of the establishment of the trust if no payment is received from the owner or operator during the period. Within 60 days after receipt by both the owner or operator and the commissioner of a notice of nonpayment of any payment required by this part, the owner or operator shall:

- (1) make the required payment;
- (2) provide alternative financial assurance as specified in this part and obtain the commissioner's written approval of the assurance provided; or
- (3) stop accepting waste and begin closure of the facility.

K. After beginning partial or final closure, an owner, operator, or other person authorized to perform closure may request reimbursement for partial or final closure expenditures by submitting itemized bills to the commissioner. The owner or operator may request reimbursement for partial closure expenditures only if sufficient funds remain in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for partial or final closure activities, the commissioner shall determine whether the partial or final closure expenditures are in accordance with the closure plan or otherwise justified, and if so, the commissioner shall instruct the trustee to make reimbursement in amounts as the commissioner specifies in writing. If the commissioner has reason to believe that the maximum cost of closure over the remaining operating life of the facility will be significantly greater than the value of the trust fund, the commissioner may withhold reimbursement of the amounts as deemed prudent until it is determined, in accordance with subpart 10, that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the commissioner withholds reimbursement, the commissioner shall provide the owner or operator with a detailed written statement of reasons.

L. The commissioner shall agree to termination of the trust if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or
- (2) the commissioner releases the owner or operator from the requirements of this part in accordance with subpart 10.

Subp. 3. **Surety bond guaranteeing payment into a closure trust fund.** The following apply to surety bonds that guarantee payment into a closure trust fund:

A. An owner or operator may satisfy the requirements of this part by obtaining a surety bond that conforms to the requirements of items A to I, and by submitting the bond to the commissioner. An owner or operator of a new facility shall submit the bond to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must be among those listed as acceptable sureties on federal bonds in Circular 570, issued by the United States Department of the Treasury, as published annually in the Federal Register on July 1.

B. The wording of the surety bond must be identical to the wording specified in part 7045.0524, subpart 2.

C. The owner or operator who uses a surety bond to satisfy the requirements of this part shall also establish a standby trust fund. Under the terms of the bond, all payments made under the bond will be deposited by the surety directly into the standby trust fund in accordance with instructions from the commissioner. This standby trust fund must meet the requirements specified in subpart 2, except that an originally signed duplicate of the trust agreement must be submitted to the commissioner with the surety bond; and until the standby trust fund is funded under this subpart, the requirements specified in subitems (1) to (4) are not required:

- (1) payments into the trust fund as specified in subpart 2;
- (2) updating of Schedule A of the trust agreement to show current closure cost estimates;
- (3) annual valuations as required by the trust agreement;
- (4) notices of nonpayment as required by the trust agreement.

D. The bond must guarantee that the owner or operator will:

(1) fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility;

(2) fund the standby trust fund in an amount equal to the penal sum within 15 days after an order to begin final closure is issued by the commissioner, the agency, or court of competent jurisdiction; or

(3) provide alternate financial assurance as specified in this part and obtain the commissioner's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the commissioner of a notice of cancellation of the bond from the surety.

E. Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

F. The penal sum of the bond must be in an amount at least equal to the current closure cost estimate, except as provided in subpart 8.

G. Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the commissioner, or obtain other financial assurance as specified in this part to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the commissioner.

H. Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the commissioner, as evidenced by the return receipts.

I. The owner or operator may cancel the bond if the commissioner has given prior written consent based on the commissioner's receipt of evidence of alternate financial assurance as specified in this part.

Subp. 4. Surety bond guaranteeing performance of closure. The following apply to surety bonds that guarantee performance of closure:

A. An owner or operator may satisfy the requirements of this part by obtaining a surety bond that conforms to the requirements of items A to J, and by submitting the bond to the commissioner. An owner or operator of a new facility shall submit the bond to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must be among those listed as acceptable sureties on federal bonds in Circular 570, issued by the United States Department of the Treasury, as published annually in the Federal Register on July 1.

B. The wording of the surety bond must be identical to the wording specified in part 7045.0524, subpart 2.

C. The owner or operator who uses a surety bond to satisfy the requirements of this part shall also establish a standby trust fund. Under the terms of the bond, all payments made under the bond will be deposited by the surety directly into the standby trust fund in accordance with instructions from the commissioner. This standby trust must meet the requirements specified in subpart 2, except that an originally signed duplicate of the trust agreement must be submitted to the commissioner with the surety bond; and unless the standby trust fund is funded under this subpart the requirements specified in subitems (1) to (4) are not required:

(1) payments into the trust fund as specified in subpart 2;

(2) updating of Schedule A of the trust agreement to show current closure cost estimates;

(3) annual valuations as required by the trust agreement;

(4) notices of nonpayment as required by the trust agreement.

D. The bond must guarantee that the owner or operator will:

(1) perform final closure in accordance with the closure plan and other requirements of the permit for the facility whenever required to do so; or

(2) provide alternate financial assurance as specified in this part and obtain the commissioner's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the commissioner of a notice of cancellation of the bond from the surety.

E. Under the terms of the bond, the surety becomes liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a determination by the commissioner that the owner or operator has failed to perform final closure in accordance with the closure plan and other permit requirements when required to do so, under the terms of the bond the surety shall perform final closure in accordance with the closure plan and other permit requirements or will deposit the amount of the penal sum into the standby trust fund.

F. The penal sum of the bond must be in an amount at least equal to the current closure cost estimate.

G. Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the commissioner, or obtain other financial assurance as specified in this part. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the commissioner.

H. Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the commissioner, as evidenced by the return receipts.

I. The owner or operator may cancel the bond if the commissioner has given prior written consent. The commissioner shall provide such written consent if:

(1) an owner or operator substitutes alternate financial assurance as specified in this part; or

(2) the commissioner releases the owner or operator from the requirements of this part in accordance with subpart 10.

J. The surety will not be liable for deficiencies in the performance of closure by the owner or operator after the commissioner releases the owner or operator from the requirements of this part in accordance with subpart 10.

Subp. 5. Closure letter of credit. The following apply to closure letters of credit:

A. An owner or operator may satisfy the requirements of this part by obtaining an irrevocable standby letter of credit which conforms to the requirements of items A to J, and by submitting the letter to the commissioner. An owner or operator of a new facility shall submit the letter of credit to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

B. The wording of the letter of credit must be identical to the wording specified in part 7045.0524, subpart 4.

C. An owner or operator who uses a letter of credit to satisfy the requirements of this part shall also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the commissioner will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the commissioner. This standby trust fund must meet the requirements of the trust fund specified in subpart 2 except that an originally signed duplicate of the trust agreement must be submitted to the commissioner with the letter of credit; and unless the standby trust fund is funded under this subpart, the requirements specified in subitems (1) to (4) are not required:

(1) payments into the trust fund as specified in subpart 2;
(2) updating of Schedule A of the trust agreement to show current closure cost estimates;

- (3) annual valuations as required by the trust agreement;
(4) notices of nonpayment as required by the trust agreement.

D. The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the identification number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

E. The letter of credit must be irrevocable and issued for a period of at least one year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the commissioner by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the commissioner have received the notice, as evidenced by the return receipts.

F. The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in subpart 8.

G. Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, shall either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and shall submit evidence of the increase to the commissioner or obtain other financial assurance as specified in this part to cover the increase. Whenever the current closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the commissioner.

H. Following a determination by the commissioner that the owner or operator has failed to perform final closure in accordance with the closure plan and other permit requirements when required to do so, the commissioner may draw on the letter of credit.

I. If the owner or operator does not establish alternate financial assurance as specified in this part and obtain written approval of alternate assurance from the commissioner within 90 days after receipt by both the owner or operator and the commissioner of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the commissioner shall draw on the letter of credit. The commissioner may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any extension the commissioner shall draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this part and obtain written approval of the assurance from the commissioner.

J. The commissioner shall return the letter of credit to the issuing institution for termination if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or
(2) the commissioner releases the owner or operator from the requirements of this part in accordance with subpart 10.

Subp. 6. Closure insurance. The following apply to closure insurance:

A. An owner or operator may satisfy the requirements of this part by obtaining closure insurance which conforms to the requirements of items A to J, and submitting a certificate of insurance to the commissioner. An owner or operator of a new facility shall submit the certificate of insurance to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste. The insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

B. The wording of the certificate of insurance must be identical to the wording specified in part 7045.0524, subpart 5.

C. The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in subpart 8. The term "face amount"

means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer must not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

D. The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer is responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the commissioner, to a party or parties as the commissioner specifies.

E. After beginning partial or final closure, an owner, operator, or other person authorized to perform closure may request reimbursement for closure expenditures by submitting itemized bills to the commissioner. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its operating life. Within 60 days after receiving bills for closure activities, the commissioner shall determine whether the closure expenditures are in accordance with the closure plan or otherwise justified, and if so, the commissioner shall instruct the insurer to make reimbursement in amounts as the commissioner specifies in writing. If the commissioner has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, the commissioner may withhold reimbursement of amounts as deemed prudent until it is determined, in accordance with subpart 10, that the owner or operator is no longer required to maintain financial assurance for closure of the facility. If the commissioner withholds reimbursement, the commissioner shall provide the owner or operator with a detailed written statement of reasons.

F. The owner or operator shall maintain the policy in full force and effect until the commissioner consents to termination of the policy by the owner or operator as specified in item J.

G. A policy must contain a provision allowing assignment of the policy to a successor owner or operator. The assignment may be conditional upon consent of the insurer, provided the consent is not unreasonably refused.

H. The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the commissioner. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the commissioner and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration one or more of the following occurs:

- (1) the agency deems the facility abandoned;
- (2) the permit is terminated or revoked or a new permit is denied;
- (3) closure is ordered by the commissioner, the agency or a court of competent jurisdiction;
- (4) the owner or operator is named as debtor in a voluntary or involuntary proceeding under United States Code, title 11, Bankruptcy;
- (5) the premium due is paid.

I. Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, shall either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of the increase to the commissioner, or obtain other financial assurance as specified in this part to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the commissioner.

J. The commissioner shall give written consent to the owner or operator to terminate the insurance policy if:

(1) an owner or operator substitutes alternate financial assurance as specified in this part; or

(2) the commissioner releases the owner or operator from the requirements of this part in accordance with subpart 10.

Subp. 7. Financial test and corporate guarantee for closure. The financial test and corporate guarantee for closure is as follows:

A. An owner or operator may satisfy the requirements of this part by demonstrating that he or she passes a financial test as specified in items A to L. To pass this test the owner or operator shall meet the criteria of either item B or C.

B. The owner or operator shall have:

(1) two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; or a ratio of current assets to current liabilities greater than 1.5;

(2) net working capital and tangible net worth each at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable;

(3) tangible net worth of at least \$10,000,000; and

(4) assets in the United States amounting to at least 90 percent of the owner's or operator's total assets or at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable.

C. The owner or operator shall have:

(1) a current rating for the most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's;

(2) tangible net worth at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable;

(3) tangible net worth of at least \$10,000,000; and

(4) assets located in the United States amounting to at least 90 percent of the owner's or operator's total assets or at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable.

D. The phrase "current closure and post closure cost estimates" as used in items A to C refers to the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer as specified in part 7045.0524, subpart 6. The phrase "current plugging and abandonment cost estimate" as used in items A to C means the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer as specified in Code of Federal Regulations, title 40, section 144.70(f).

E. To demonstrate that he or she meets this test, the owner or operator shall submit the following items to the commissioner:

(1) a letter signed by the owner's or operator's chief financial officer and worded as specified in part 7045.0524, subpart 6;

(2) a copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(3) a special report from the owner's or operator's independent certified public accountant to the owner or operator stating that he or she has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and in connection with that procedure, no matters came to his or her attention which caused him or her to believe that the specified data should be adjusted.

F. An owner or operator of a new facility shall submit the items specified in item E to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

G. After the initial submission of items specified in item E the owner or operator shall send updated information to the commissioner within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in item E.

H. If the owner or operator no longer meets the requirements of item A he or she shall send notice to the commissioner of intent to establish alternate financial assurance as specified in this part. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator shall provide the alternate financial assurance within 120 days after the end of the fiscal year.

I. The commissioner may, based on a reasonable belief that the owner or operator may no longer meet the requirements of item A, require reports of financial condition at any time from the owner or operator in addition to those specified in item E. If the commissioner finds, on the basis of the reports or other information, that the owner or operator no longer meets the requirements of item A, the owner or operator shall provide alternate financial assurance as specified in this part within 30 days after notification of the finding.

J. The commissioner may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in the report on examination of the owner's or operator's financial statements required by item E, subitem (2). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The commissioner shall evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in this part within 30 days after notification of the disallowance.

K. The owner or operator is no longer required to submit the items specified in item E if:

(1) an owner or operator substitutes alternate financial assurance as specified in this part; or

(2) the commissioner releases the owner or operator from the requirements of this part in accordance with subpart 10.

L. An owner or operator may meet the requirements of this part by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in items A to J, and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in part 7045.0524, subpart 8. The corporate guarantee must accompany the items sent to the commissioner as specified in item E. The terms of the corporate guarantee must provide that:

(1) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in subpart 2 in the name of the owner or operator.

(2) The corporate guarantee remains in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the commissioner, as evidenced by the return receipts.

(3) If the owner or operator fails to provide alternate financial assurance as specified in this part and obtain the written approval of alternate assurance from the commissioner within 90 days after receipt by both the owner or operator and the commissioner of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor shall provide alternative financial assurance in the name of the owner or operator.

Subp. 8. Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this part by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in subparts 2, 3, 5, and 6 respectively, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a

surety bond or a letter of credit, he or she may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The commissioner may use any or all of the mechanisms to provide for closure of the facility.

Subp. 9. Use of financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this part to meet the requirements of this part for more than one facility. Evidence of financial assurance submitted to the commissioner must include a list showing, for each facility, the identification number, name, address, and the amount of funds for closure assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the commissioner may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

Subp. 10. Release of owner or operator from requirements of this part. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been accomplished in accordance with the closure plan, the commissioner shall notify the owner or operator in writing that he or she is no longer required by this part to maintain financial assurance for closure of the particular facility, unless the commissioner has reason to believe that closure has not been in accordance with the closure plan. The commissioner shall provide the owner or operator a detailed written statement of any reason to believe that closure has not been in accordance with the approved closure plan.

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15*

7045.0506 COST ESTIMATE FOR POSTCLOSURE CARE.

Subpart 1. Cost estimate requirements. The owner or operator of a facility subject to postclosure monitoring or maintenance requirements shall have a written estimate, in current dollars, of the annual cost of postclosure monitoring and maintenance of the facility in accordance with the applicable postclosure requirements in parts 7045.0490 to 7045.0496; 7045.0532, subpart 7; 7045.0534, subpart 7; 7045.0536, subpart 8; 7045.0538, subpart 7; and 7045.0539, subpart 4. The postclosure cost estimate is calculated by multiplying the annual postclosure cost estimate by the number of years of postclosure care required under part 7045.0492. The postclosure cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct postclosure care activities. A third party is neither a parent nor a subsidiary of the owner or operator.

Subp. 2. Yearly update of cost estimate. During the active life of the facility, the owner or operator shall adjust the post closure cost estimate for inflation within 60 days before each anniversary of the date on which the financial instruments used to comply with part 7045.0508 were established. For owners or operators using the financial test or corporate guarantee, the post closure cost estimate must be adjusted for inflation within 30 days after the close of the firm's fiscal year and before the submission of updated information to the commissioner as specified in part 7045.0506, subpart 7, item E. The adjustment must be made as specified in items A and B using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as found in the Survey of Current Business issued by the United States Department of Commerce. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year. Adjustments are made as follows:

A. The first adjustment is made by multiplying the post closure cost estimate by the inflation factor. The result is the adjusted post closure cost estimate.

B. Subsequent adjustments are made by multiplying the latest adjusted post closure cost estimate by the latest inflation factor.

Subp. 3. Cost estimate revisions. The owner or operator shall revise the post closure cost estimate within 30 days after the commissioner has approved the request to modify the

post closure plan, if the change in the post closure plan increases the cost of post closure care. The revised post closure cost estimate must be adjusted for inflation as specified in subpart 2.

Subp. 4. **Record retention.** The owner or operator shall furnish the following to the commissioner upon request, including request by mail: the latest post closure cost estimate prepared in accordance with subparts 1 and 3 and, when this estimate has been adjusted in accordance with subpart 2, the latest adjusted post closure cost estimate.

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 13 SR 2761*

7045.0508 FINANCIAL ASSURANCE FOR POST CLOSURE CARE.

Subpart 1. **In general.** The owner or operator of a hazardous waste management unit subject to post closure monitoring or maintenance requirements shall establish financial assurance for post closure care of the facility 60 days before the initial receipt of hazardous waste or the effective date of the regulation, whichever is later. The owner or operator shall choose from the options specified in subparts 2 to 7.

Subp. 2. **Post closure trust fund.** The following apply to post closure trust funds:

A. An owner or operator may satisfy the requirements of this part by establishing a post closure trust fund which conforms to the requirements of items A to M, and by submitting an originally signed duplicate of the trust agreement to the commissioner. An owner or operator of a new facility shall submit the originally signed duplicate of the trust agreement to the commissioner at least 60 days before the date on which hazardous waste is first received for disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

B. The wording of the trust agreement must be identical to the wording specified in part 7045.0524, subpart 1, item A and the trust agreement must be accompanied by a formal certification of acknowledgment as shown in part 7045.0524, subpart 1, item B. Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current post closure cost estimate covered by the agreement.

C. Payments into the trust fund must be made annually by the owner or operator over the term of the initial permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the post closure trust fund must be made as described in subitems (1) and (2):

(1) For a new facility, the first payment must be made before the initial receipt of hazardous waste for disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the commissioner before this initial receipt of hazardous waste. The first payment must be at least equal to the current post closure cost estimate, except as provided in subpart 8, divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{next payment} = \frac{\text{CE}-\text{CV}}{\text{Y}}$$

where CE is the current post closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(2) If an owner or operator establishes a trust fund as specified in part 7045.0616, subpart 2, and the value of that trust fund is less than the current post closure cost estimate when a permit is awarded for the facility, the amount of the current post closure cost estimate still to be paid into the fund must be paid in over the pay-in period as defined in this item. Payments must continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to part 7045.0616, subpart 2. The amount of each payment must be determined by this formula:

$$\text{next payment} = \frac{\text{CE}-\text{CV}}{\text{Y}}$$

where CE is the current post closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

D. The owner or operator may accelerate payments into the trust fund or may deposit the full amount of the current post closure cost estimate at the time the fund is established. However, he or she shall maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in item C.

E. If the owner or operator establishes a post closure trust fund after having used one or more alternate mechanisms specified in this part or in part 7045.0616, the first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this subpart and part 7045.0616, subpart 2, as applicable.

F. After the pay-in period is completed, whenever the current post closure cost estimate changes during the operating life of the facility, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current post closure cost estimate, or obtain other financial assurance as specified in this part to cover the difference.

G. During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post closure cost estimate, the owner or operator may submit a written request to the commissioner for release of the amount in excess of the current post closure cost estimate.

H. If an owner or operator substitutes other financial assurance as specified in this part for all or part of the trust fund, he or she may submit a written request to the commissioner for release of the amount in excess of the current post closure cost estimate covered by the trust fund.

I. Within 60 days after receiving a request from the owner or operator for release of funds as specified in item G or H, the commissioner shall instruct the trustee to release to the owner or operator funds as the commissioner specifies in writing.

J. During the period of post closure care, the commissioner may approve a release of funds if the owner or operator demonstrates to the commissioner that the value of the trust fund exceeds the remaining cost of post closure care.

K. The trustee shall notify the owner or operator and the commissioner by certified mail within ten days following the expiration of the 30 day period after the anniversary of the establishment of the trust if no payment is received from the owner or operator during the period. Within 60 days after receipt by both the owner or operator and the commissioner of a notice of nonpayment of any payment required by this part, the owner or operator shall:

- (1) make the required payment;
- (2) provide alternative financial assurance as specified in this part and obtain the commissioner's written approval of the assurance provided; or
- (3) stop accepting waste and begin closure of the facility.

L. An owner or operator or any other person authorized to perform post closure care may request reimbursement for post closure expenditures by submitting itemized bills to the commissioner. Within 60 days after receiving bills for post closure activities, the commissioner shall determine whether the post closure activities are in accordance with the post closure plan or otherwise justified, and if so, the commissioner shall instruct the trustee to make reimbursement in amounts as the commissioner specifies in writing. If the commissioner does not instruct the trustee to make reimbursement, the commissioner shall provide the owner or operator with a detailed written statement of reasons.

M. The commissioner shall agree to termination of the trust if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or
- (2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 10.

Subp. 3. Surety bond guaranteeing payment into post closure trust fund. The following apply to surety bonds that guarantee payment into post closure trust funds:

A. An owner or operator may satisfy the requirements of this part by obtaining a surety bond which conforms to the requirements of items A to I, and by submitting the bond to the commissioner. An owner or operator of a new facility shall submit the bond to the commissioner at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must be among those listed as acceptable sureties on federal bonds in Circular 570, issued by the United States Department of the Treasury, as published annually in the Federal Register on July 1.

B. The wording of the surety bond must be identical to the wording specified in part 7045.0524, subpart 2.

C. The owner or operator who uses a surety bond to satisfy the requirements of this part shall also establish a standby trust fund. Under the terms of the bond, all payments made thereunder must be deposited by the surety directly into the standby trust fund in accordance with instructions from the commissioner. This standby trust fund must meet the requirements specified in subpart 2, except that an originally signed duplicate of the trust agreement must be submitted to the commissioner with the surety bond; and until the standby trust fund is funded under this subpart, the following requirements are not required:

- (1) payments into the trust fund as specified in subpart 2;
- (2) updating of Schedule A of the trust agreement to show current post closure cost estimates;
- (3) annual valuations as required by the trust agreement;
- (4) notices of nonpayment as required by the trust agreement.

D. The bond must guarantee that the owner or operator will:

- (1) fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility;
- (2) fund the standby trust fund in an amount equal to the penal sum within 15 days after an order to begin final closure is issued by the commissioner, the agency, or a court of competent jurisdiction; or
- (3) provide alternate financial assurance as specified in this part, and obtain the commissioner's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the commissioner of a notice of cancellation of the bond from the surety.

E. Under the terms of the bond, the surety will become liable on the bond obligation if the owner or operator fails to perform as guaranteed by the bond.

F. The penal sum of the bond must be in an amount at least equal to the current post closure cost estimate, except as provided in subpart 8.

G. Whenever the current post closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current post closure cost estimate and submit evidence of the increase to the commissioner or obtain other financial assurance as specified in this part to cover the increase. Whenever the current post closure cost estimate decreases, the penal sum may be reduced to the amount of the current post closure cost estimate following written approval by the commissioner.

H. Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the commissioner, as evidenced by the return receipts.

I. The owner or operator may cancel the bond if the commissioner has given prior written consent based on receipt of evidence of alternate financial assurance as specified in this part.

Subp. 4. Surety bond guaranteeing performance of post closure care. The following apply to surety bonds that guarantee performance of post closure care:

A. An owner or operator may satisfy the requirements of this part by obtaining a surety bond which conforms to the requirements of items A to K, and submitting the bond to

the commissioner. An owner or operator of a new facility shall submit the bond to the commissioner at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must be among those listed as acceptable sureties on federal bonds in Circular 570, issued by the United States Department of the Treasury, as published annually in the Federal Register on July 1.

B. The wording of the surety bond must be identical to the wording specified in part 7045.0524, subpart 3.

C. The owner or operator who uses a surety bond to satisfy the requirements of this part shall also establish a standby trust fund. Under the terms of the bond, all payments made thereunder must be deposited by the surety directly into the standby trust fund in accordance with instructions from the commissioner. This standby trust fund must meet the requirements specified in subpart 2 except that an originally signed duplicate of the trust agreement must be submitted to the commissioner with the surety bond; and unless the standby trust fund is funded under this subpart, the following requirements are not required:

- (1) payments into the trust fund as specified in subpart 2;
- (2) updating of Schedule A of the trust agreement to show current post closure cost estimates;
- (3) annual valuations as required by the trust agreement;
- (4) notices of nonpayment as required by the trust agreement.

D. The bond must guarantee that the owner or operator will:

- (1) perform post closure care in accordance with the post closure plan and other requirements of the permit for the facility; or
- (2) provide alternate financial assurance as specified in this part and obtain the commissioner's written approval of the assurance provided, within 90 days of receipt by both the owner or operator and the commissioner of a notice of cancellation of the bond from the surety.

E. Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a determination by the commissioner that the owner or operator has failed to perform post closure care in accordance with the post closure plan and other permit requirements, under the terms of the bond the surety will perform post closure care in accordance with the post closure plan and other permit requirements or will deposit the amount of the penal sum into the standby trust fund.

F. The penal sum of the bond must be in an amount at least equal to the current post closure cost estimate.

G. Whenever the current post closure cost estimate increases to an amount greater than the penal sum during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post closure cost estimate and submit evidence of such increase to the commissioner, or obtain other financial assurance as specified in this part. Whenever the current post closure cost estimate decreases during the operating life of the facility, the penal sum may be reduced to the amount of the current post closure cost estimate following written approval by the commissioner.

H. During the period of post closure care, the commissioner may approve a decrease in the penal sum if the owner or operator demonstrates to the commissioner that the amount exceeds the remaining cost of post closure care.

I. Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the commissioner, as evidenced by the return receipts.

J. The owner or operator may cancel the bond if the commissioner has given prior written consent. The agency shall provide written consent if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or

(2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 10.

K. The surety is not liable for deficiencies in the performance of post closure care by the owner or operator after the agency releases the owner or operator from the requirements of this part in accordance with subpart 10.

Subp. 5. Post closure letter of credit. The following apply to post closure letters of credit:

A. An owner or operator may satisfy the requirements of this part by obtaining an irrevocable standby letter of credit which conforms to the requirements of items A to K and by submitting the letter to the commissioner. An owner or operator of a new facility shall submit the letter of credit to the commissioner at least 60 days before the date on which hazardous waste is first received for disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

B. The wording of the letter of credit must be identical to the wording specified in part 7045.0524, subpart 4.

C. An owner or operator who uses a letter of credit to satisfy the requirements of this part shall also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the commissioner will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the commissioner. This standby trust fund must meet the requirements of the trust fund specified in subpart 2 except that an originally signed duplicate of the trust agreement must be submitted to the commissioner with the letter of credit; and unless the standby trust fund is funded under this subpart, the following requirements are not required:

- (1) payments into the trust fund as specified in subpart 2;
- (2) updating of Schedule A of the trust agreement to show current post closure cost estimates;
- (3) annual valuations as required by the trust agreement;
- (4) notices of nonpayment as required by the trust agreement.

D. The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the identification number, name, and address of the facility, and the amount of funds assured for post closure care of the facility by the letter of credit.

E. The letter of credit must be irrevocable and issued for a period of at least one year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the commissioner by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the commissioner have received the notice, as evidenced by the return receipts.

F. The letter of credit must be issued in an amount at least equal to the current post closure cost estimate, except as provided in subpart 8.

G. Whenever the current post closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, shall either cause the amount of the credit to be increased so that it at least equals the current post closure cost estimate and submit evidence of such increase to the commissioner or obtain other financial assurance as specified in this part to cover the increase. Whenever the current post closure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current post closure cost estimate following written approval by the commissioner.

H. During the period of post closure care, the commissioner may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the commissioner that the amount exceeds the remaining cost of post closure care.

I. Following a determination by the commissioner that the owner or operator has failed to perform post closure care in accordance with the post closure plan and other permit requirements, the commissioner may draw on the letter of credit.

J. If the owner or operator does not establish alternate financial assurance as specified in this part and obtain written approval of alternate assurance from the commissioner within 90 days after receipt by both the owner or operator and the commissioner of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the commissioner shall draw on the letter of credit. The commissioner may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of an extension the commissioner shall draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this part and to obtain written approval of assurance from the commissioner.

K. The commissioner shall return the letter of credit to the issuing institution for termination if:

(1) an owner or operator substitutes alternate financial assurance as specified in this part; or

(2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 10.

Subp. 6. Post closure insurance. The following apply to post closure insurance:

A. An owner or operator may satisfy the requirements of this part by obtaining post closure insurance which conforms to the requirements of items A to K, and by submitting a certificate of such insurance to the commissioner. An owner or operator of a new facility shall submit the certificate of insurance to the commissioner at least 60 days before the date on which hazardous waste is first received for disposal. The insurance must be effective before this initial receipt of hazardous waste. The insurer shall be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

B. The wording of the certificate of insurance must be identical to the wording specified in part 7045.0524, subpart 5.

C. The post closure insurance policy must be issued for a face amount at least equal to the current post closure cost estimate, except as provided in subpart 8. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer do not change the face amount, although the insurer's future liability will be lowered by the amount of payments.

D. The post closure insurance policy must guarantee that funds will be available to provide post closure care of the facility whenever the post closure period begins. The policy must also guarantee that once post closure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the commissioner, to a party or parties as the commissioner specifies.

E. An owner or operator or any other person authorized to perform post closure care may request reimbursement for post closure expenditures by submitting itemized bills to the commissioner. Within 60 days after receiving bills for post closure activities, the commissioner shall determine whether the post closure expenditures are in accordance with the post closure plan or otherwise justified, and if so, the commissioner shall instruct the insurer to make reimbursement in amounts as the commissioner specifies in writing. If the commissioner does not instruct the insurer to make reimbursement, the commissioner shall provide the owner or operator with a detailed written statement of reasons.

F. The owner or operator shall maintain the policy in full force and effect until the commissioner consents to termination of the policy by the owner or operator as specified in item K.

G. A policy must contain a provision allowing assignment of the policy to a successor owner or operator. The assignment may be conditional upon consent of the insurer, provided the consent is not unreasonably refused.

H. The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must provide the insured with the option of renewal at the face amount of the expiring policy.

If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the commissioner. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the commissioner and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy remains in full force and effect in the event that on or before the date of expiration one or more of the following events occurs:

- (1) the agency deems the facility abandoned;
- (2) the permit is terminated or revoked or a new permit is denied;
- (3) closure is ordered by the commissioner, the agency, or a court of competent jurisdiction;
- (4) the owner or operator is named as debtor in a voluntary or involuntary proceeding under United States Code, title 11, Bankruptcy;
- (5) the premium due is paid.

I. Whenever the current post closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, shall either cause the face amount to be increased to an amount at least equal to the current post closure cost estimate and submit evidence of the increase to the commissioner, or obtain other financial assurance as specified in this part to cover the increase. Whenever the current post closure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current post closure cost estimate following written approval by the commissioner.

J. Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer shall thereafter annually increase the face amount of the policy. The increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon issue yield announced by the United States Treasury for 26 week treasury securities.

K. The commissioner shall give written consent to the owner or operator to terminate the insurance policy if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or
- (2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 10.

Subp. 7. Financial test and corporate guarantee for post closure care. The financial test and corporate guarantee for post closure care is as follows:

A. An owner or operator may satisfy the requirements of this part by demonstrating that he or she passes a financial test as specified in items A to M. To pass this test the owner or operator shall meet the criteria of either item B or C.

B. The owner or operator must have:

- (1) two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5;
- (2) net working capital and tangible net worth each at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable;
- (3) tangible net worth of at least \$10,000,000; and
- (4) assets in the United States amounting to at least 90 percent of the owner's or operator's total assets or at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable.

C. The owner or operator shall have:

- (1) a current rating for the most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's;

(2) tangible net worth at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable;

(3) tangible net worth of at least \$10,000,000; and

(4) assets located in the United States amounting to at least 90 percent of the owner's or operator's total assets or at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable.

D. The phrase "current closure and post closure cost estimates" as used in items A to C refers to the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer as specified in part 7045.0524, subpart 6. The phrase "current plugging and abandonment cost estimates" as used in items A to C means the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer as specified in Code of Federal Regulations, title 40, section 144.70(f).

E. To demonstrate that he or she meets this test, the owner or operator shall submit the following items to the commissioner.

(1) a letter signed by the owner's or operator's chief financial officer and worded as specified in part 7045.0524, subpart 6;

(2) a copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(3) a special report from the owner's or operator's independent certified public accountant to the owner or operator stating that he or she has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in the financial statements, and in connection with that procedure, no matters came to his or her attention which caused him or her to believe that the specified data should be adjusted.

F. An owner or operator of a new facility shall submit the items specified in item E to the commissioner at least 60 days before the date on which hazardous waste is first received for disposal.

G. After the initial submission of items specified in item E, the owner or operator shall send updated information to the commissioner within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in item E.

H. If the owner or operator no longer meets the requirements of item A, he or she shall send notice to the commissioner of intent to establish alternate financial assurance as specified in this part. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator shall provide the alternate financial assurance within 120 days after the end of such fiscal year.

I. The commissioner may, based on a reasonable belief that the owner or operator may no longer meet the requirements of item A, require reports of financial condition at any time from the owner or operator in addition to those specified in item E. If the commissioner finds, on the basis of the reports or other information, that the owner or operator no longer meets the requirements of item A, the owner or operator shall provide alternate financial assurance as specified in this part within 30 days after notification of a finding.

J. The commissioner may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in the report on examination of the owner's or operator's financial statements required by item E, subitem (2). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The commissioner shall evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in this part within 30 days after notification of the disallowance.

K. During the period of post closure care, the commissioner may approve a decrease in the current post closure cost estimate for which this test demonstrates financial as-

urance if the owner or operator demonstrates to the commissioner that the amount of the cost estimate exceeds the remaining cost of post closure care.

L. The owner or operator is no longer required to submit the items specified in item E if:

(1) an owner or operator substitutes alternate financial assurance as specified in this part; or

(2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 10.

M. An owner or operator may meet the requirements of this part by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor shall meet the requirements for owners or operators in items A to K, and shall comply with the terms of the corporate guarantee. The wording of the corporate guarantee shall be identical to the wording specified in part 7045.0524, subpart 8. The corporate guarantee must accompany the items sent to the commissioner as specified in item E. The terms of the corporate guarantee must provide that:

(1) If the owner or operator fails to perform post closure care of a facility covered by the corporate guarantee in accordance with the post closure plan and other permit requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in subpart 2 in the name of the owner or operator.

(2) The corporate guarantee remains in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the commissioner, as evidenced by the return receipts.

(3) If the owner or operator fails to provide alternate financial assurance as specified in this part and to obtain the written approval of alternate assurance from the commissioner within 90 days after receipt by both the owner or operator and the commissioner of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor shall provide alternate financial assurance in the name of the owner or operator.

Subp. 8. Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this part by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in subparts 2, 3, 5, and 6, respectively, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current post closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he or she may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The commissioner may use any or all of the mechanisms to provide for post closure care of the facility.

Subp. 9. Use of financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this part to meet the requirements of this part for more than one facility. Evidence of financial assurance submitted to the commissioner must include a list showing, for each facility, the identification number, name, address, and the amount of funds for post closure care assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post closure care of any of the facilities covered by the mechanism, the commissioner may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

Subp. 10. Release of owner or operator from requirements of this part. Within 60 days after receiving certification from the owner or operator and an independent registered professional engineer that all post closure care requirements have been completed for a hazardous waste disposal unit in accordance with the post closure plan, the agency will, at the request of the owner or operator, notify the owner or operator in writing that the owner or

operator is no longer required by this part to maintain financial assurance for post closure care of that unit, unless the agency has reason to believe that post closure care has not been in accordance with the approved post closure plan. The agency shall provide the owner or operator with a detailed written statement of any reason to believe that post closure care has not been in accordance with the approved post closure plan.

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 17 SR 1279*

7045.0510 [Repealed by amendment, 9 SR 115]

7045.0512 COST ESTIMATE FOR CORRECTIVE ACTION.

Subpart 1. **Cost estimate requirements.** The owner or operator shall have a written estimate, in current dollars, of the cost of performing corrective action in accordance with the requirements in part 7045.0484, subparts 2, item D; and 14. The corrective action cost estimate must equal the cost of implementing the corrective action plan when a concentration limit is first exceeded at the compliance point.

Subp. 2. **Yearly update of cost estimate.** The owner or operator shall adjust the corrective action cost estimate for inflation within 30 days after each anniversary of the date on which the first corrective action cost estimate was prepared. The adjustment must be made as specified in items A and B using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as found in the Survey of Current Business issued by the United States Department of Commerce. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year. Adjustments are made as follows:

A. The first adjustment is made by multiplying the corrective action cost estimate by the inflation factor. The result is the adjusted corrective action cost estimate.

B. Subsequent adjustments are made by multiplying the latest adjusted corrective action cost estimate by the latest inflation factor.

Subp. 3. **Cost estimate revisions.** The owner or operator shall revise the corrective action cost estimate whenever a change in the corrective action plan increases the cost of corrective action. The revised corrective action cost estimate must be adjusted for inflation as specified in subpart 2.

Subp. 4. **Record retention.** The owner or operator shall keep the following at the facility during the operating life and post closure care period of the facility: the latest corrective action cost estimate prepared in accordance with subparts 1 and 3 and, when this estimate has been adjusted in accordance with subpart 2, the latest adjusted corrective action cost estimate.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0514 FINANCIAL ASSURANCE FOR CORRECTIVE ACTION.

Subpart 1. **In general.** An owner or operator of a facility shall establish financial assurance for corrective action for the facility by choosing an option in subparts 2 to 7.

Subp. 2. **Corrective action trust fund.** The following apply to corrective action trust funds:

A. An owner or operator may satisfy the requirements of this part by establishing a corrective action trust fund which conforms to the requirements of items A to L and by submitting an originally signed duplicate of the trust agreement to the commissioner. An owner or operator of a new facility shall submit the originally signed duplicate of the trust agreement to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

B. The wording of the trust agreement must be identical to the wording specified in part 7045.0524, subpart 1, item A and the trust agreement must be accompanied by a formal certification of acknowledgment as shown in part 7045.0524, subpart 1, item B. Schedule A

of the trust agreement must be updated within 60 days after a change in the amount of the current corrective action cost estimate covered by the agreement.

C. Payments into the trust fund must be made annually by the owner or operator over the first ten years of facility operation or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the corrective action trust fund must be made as described in subitems (1) and (2):

(1) For a new facility, the first payment must be made before the initial receipt of hazardous waste for treatment, storage, or disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the commissioner before this initial receipt of hazardous waste. The first payment must be at least equal to the current corrective action cost estimate, except as provided in subpart 8, divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{next payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

where CE is the current corrective action cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(2) For an existing facility, the first payment must be made within 90 days of permit issuance. A receipt from the trustee for this payment must be submitted by the owner or operator to the commissioner within seven days of the payment. The amounts of the first payment and subsequent payments and the timing of subsequent payments shall be the same as for a new facility as specified in subitem (1).

D. The owner or operator may accelerate payments into the trust fund or he or she may deposit the full amount of the current corrective action cost estimate at the time the fund is established. However, he or she shall maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in item C.

E. If the owner or operator establishes a corrective action trust fund after having used one or more alternate mechanisms specified in this part, the first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of subpart 2, as applicable.

F. After the pay-in period is completed, whenever the current corrective action cost estimate changes, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current corrective action cost estimate or obtain other financial assurance as specified in this part to cover the difference.

G. If the value of the trust fund is greater than the total amount of the current corrective action cost estimate, the owner or operator may submit a written request to the commissioner for release of the amount in excess of the current corrective action cost estimate covered by the trust fund.

H. If an owner or operator substitutes other financial assurance as specified in this part for all or part of the trust fund, he or she may submit a written request to the commissioner for release of the amount in excess of the current corrective action cost estimate covered by the trust fund.

I. Within 60 days after receiving a request from the owner or operator for release of funds as specified in item G or H, the commissioner shall instruct the trustee to release to the owner or operator the funds as the commissioner specifies in writing.

J. The trustee shall notify the owner or operator and the commissioner by certified mail within ten days following the expiration of the 30-day period after the anniversary of the establishment of the trust if no payment is received from the owner or operator during the

period. Within 60 days after receipt by both the owner or operator and the commissioner of a notice of nonpayment of any payment required by this part, the owner or operator shall:

- (1) make the required payment;
- (2) provide alternative financial assurance as specified in this part and obtain the commissioner's written approval of the assurance provided; or
- (3) stop accepting waste and begin closure of the facility.

K. After beginning corrective action, an owner, operator, or other person authorized to perform corrective action may request reimbursement for corrective action expenditures by submitting itemized bills to the commissioner. Within 60 days after receiving bills for corrective action activities, the commissioner shall determine whether the corrective action expenditures are in accordance with the corrective action plan or otherwise justified, and if so, the commissioner shall instruct the trustee to make reimbursement in amounts as the commissioner specifies in writing. If the commissioner has reason to believe that the cost of corrective action will be significantly greater than the value of the trust fund, the commissioner may withhold reimbursement of amounts as deemed prudent until it is determined, in accordance with subpart 10, that the owner or operator is no longer required to maintain financial assurance for corrective action.

L. The commissioner shall agree to termination of the trust if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or
- (2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 10.

Subp. 3. **Surety bond guaranteeing payment into corrective action trust fund.** The following apply to surety bonds that guarantee payment into corrective action trust funds:

A. An owner or operator may satisfy the requirements of this part by obtaining a surety bond which conforms to the requirements of items A to I and by submitting the bond to the commissioner. An owner or operator of a new facility shall submit the bond to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must be among those listed as acceptable sureties on federal bonds in Circular 570, issued by the United States Department of the Treasury, as published annually in the Federal Register on July 1.

B. The wording of the surety bond must be identical to the wording specified in part 7045.0524, subpart 2.

C. The owner or operator who uses a surety bond to satisfy the requirements of this part shall also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the commissioner. This standby trust fund must meet the requirements specified in subpart 2, except that: an originally signed duplicate of the trust agreement must be submitted to the commissioner with the surety bond; and until the standby trust fund is funded pursuant to the requirements of this subpart, the requirements specified in subitems (1) to (4) are not required:

- (1) payments into the trust fund as specified in subpart 2;
- (2) updating of Schedule A of the trust agreement to show current corrective action cost estimates;
- (3) annual valuations as required by the trust agreement;
- (4) notices of nonpayment as required by the trust agreement.

D. The bond must guarantee that the owner or operator will:

- (1) fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of corrective action for the facility;
- (2) fund the standby trust fund in an amount equal to the penal sum within 15 days after an order to begin correction action is issued by the commissioner, the agency, or a court of competent jurisdiction; or
- (3) provide alternate financial assurance as specified in this part and obtain the commissioner's written approval of the assurance provided, within 90 days after receipt

by both the owner or operator and the commissioner of a notice of cancellation of the bond from the surety.

E. Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

F. The penal sum of the bond must be in an amount at least equal to the current corrective action cost estimate, except as provided in subpart 8.

G. Whenever the current corrective action cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current corrective action cost estimate and submit evidence of the increase to the commissioner, or obtain other financial assurance as specified in this part to cover the increase. Whenever the current corrective action cost estimate decreases, the penal sum may be reduced to the amount of the current corrective action cost estimate following written approval by the commissioner.

H. Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the commissioner, as evidenced by the return receipts.

I. The owner or operator may cancel the bond if the commissioner has given prior written consent based on the commissioner's receipt of evidence of alternate financial assurance as specified in this part.

Subp. 4. Surety bond guaranteeing performance of corrective action. The following apply to surety bonds that guarantee performance of corrective action:

A. An owner or operator may satisfy the requirements of this part by obtaining a surety bond which conforms to the requirements of items A to J and submitting the bond to the commissioner. An owner or operator of a new facility shall submit the bond to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must be among those listed as acceptable sureties on federal bonds in Circular 570, issued by the United States Department of the Treasury, as published annually in the Federal Register on July 1.

B. The wording of the surety bond must be identical to the wording specified in part 7045.0524, subpart 3.

C. The owner or operator who uses a surety bond to satisfy the requirements of this part shall also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the commissioner. This standby trust must meet the requirements specified in subpart 2, except that: an originally signed duplicate of the trust agreement must be submitted to the commissioner with the surety bond; and unless the standby trust fund is funded under this subpart, the requirements specified in subitems (1) to (4) are not required:

(1) payments into the trust fund as specified in subpart 2;

(2) updating of Schedule A of the trust agreement to show current corrective action cost estimates;

(3) annual valuations as required by the trust agreement; and

(4) notices of nonpayment as required by the trust agreement.

D. The bond must guarantee that the owner or operator will:

(1) perform corrective action in accordance with the corrective action plan and other requirements of the permit for the facility whenever required to do so; or

(2) provide alternate financial assurance as specified in this part and obtain the commissioner's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the commissioner of a notice of cancellation of the bond from the surety.

E. Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a determination that the owner or operator has failed to perform corrective action in accordance

with the corrective action plan and other permit requirements when required to do so, under the terms of the bond the surety will perform corrective action according to the corrective action plan and other permit requirements or will deposit the amount of the penal sum into the standby trust fund.

F. The penal sum of the bond must be in an amount at least equal to the current corrective action cost estimate.

G. Whenever the current corrective action cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current corrective action cost estimate and submit evidence of the increase to the commissioner or obtain other financial assurance as specified in this part. Whenever the current corrective action cost estimate decreases, the penal sum may be reduced to the amount of the current corrective action cost estimate following written approval by the commissioner.

H. Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the commissioner, as evidenced by the return receipts.

I. The owner or operator may cancel the bond if the commissioner has given prior written consent. The commissioner shall provide written consent if:

(1) an owner or operator substitutes alternate financial assurance as specified in this part; or

(2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 10.

J. The surety is not liable for deficiencies in the performance of corrective action by the owner or operator after the agency releases the owner or operator from the requirements of this part in accordance with subpart 10.

Subp. 5. Corrective action letter of credit. The following apply to corrective action letters of credit:

A. An owner or operator may satisfy the requirements of this part by obtaining an irrevocable standby letter of credit which conforms to the requirements of items A to J and by submitting the letter to the commissioner. An owner or operator of a new facility must submit the letter of credit to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

B. The wording of the letter of credit must be identical to the wording specified in part 7045.0524, subpart 4.

C. An owner or operator who uses a letter of credit to satisfy the requirements of this part shall also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the commissioner will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the commissioner. This standby trust fund must meet the requirements of the trust fund specified in subpart 2 except that an originally signed duplicate of the trust agreement must be submitted to the commissioner with the letter of credit; and unless the standby trust fund is funded pursuant to the requirements of this subpart, the requirements specified in subitems (1) to (4) are not required:

(1) payments into the trust fund as specified in subpart 2;

(2) updating of Schedule A of the trust agreement to show current corrective action cost estimates;

(3) annual valuations as required by the trust agreement;

(4) notices of nonpayment as required by the trust agreement.

D. The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date and providing the fol-

lowing information: the identification number, name and address of the facility, and the amount of funds assured for corrective action for the facility by the letter of credit.

E. The letter of credit must be irrevocable and issued for a period of at least one year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the commissioner by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the commissioner have received the notice, as evidenced by the return receipts.

F. The letter of credit must be issued in an amount at least equal to the current corrective action cost estimate, except as provided in subpart 8.

G. Whenever the current corrective action cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, shall either cause the amount of the credit to be increased so that it at least equals the current corrective action cost estimate and shall submit evidence of the increase to the commissioner or obtain other financial assurance as specified in this part to cover the increase. Whenever the current corrective action cost estimate decreases, the amount of the credit may be reduced to the amount of the current corrective action cost estimate following written approval by the commissioner.

H. Following a determination that the owner or operator has failed to perform corrective action in accordance with the corrective action plan and other permit requirements when required to do so, the commissioner may draw on the letter of credit.

I. If the owner or operator does not establish alternate financial assurance as specified in this part and obtain written approval of alternate assurance from the commissioner within 90 days after receipt by both the owner or operator and the commissioner of a notice from issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the commissioner shall draw on the letter of credit. The commissioner may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of an extension, the commissioner shall draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this part and to obtain written approval of assurance from the commissioner.

J. The commissioner shall return the letter of credit to the issuing institution for termination if:

(1) an owner or operator substitutes alternate financial assurance as specified in this part; or

(2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 10.

Subp. 6. Corrective action insurance. The following apply to corrective action insurance:

A. An owner or operator may satisfy the requirements of this part by obtaining corrective action insurance which conforms to the requirements of items A to J and by submitting a certificate of insurance to the commissioner. An owner or operator of a new facility must submit the certificate of insurance to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste. The insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

B. The wording of the certificate of insurance must be identical to the wording specified in part 7045.0524, subpart 5.

C. The corrective action insurance policy must be issued for a face amount at least equal to the current corrective action cost estimate, except as provided in subpart 8. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer do not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

D. The corrective action insurance policy must guarantee that funds will be available to perform corrective action for the facility whenever required by the facility permit.

The policy must also guarantee that once closure or corrective action begins, the insurer is responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the commissioner, to the party or parties the agency specifies.

E. After beginning corrective action, an owner or operator or any other person authorized to perform corrective action may request reimbursement for corrective action expenditures by submitting itemized bills to the commissioner. Within 60 days after receiving bills for corrective action activities, the commissioner shall determine whether the corrective action expenditures are in accordance with the corrective action plan or otherwise justified, and if so, the commissioner shall instruct the insurer to make reimbursement in amounts the commissioner specifies in writing. If the commissioner has reason to believe that the cost of corrective action will be significantly greater than the face amount of the policy, the commissioner may withhold reimbursement of these amounts as deemed prudent until it is determined, in accordance with subpart 10, that the owner or operator is no longer required to maintain financial assurance for corrective action for the facility.

F. The owner or operator shall maintain the policy in full force and effect until the commissioner consents to termination of the policy by the owner or operator as specified in item J.

G. Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. The assignment may be conditional upon consent of the insurer, provided the consent is not unreasonably refused.

H. The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the commissioner. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the commissioner and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy remains in full force and effect if on or before the date of expiration one or more of the following events occurs:

- (1) the agency deems the facility abandoned;
- (2) the permit is terminated or revoked or a new permit is denied;
- (3) corrective action is ordered by the commissioner, the agency, or a court of competent jurisdiction;
- (4) the owner or operator is named as debtor in a voluntary or involuntary proceeding under United States Code, title 11, Bankruptcy;
- (5) the premium due is paid;
- (6) closure is ordered by the commissioner, the agency, or a court of competent jurisdiction.

I. Whenever the current corrective action cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, shall either cause the face amount to be increased to an amount at least equal to the current corrective action cost estimate and submit evidence of the increase to the commissioner or obtain other financial assurance as specified in this part to cover the increase. Whenever the current corrective action cost estimate decreases, the face amount may be reduced to the amount of the current corrective action cost estimate following written approval by the commissioner.

J. The commissioner shall give written consent to the owner or operator that he or she may terminate the insurance policy if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or
- (2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 10.

Subp. 7. Financial test and corporate guarantee for corrective action. The financial test and corporate guarantee for corrective action is as follows:

A. An owner or operator may satisfy the requirements of this part by demonstrating that he or she passes a financial test as specified in items A to L. To pass this test, the owner or operator shall meet the criteria of either item B or C.

B. The owner or operator shall have:

(1) two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5;

(2) net working capital and tangible net worth each at least six times the current corrective action cost estimate;

(3) tangible net worth of at least \$10,000,000; and

(4) assets in the United States amounting to at least 90 percent of his or her total assets or at least six times the current corrective action cost estimate.

C. The owner or operator shall have:

(1) a current rating for his or her most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's;

(2) tangible net worth at least six times the current corrective action cost estimate;

(3) tangible net worth of at least \$10,000,000; and

(4) assets located in the United States amounting to at least 90 percent of his or her total assets or at least six times the current corrective action cost estimate.

D. The phrase "current corrective action cost estimates" as used in items A to C refers to the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer as specified in part 7045.0524, subpart 6.

E. To demonstrate that he or she meets this test, the owner or operator shall submit the following items to the commissioner:

(1) a letter signed by the owner's or operator's chief financial officer and worded as specified in part 7045.0524, subpart 6;

(2) a copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(3) a special report from the owner's or operator's independent certified public accountant to the owner or operator stating that he or she has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in the financial statements and, in connection with that procedure, no matters came to his or her attention which caused him or her to believe that the specified data should be adjusted.

F. An owner or operator of a new facility shall submit the items specified in item E to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

G. After the initial submission of items specified in item E, the owner or operator shall send updated information to the commissioner within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in item E.

H. If the owner or operator no longer meets the requirements of item A, he or she shall send notice to the commissioner of intent to establish alternate financial assurance as specified in this part. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator shall provide the alternate financial assurance within 120 days after the end of the fiscal year.

I. The commissioner may, based on a reasonable belief that the owner or operator may no longer meet the requirements of item A, require reports of financial condition at any time from the owner or operator in addition to those specified in item E. If the commissioner finds, on the basis of these reports or other information, that the owner or operator no longer meets the requirements of item A, the owner or operator shall provide alternate financial assurance as specified in this part within 30 days after notification of a finding.

J. The commissioner may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his or her report on examination of the owner's or operator's financial statements required by item E, subitem (2). An adverse opinion or a disclaimer of opinion is cause for disallowance. The commissioner shall evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in this part within 30 days after notification of the disallowance.

K. The owner or operator is no longer required to submit the items specified in item E if:

(1) an owner or operator substitutes alternate financial assurance as specified in this part; or

(2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 10.

L. An owner or operator may meet the requirements of this part by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in items A to J and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in part 7045.0524, subpart 8. The corporate guarantee must accompany the items sent to the commissioner as specified in item E. The terms of the corporate guarantee must provide that:

(1) If the owner or operator fails to perform corrective action of a facility covered by the corporate guarantee in accordance with the corrective action plan and other permit requirements whenever required to do so, the guarantor will do so or will establish a trust fund as specified in subpart 2 in the name of the owner or operator.

(2) The corporate guarantee remains in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the commissioner, as evidenced by the return receipts.

(3) If the owner or operator fails to provide alternate financial assurance as specified in this part and to obtain the written approval of alternate assurance from the commissioner within 90 days after receipt by both the owner or operator and the commissioner of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide alternative financial assurance in the name of the owner or operator.

Subp. 8. Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this part by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in subparts 2, 3, 5, and 6 respectively, except that it is the combination of mechanisms rather than the single mechanism which must provide financial assurance for an amount at least equal to the current corrective action cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he or she may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The commissioner may use any or all of the mechanisms to provide for corrective action for the facility.

Subp. 9. Use of financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this part to meet the requirements of this part for more than one facility. Evidence of financial assurance submitted to the commissioner must include a list showing, for each facility, the identification number, name, address, and the amount of funds for corrective action assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for corrective action for any of the facilities covered by the mechanism, the agency may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

Subp. 10. **Release of the owner or operator from the requirements of this part.** Within 60 days after the end of the post closure care period or after termination of corrective action in accordance with part 7045.0484, subpart 14, item F, whichever is later, the agency shall notify the owner or operator in writing that he or she is no longer required by this part to maintain financial assurance for corrective action for the particular facility, unless the agency has reason to believe that corrective action, if necessary, has not been accomplished in accordance with the corrective action plan.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.0516 USE OF A MECHANISM FOR FINANCIAL ASSURANCE OF CORRECTIVE ACTION, CLOSURE, AND POST CLOSURE CARE.

An owner or operator may satisfy the requirements for financial assurance for corrective action, closure, and post closure care or any combination thereof for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in parts 7045.0504, 7045.0508, and 7045.0514. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of corrective action, closure, and post closure care.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0518 LIABILITY REQUIREMENTS.

Subpart 1. **Coverage for sudden accidental occurrences.** An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain liability coverage for sudden accidental occurrences in the amount of at least \$1,000,000 per occurrence with an annual aggregate of at least \$2,000,000, exclusive of legal defense costs. This liability coverage may be demonstrated in one of the following ways:

A. An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in subitems (1) and (2):

(1) Each insurance policy must be amended by attachment of the hazardous waste facility liability endorsement or evidenced by a certificate of liability insurance. The wording of the endorsement must be identical to the wording specified in part 7045.0524, subpart 9. The wording of the certificate of insurance must be identical to the wording specified in part 7045.0524, subpart 10. The owner or operator shall submit a signed duplicate original of the endorsement or the certificate of insurance to the commissioner. If requested by the commissioner, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility shall submit the signed duplicate original of the hazardous waste facility liability endorsement or the certificate of liability insurance to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(2) Each insurance policy must be issued by an insurer, which is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

B. An owner or operator may meet the requirements of this part by passing a financial test or using the corporate guarantee for liability coverage as specified in subparts 6 and 7.

C. An owner or operator may demonstrate the required liability coverage through use of the financial test, insurance, the corporate guarantee, a combination of the financial test and insurance, or a combination of the corporate guarantee and insurance, as these mechanisms are specified in this part. The amounts of coverage demonstrated must total at least the minimum amounts required by subpart 1.

Subp. 2. Coverage for nonsudden accidental occurrences. An owner or operator of a surface impoundment, landfill, land treatment facility, or miscellaneous disposal unit which is used to manage hazardous waste, or a group of such facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least \$3,000,000 per occurrence with an annual aggregate of at least \$6,000,000, exclusive of legal defense costs. This liability coverage may be demonstrated in one of the following ways:

A. An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in subitems (1) and (2):

(1) Each insurance policy must be amended by attachment of the hazardous waste facility liability endorsement or evidenced by a certificate of liability insurance. The wording of the endorsement must be identical to the wording specified in part 7045.0524, subpart 9. The wording of the certificate of insurance must be identical to the wording specified in part 7045.0524, subpart 10. The owner or operator shall submit a signed duplicate original of the endorsement or the certificate of insurance to the commissioner. If requested by the commissioner, the owner or operator shall provide a signed duplicate original of the insurance policy. An owner or operator of a new facility shall submit the signed duplicate original of the hazardous waste facility liability endorsement or the certificate of liability insurance to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(2) Each insurance policy must be issued by an insurer which is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

B. An owner or operator may meet the requirements of this part by passing a financial test or using the corporate guarantee for liability coverage as specified in subparts 6 and 7.

C. An owner or operator may demonstrate the required liability coverage through use of the financial test, insurance, the corporate guarantee, a combination of the financial test and insurance, or a combination of the corporate guarantee and insurance, as these mechanisms are specified in this part. The amounts of coverage must total at least the minimum amounts required by subpart 2.

D. For existing facilities, the required liability coverage for nonsudden accidental occurrences must be demonstrated by the dates listed below. The total sales or revenues of the owner or operator in all lines of business, in the fiscal year preceding July 16, 1984 will determine which of the dates applies. If the owner and operator of a facility are two different parties, or if there is more than one owner or operator, the sales or revenues of the owner or operator with the largest sales or revenues will determine the date by which the coverage must be demonstrated. The dates are as follows:

(1) for an owner or operator with sales or revenues totaling \$10,000,000 or more, six months after July 16, 1984.

(2) for an owner or operator with sales or revenues greater than \$5,000,000 but less than \$10,000,000, 18 months after July 16, 1984;

(3) for all other owners or operators, 30 months after July 16, 1984.

(4) for an owner or operator subject to the requirements of Code of Federal Regulations, title 40, section 264.147 (1983) on the date he or she is required to demonstrate coverage under Code of Federal Regulations, title 40, section 264.147 (1983) or on July 16, 1984, whichever is later.

Subp. 3. Adjustment of liability requirements. If an owner or operator can demonstrate to the satisfaction of the commissioner that the levels of financial responsibility required by subparts 1 and 2 are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain an adjustment from the commissioner. The request for an adjustment must be submitted to the commissioner as part of the permit application in accordance with the

agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050 for a facility that does not have a permit, or pursuant to the procedures for permit modification in chapter 7001 and parts 7023.9000 to 7023.9050 for a facility that has a permit. If granted, the adjustment will take the form of an adjusted level of required liability coverage, the level to be based on the commissioner's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The commissioner may require an owner or operator who requests an adjustment to provide the technical and engineering information as is deemed necessary by the commissioner to determine a level of financial responsibility other than that required by subpart 1 or 2.

Subp. 4. Adjustment of financial liability to protect health and environment. If the commissioner determines that the levels of financial responsibility required by subpart 1 or 2 are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the commissioner may adjust the level of financial responsibility required under subpart 1 or 2 as may be necessary to protect human health and the environment. This adjusted level will be based on the commissioner's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the commissioner determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, the commissioner may require that an owner or operator of the facility comply with subpart 2. An owner or operator shall furnish to the commissioner within a reasonable time, any information which the commissioner requests to determine whether cause exists for such adjustments of level or type of coverage. An adjustment of the level or type of coverage for a facility that has a permit will be treated as a permit modification under the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050.

Subp. 5. Period of coverage. An owner or operator shall continuously provide liability coverage for a facility as required by this part until certifications of closure of the facility, as specified in part 7045.0488, are received by the commissioner. Within 60 days after receiving the certifications from the owner or operator and an independent registered professional engineer, the commissioner shall notify the owner or operator in writing that he or she is no longer required by this part to maintain liability coverage for that facility, unless the commissioner has reason to believe that closure has not been in accordance with the approved closure plan.

Subp. 6. Financial test for liability coverage. The financial test for liability coverage is as follows:

A. An owner or operator may satisfy the requirements of this part by demonstrating that he or she passes a financial test as specified in items A to I. To pass this test the owner or operator must meet the criteria of either item B or C.

B. The owner or operator shall have:

- (1) net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test;
- (2) tangible net worth of at least \$10,000,000; and
- (3) assets in the United States amounting to either at least 90 percent of his or her total assets, or at least six times the amount of liability coverage to be demonstrated by this test.

C. The owner or operator shall have:

- (1) a current rating for his or her most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's;
- (2) tangible net worth of at least \$10,000,000;
- (3) tangible net worth of at least six times the amount of liability coverage to be demonstrated by this test; and
- (4) assets in the United States amounting to either: at least 90 percent of his or her total assets; or at least six times the amount of liability coverage to be demonstrated by this test.

D. The phrase "amount of liability coverage" as used in items A to C refers to the annual aggregate amounts for which coverage is required under subparts 1 and 2.

E. To demonstrate that he or she meets this test, the owner or operator shall submit the following three items to the commissioner:

(1) A letter signed by the owner's or operator's chief financial officer and worded as specified in part 7045.0524, subpart 7. If an owner or operator is using the financial test to demonstrate assurance for corrective action, closure or post closure care, as specified by parts 7045.0504, subpart 7; 7045.0508, subpart 7; 7045.0514, subpart 7; 7045.0612, subpart 6; and 7045.0616, subpart 6, and liability coverage, he or she shall submit the letter specified in part 7045.0524, subpart 7 to cover both forms of financial responsibility; a separate letter as specified in part 7045.0524, subpart 6 is not required.

(2) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(3) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that he or she has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements, and in connection with that procedure, no matters came to his or her attention which caused him or her to believe that the specified data should be adjusted.

F. An owner or operator of a new facility shall submit the items specified in item E to the commissioner at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

G. After the initial submission of items specified in item E, the owner or operator shall send updated information to the commissioner within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in item E.

H. If the owner or operator no longer meets the requirements of item A, he or she shall obtain insurance for the entire amount of required liability coverage as specified in this part. Evidence of insurance must be submitted to the commissioner within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

I. The commissioner may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his or her report on examination of the owner's or operator's financial statements required by item E, subitem (2). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The commissioner shall evaluate other qualifications on an individual basis. The owner or operator shall provide evidence of insurance for the entire amount of required liability coverage as specified in this part within 30 days after notification of disallowance.

Subp. 7. Corporate guarantee for liability coverage. The corporate guarantee for liability coverage is as follows:

A. Subject to item B, an owner or operator may meet the requirements of this part by obtaining a written corporate guarantee. The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in subpart 6. The wording of the corporate guarantee must be identical to the wording specified in part 7045.0524, subpart 8a. The guarantee must be signed by two corporate officers of the parent corporation. A corporate resolution authorizing the parent corporation to provide the corporate guarantee for the subsidiary must be attached to the corporate guarantee. A certified copy of the corporate guarantee must accompany the items sent to the commissioner as provided in subpart 6, item E. The terms of the corporate guarantee must provide that:

(1) if the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or non-sudden accidental occurrences, or both, as the case may be, arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from the injury or damage, the guarantor will do so up to the limits of coverage; and

(2) the corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the commissioner.

This guarantee may not be terminated unless and until the commissioner approves alternate liability coverage complying with this part and/or part 7045.0620.

B. A corporate guarantee may be used to satisfy the requirements of this part only if:

(1) in the case of corporations incorporated in the United States, the attorney general or insurance commissioner of the state in which the guarantor is incorporated and of each state in which a facility covered by the guarantee is located has submitted a written statement to the commissioner and the United States Environmental Protection Agency that a corporate guarantee executed as described in this part and part 7045.0524, subpart 8a, is a legally valid and enforceable obligation in that state; and

(2) in the case of corporations incorporated outside the United States, the non-United States corporation has identified a registered agent for service of process in each state in which a facility covered by the guarantee is located and in the state in which it has its principal place of business, and the attorney general or insurance commissioner of each state in which a facility covered by the guarantee is located and the state in which the guarantor corporation has its principal place of business, has submitted a written statement to the commissioner and the United States Environmental Protection Agency that a corporate guarantee executed as described in this part and part 7045.0524, subpart 8a, is a legally valid and enforceable obligation in that state.

Statutory Authority: *MS s 116.07*

History: 9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 13 SR 577; 13 SR 2761; 18 SR 614

7045.0520 [Repealed by amendment, 9 SR 115]

7045.0522 INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS.

Subpart 1. **Notification of bankruptcy.** An owner or operator shall notify the commissioner by certified mail of the commencement of a voluntary or involuntary proceeding under United States Code, title 11, Bankruptcy, naming the owner or operator as debtor, within ten days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in parts 7045.0504, subpart 7; 7045.0508, subpart 7; and 7045.0514, subpart 7 shall make the notification if he or she is named as debtor, as required under the terms of the corporate guarantee.

Subp. 2. **Incapacity of financial institutions.** An owner or operator who fulfills the requirements of part 7045.0504, 7045.0508, 7045.0514, or 7045.0518 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue these instruments. The owner or operator shall establish other financial assurance or liability coverage within 60 days after such an event.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: 9 SR 115; L 1987 c 186 s 15

7045.0524 WORDING OF INSTRUMENTS.

Subpart 1. **Trust agreement for trust fund.** The trust agreement and certificate of acknowledgment are as follows:

A. A trust agreement for a trust fund as specified in part 7045.0504, subpart 2; 7045.0508, subpart 2; 7045.0514, subpart 2; 7045.0612, subpart 2; or 7045.0616, subpart 2 must be worded as specified in this item, except that instructions in brackets must be replaced with the relevant information and the brackets deleted.

TRUST AGREEMENT

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator], a [name of state] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert "incorporated in the state of _____" or "a national bank"], the "Trustee."

Whereas, the Minnesota Pollution Control Agency (Agency), an agency of the state of Minnesota has established certain rules applicable to the Grantor, requiring that an owner or operator of a hazardous waste facility shall provide assurance that funds will be available when needed for closure and/or post closure care of, and/or corrective action for the facility,

Whereas, the Grantor has elected to establish a trust to provide all or part of the financial assurance for the facilities identified herein,

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

Now, Therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

a. The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

b. The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A [on Schedule A, for each facility list the identification number, name, address, and the current corrective action, closure, and/or post closure cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of the Agency. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. This property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, **IN TRUST**, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Agency.

Section 4. Payment for Corrective Action, Closure, and Post Closure Care. The Trustee shall make payments from the Fund as the Agency Commissioner shall direct, in writing, to provide for the payment of the costs of corrective action, closure, and/or post closure care of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the Agency Commissioner from the Fund for corrective action, closure, and post closure expenditures in amounts as the Agency Commissioner shall direct in writing. In addition, the Trustee shall refund to the Grantor the amounts as the Agency Commissioner specifies in writing. Upon refund, these funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; **except that:**

a. securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, United States Code, title 15, section 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the federal or state government;

b. the Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the federal or state government; and

c. the Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

a. to transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

b. to purchase shares in any investment company registered under the Investment Company Act of 1940, United States Code, title 15, sections 80a-1 et seq. including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

a. To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee may be bound to see to the application of the purchase money or to inquire into the validity or expediency of a sale or other disposition;

b. To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

c. To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing the securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of the securities in a qualified central depository even though, when so deposited, the securities may be merged and held in bulk in the name of the nominee of the depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a federal reserve bank, but the books and records of the Trustee shall at all times show that all these securities are part of the Fund;

d. To deposit any cash in the Fund in interest bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the federal or state government; and

e. To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Agency Commissioner a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Agency Commissioner shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The trustee may resign or the Grantor may replace the Trustee, but the resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Agency Commissioner and the present Trustee by certified mail ten days before the change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by the persons as are designated in the attached Exhibit A or other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Agency to the Trustee shall be in writing, signed by the Agency Commissioner; and the Trustee shall act and shall be fully protected in acting in accordance with the orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Agency hereunder has occurred. The Trustee shall have no duty to act in the absence of orders, requests, and instructions from the Grantor and/or the Agency Commissioner, except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee shall notify the Grantor and the Agency Commissioner by certified mail within ten days following the expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Agency Commissioner, or by the Trustee and the Agency Commissioner, if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Agency Commissioner, or by the Trustee and the Agency Commissioner, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Agency Commissioner issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide a defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the state of Minnesota.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

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In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in Minnesota Rules, part 7045.0524, subpart 1, item A, as such rules were constituted on the date first above written.

[SIGNATURE OF GRANTOR]
[TITLE]

Attest:

[TITLE]
[SEAL]
[SIGNATURE OF TRUSTEE]

Attest:

[TITLE]
[SEAL]

B. The following is an example of the certification of acknowledgment, which must accompany the trust agreement for a trust fund as specified in part 7045.0504, subpart 2; 7045.0508, subpart 2; 7045.0514, subpart 2; 7045.0612, subpart 2; or 7045.0616, subpart 2.

CERTIFICATION OF ACKNOWLEDGMENT

State of _____
County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to the instrument is the corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[signature of Notary Public]

Subp. 2. Surety bond guaranteeing payment into a trust fund. A surety bond guaranteeing payment into a trust fund as specified in part 7045.0504, subpart 3; 7045.0508, subpart 3; 7045.0514, subpart 3; 7045.0612, subpart 3; or 7045.0616, subpart 3 must be worded as described in this subpart, except that instructions in brackets must be replaced with the relevant information and the brackets deleted.

FINANCIAL GUARANTEE BOND

Date bond executed: _____

Effective date: _____

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]

State of incorporation: _____

Surety(ies): [name(s) and business address(es)]

Identification number, name, address, and corrective action, closure, and/or post closure amount(s) for each facility guaranteed by this bond [indicate corrective action, closure, and post closure amounts separately]: _____

Total penal sum of bond: \$ _____

Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the Minnesota Pollution Control Agency (hereinafter called Agency), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as cosureties, we, the Sureties, bind ourselves in the sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of the sum only as is set forth opposite the name of the Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required to have a permit or interim status in order to own or operate each hazardous waste facility identified above, and

Whereas said principal is required to provide financial assurance for closure; closure and post closure care; closure and corrective action; or closure, post closure care, and corrective action as a condition of the permit or interim status, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide financial assurance;

Now, Therefore, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the closure and/or post closure care of the facility,

Or, if the Principal shall fund the standby trust fund in the amount(s) identified above for the closure and/or post closure care of the facility within 15 days after an order to begin closure is issued by the Agency Commissioner, the Agency, or court of competent jurisdiction,

Or, if the Principal shall faithfully, before beginning corrective action at any facility identified above, fund the standby trust fund in the amount identified above for corrective action at the facility,

Or, if the Principal shall fund the standby trust fund in the amount identified above for corrective action at the facility within 15 days after an order to begin corrective action is issued by the Agency Commissioner, the Agency, or a court of competent jurisdiction,

Or, if the Principal shall provide alternate financial assurance, as specified in Minnesota Rules, parts 7045.0498 to 7045.0524, or 7045.0608 to 7045.0624 as applicable and obtain the Agency Commissioner's written approval of assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Agency Commissioner from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the Agency Commissioner that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Agency Commissioner.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the Agency Commissioner, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Agency Commissioner, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Agency Commissioner.

(The following paragraph is an optional rider that may be included but is not required.)

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new corrective action, closure, and/or post closure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Agency Commissioner.

In Witness Whereof, the Principal and Surety(ies) have executed this Financial Guarantee Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in Minnesota Rules, part 7045.0524, subpart 2, as the rules were constituted on the date this bond was executed.

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Principal

[SIGNATURE(S)]
[NAME(S)]
[TITLES(S)]
[CORPORATE SEAL]

Corporate Surety(ies)

[NAME AND ADDRESS]
State of incorporation: _____
Liability limit: \$ _____
[SIGNATURE(S)]
[NAME(S) AND TITLE(S)]
[CORPORATE SEAL]

[For every cosurety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: \$ _____

Subp. 3. **Surety bond guaranteeing performance.** A surety bond guaranteeing performance of corrective action, closure and/or post closure care, as specified in part 7045.0504, subpart 4; 7045.0508, subpart 4; or 7045.0514, subpart 4 must be worded as specified in this subpart, except that the instructions in brackets must be replaced with the relevant information and the brackets deleted.

PERFORMANCE BOND

Date bond executed: _____

Effective date: _____

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]

State of incorporation: _____

Surety(ies): [name(s) and business address(es)]

Identification number, name, address, and corrective action, closure, and/or post closure amount(s) for each facility guaranteed by this bond [indicate corrective action, closure, and post closure amounts separately]:

Total penal sum of bond: \$ _____

Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the Minnesota Pollution Control Agency (hereinafter called Agency), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as cosureties, we, the Sureties, bind ourselves in the sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of the sum only as is set forth opposite the name of the Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required to have a permit in order to own or operate each hazardous waste facility identified above, and

Whereas said Principal is required to provide financial assurance for closure; closure and post closure care; closure and corrective action; or closure, post closure care, and corrective action as a condition of the permit, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide financial assurance,

Now, Therefore, the conditions of this obligation are such that if the Principal shall faithfully perform closure, whenever required to do so, of each facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the permit as the plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as these laws, statutes, rules, and regulations may be amended,

And, if the Principal shall faithfully perform post closure care of each facility for which this bond guarantees post closure care, in accordance with the post closure plan and other

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requirements of the permit, as the plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as these laws, statutes, rules, and regulations may be amended,

And, if the Principal shall faithfully perform corrective action for each facility for which this bond guarantees corrective action, when required by and in accordance with the corrective action plan and other requirements of the permit, as the plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

Or, if the Principal shall provide alternate financial assurance as specified in Minnesota Rules, parts 7045.0498 to 7045.0524, and obtain the Agency Commissioner's written approval of the assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Agency Commissioner from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by the Agency Commissioner that the Principal has been found in violation of the closure requirements of Minnesota Rules, parts 7045.0450 to 7045.0544 for a facility for which this bond guarantees performance of closure, the Surety(ies) shall either perform closure in accordance with the closure plan and other permit requirements or place the closure amount guaranteed for the facility into the standby trust fund as directed by the Agency Commissioner.

Upon notification by the Agency Commissioner that the Principal has been found in violation of the post closure requirements of Minnesota Rules, parts 7045.0450 to 7045.0544 for a facility for which this bond guarantees performance of post closure care, the Surety(ies) shall either perform post closure care in accordance with the post closure plan and other permit requirements or place the post closure amount guaranteed for the facility into the standby trust fund as directed by the Agency Commissioner.

Upon notification by the Agency Commissioner that the Principal has been found in violation of the corrective action requirements of Minnesota Rules, parts 7045.0450 to 7045.0544 for a facility for which this bond guarantees performance of corrective action, the Surety(ies) shall either perform corrective action in accordance with the corrective action plan and other permit requirements or place the corrective action amount guaranteed for the facility into the standby trust fund as directed by the Agency Commissioner.

Upon notification by the Agency Commissioner that the Principal has failed to provide alternate financial assurance as specified in Minnesota Rules, parts 7045.0498 to 7045.0524 and obtain written approval of the assurance from the Agency Commissioner during the 90 days following receipt by both the Principal and the Agency of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Agency Commissioner.

The Surety(ies) hereby waive(s) notification of amendments to closure, post closure, and corrective action plans, permits, applicable laws, statutes, rules, and regulations and agrees that no amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until the payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Agency Commissioner, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Agency Commissioner, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Agency Commissioner.

[The following paragraph is an optional rider that may be included but is not required.]

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Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new corrective action, closure, and/or post closure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Agency Commissioner.

In Witness Whereof, the Principal and Surety(ies) have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in Minnesota Rules, part 7045.0524, subpart 3, as the part was constituted on the date this bond was executed.

Principal

[SIGNATURE(S)]

[NAME(S)]

[TITLE(S)]

[CORPORATE SEAL]

Corporate Surety(ies)

[NAME AND ADDRESS]

State of incorporation: _____

Liability limit: \$ _____

[SIGNATURE(S)]

[NAME(S) AND TITLE(S)]

[CORPORATE SEAL]

[For every cosurety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: \$ _____

Subp. 4. **Letter of credit.** A letter of credit as specified in part 7045.0504, subpart 5; 7045.0508, subpart 5; 7045.0514, subpart 5; 7045.0612, subpart 4; or 7045.0616, subpart 4 must be worded as specified in this subpart, except that instructions in brackets must be replaced with the relevant information and the brackets deleted.

IRREVOCABLE STANDBY LETTER OF CREDIT

[Agency Commissioner]

Minnesota Pollution Control Agency

Dear Sir or Madam:

We hereby establish our Irrevocable Standby Letter of Credit No. _____ in your favor, at the request and for the account of [owner's or operator's name and address] up to the aggregate amount of [in words] U.S. dollars \$ _____, available upon presentation of:

1. your sight draft, bearing reference to this letter of Credit No. _____, and
2. your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to the State of Minnesota's hazardous waste rules."

This letter of credit is effective as of [date] and shall expire on [date at least one year later], but the expiration date shall be automatically extended for a period of [at least one year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and the [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and [owner's or operator's name], as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor the draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of [owner's or operator's name] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in Minnesota Rules, part 7045.0524, subpart 4, as the rules were constituted on the date shown immediately below.

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[SIGNATURE(S) AND TITLE(S) OF OFFICIAL(S) OF ISSUING INSTITUTION]
[DATE]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce," or "the Uniform Commercial Code published in Minnesota Statutes, chapter 336"].

Subp. 5. Certificate of insurance. A certificate of insurance, as specified in part 7045.0504, subpart 6; 7045.0508, subpart 6; 7045.0514, subpart 6; 7045.0612, subpart 5; or 7045.0616, subpart 5 must be worded as specified in this subpart, except that instructions in brackets must be replaced with the relevant information and the brackets deleted.

CERTIFICATE OF INSURANCE FOR CLOSURE OR POST CLOSURE CARE OR CORRECTIVE ACTION

Name and Address of Insurer (herein called the "insurer"):

Name and Address of Insured (herein called the "insured"):

Facilities Covered: [List for each facility: the identification number, name, address, and the amount of insurance for closure and/or the amount for post closure care, and/or the amount for corrective action (these amounts for all facilities covered must total the face amount shown below).]

Face Amount: _____

Policy Number: _____

Effective Date: _____

The insurer hereby certifies that it has issued to the insured the policy of insurance identified above to provide financial assurance for [insert "closure," "closure and post closure care," "post closure care," "closure and corrective action," "post closure care and corrective action," "corrective action," or "closure, post closure care, and corrective action"] for the facilities identified above. The insurer further warrants that the policy conforms in all respects with the requirements of Minnesota Rules, part 7045.0504, subpart 6; 7045.0508, subpart 6; 7045.0514, subpart 6; 7045.0612, subpart 5; or 7045.0616, subpart 5 as applicable and as the rules were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with the rules is hereby amended to eliminate the inconsistency.

Whenever requested by the Minnesota Pollution Control Agency (Agency) Commissioner, the insurer agrees to furnish to the Agency Commissioner a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in Minnesota Rules, part 7045.0524, subpart 5, as the rules were constituted on the date shown immediately below.

[AUTHORIZED SIGNATURE FOR INSURER]

[NAME OF PERSON SIGNING]

[TITLE OF PERSON SIGNING]

[SIGNATURE OF WITNESS OR NOTARY]

[DATE]

Subp. 6. Letter from chief financial officer for corrective action, closure, and/or post closure care. A letter from the chief financial officer as specified in part 7045.0504, subpart 7; 7045.0508, subpart 7; 7045.0514, subpart 7; 7045.0612, subpart 6; or 7045.0616, subpart 6 must be worded as specified in this subpart, except that instructions in brackets must be replaced with the relevant information and the brackets deleted.

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LETTER FROM CHIEF FINANCIAL OFFICER FOR CORRECTIVE ACTION, CLOSURE, AND/OR POST CLOSURE CARE

[Agency Commissioner]

Minnesota Pollution Control Agency

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in Minnesota Rules, parts 7045.0498 to 7045.0524 and 7045.0608 to 7045.0624.

[Fill out the following five paragraphs regarding facilities and associated cost estimates. If your firm has no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its identification number, name, address, and current corrective action, closure, and/or post closure cost estimates. Identify each cost estimate as to whether it is for corrective action, closure, or post closure care.]

1. This firm is the owner or operator of the following facilities for which financial assurance for corrective action, closure, or post closure care is demonstrated through the financial test specified in Minnesota Rules, parts 7045.0498 to 7045.0524 and 7045.0608 to 7045.0624. The current corrective action, closure, and/or post closure cost estimates covered by the text are shown for each facility: _____.

2. This firm guarantees, through the corporate guarantee specified in Minnesota Rules, parts 7045.0498 to 7045.0524 and 7045.0608 to 7045.0624, the corrective action, closure, or post closure care of the following facilities owned or operated by subsidiaries of this firm. The current cost estimates for the corrective action, closure, or post closure care so guaranteed are shown for each facility: _____.

3. In states other than Minnesota, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the corrective action, closure, or post closure care of the following facilities either to the United States Environmental Protection Agency through the use of the financial test specified in Code of Federal Regulations, title 40, parts 264 or 265, subpart H, or to an authorized state through the use of a test equivalent or substantially equivalent to the specified financial test. The current corrective action, closure, and/or post closure cost estimates covered by such a test are shown for each facility: _____.

4. This firm is the owner or operator of the following hazardous waste management facilities for which financial assurance for corrective action, if required, closure, or if a disposal facility, post closure care, is not demonstrated either to the United States Environmental Protection Agency or a state through the financial test or any other financial assurance mechanism specified in Code of Federal Regulations, title 40, parts 264 or 265, subpart H, or equivalent or substantially equivalent state mechanisms. The current corrective action, closure, and/or post closure cost estimates not covered by such financial assurance are shown for each facility: _____.

5. This firm is the owner or operator of the following underground injection control (UIC) facilities for which financial assurance for plugging and abandonment is required under Code of Federal Regulations, title 40, part 144. The current closure cost estimates as required by Code of Federal Regulations, title 40, section 144.62 are shown for each facility.

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year end financial statements for the latest completed fiscal year, ended [date].

[Fill in Alternative I if the criteria of Minnesota Rules, part 7045.0504, subpart 7, item B; 7045.0508, subpart 7, item B; 7045.0514, subpart 7, item B; 7045.0612, subpart 6, item B; 7045.0616, subpart 6, item B are used. Fill in Alternative II if the criteria of Minnesota Rules, part 7045.0504, subpart 7, item C; 7045.0508, subpart 7, item C; 7045.0514, subpart 7, item C; or 7045.0612, subpart 6, item C; or 7045.0616, subpart 6, item C are used.]

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ALTERNATIVE I

1. Sum of current corrective action, closure, and post closure cost estimate [total of all cost estimates shown in the five paragraphs above] \$ _____
 - *2. Total liabilities [if any portion of the corrective action, closure, or post closure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4]. \$ _____
 - *3. Tangible net worth \$ _____
 - *4. Net worth \$ _____
 - *5. Current assets \$ _____
 - *6. Current liabilities \$ _____
 7. Net working capital [line 5 minus line 6] \$ _____
 - *8. The sum of net income plus depreciation, depletion, and amortization \$ _____
 - *9. Total assets in United States (required only if less than 90 percent of firm's assets are located in United States) \$ _____
- YES NO
10. Is line 3 at least \$10,000,000? _____
 11. Is line 3 at least 6 times line 1? _____
 12. Is line 7 at least 6 times line 1? _____
 - *13. Are at least 90 percent of firm's assets located in the United States? If not, complete line 14 _____
 14. Is line 9 at least 6 times line 1? _____
 15. Is line 2 divided by line 4 less than 2.0? _____
 16. Is line 8 divided by line 2 greater than 0.1? _____
 17. Is line 5 divided by line 6 greater than 1.5? _____

ALTERNATIVE II

1. Sum of current corrective action, closure, and post closure cost estimates [total of all cost estimates shown in the five paragraphs above] \$ _____
 2. Current bond rating of most recent issuance of this firm and name of rating service _____
 3. Date of issuance of bond _____
 4. Date of maturity of bond _____
 - *5. Tangible net worth [if any portion of the corrective action, closure, and post closure cost estimates is included in "total liabilities" on your firm's financial statements, you may add the amount of that portion to this line] \$ _____
 - *6. Total assets in United States (required only if less than 90 percent of firm's assets are located in United States) \$ _____
- YES NO
7. Is line 5 at least \$10,000,000? _____
 8. Is line 5 at least 6 times line 1? _____
 - *9. Are at least 90 percent of firm's assets located in United States? If not, complete line 10 _____
 10. Is line 6 at least 6 times line 1? _____

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I hereby certify that the wording of this letter is identical to the wording specified in Minnesota Rules, part 7045.0524, subpart 6, as such rules were constituted on the date shown immediately below.

[SIGNATURE]

[NAME]

[TITLE]

[DATE]

Subp. 7. Letter from chief financial officer for liability coverage. A letter from the chief financial officer as specified in part 7045.0518, subpart 6 or 7045.0620, subpart 5 must be worded as specified in this subpart, except that instructions in brackets must be replaced with the relevant information and the brackets deleted.

LETTER FROM CHIEF FINANCIAL OFFICER FOR LIABILITY COVERAGE OR LIABILITY COVERAGE, CORRECTIVE ACTION, CLOSURE, AND/OR POST CLOSURE CARE

[Agency Commissioner]

Minnesota Pollution Control Agency

I am the chief financial officer of [firm's name and address]. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage [insert "and corrective action, closure, and/or post closure care" if applicable] as specified in Minnesota Rules, parts 7045.0498 to 7045.0524 and 7045.0608 to 7045.0624.

[Fill out the following paragraph regarding facilities and liability coverage. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its identification number, name, and address.]

The firm identified above is the owner or operator of the following facilities for which liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences is being demonstrated through the financial test specified in Minnesota Rules, parts 7045.0498 to 7045.0524 and 7045.0608 to 7045.0624:

The firm identified above guarantees, through the corporate guarantee specified in Minnesota Rules, parts 7045.0498 to 7045.0524 and 7045.0608 to 7045.0624, liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences at the following facilities owned or operated by the following subsidiaries of the firm:

[If you are using the financial test to demonstrate coverage of both liability and corrective action, closure, and post closure care, fill in the following five paragraphs regarding facilities and associated corrective action, closure, and post closure cost estimates. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its identification number, name, address, and current corrective action, closure, and/or post closure cost estimates. Identify each cost estimate as to whether it is for corrective action, closure, or post closure care.]

1. The firm identified above owns or operates the following facilities for which financial assurance for corrective action, closure, or post closure care is demonstrated through the financial test specified in Minnesota Rules, parts 7045.0498 to 7045.0524 and 7045.0608 to 7045.0624. The current corrective action, closure, and/or post closure cost estimates covered by the test are shown for each facility:

2. The firm identified above guarantees, through the corporate guarantee specified in Minnesota Rules, part 7045.0498 to 7045.0524 and 7045.0608 to 7045.0624, the corrective action, closure, and post closure care of the following facilities owned or operated by its subsidiaries. The current cost estimates for the corrective action, closure, or post closure care so guaranteed are shown for each facility:

3. In states other than Minnesota, this firm is demonstrating financial assurance for the corrective action, closure, or post closure care of the following facilities either to the United

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States Environmental Protection Agency through the use of the financial test specified in Code of Federal Regulations, title 40, parts 264 or 265, subpart H, or to an authorized state through the use of a test equivalent or substantially equivalent to the specified financial test. The current corrective action, closure, and/or post closure cost estimates covered by such a test are shown for each facility:

4. The firm identified above owns or operates the following hazardous waste management facilities for which financial assurance for corrective action, if required, closure, or, if a disposal facility, post closure care, is not demonstrated either to the United States Environmental Protection Agency, or a state through the financial test or any other financial assurance mechanism specified in Code of Federal Regulations, title 40, parts 264 or 265, subpart H, or equivalent or substantially equivalent state mechanisms. The current corrective action, closure, and/or post closure cost estimates not covered by such financial assurance are shown for each facility:

5. The firm identified above owns or operates the following underground injection control (UIC) facilities for which financial assurance for plugging and abandonment is required under Code of Federal Regulations, title 40, part 144. The current closure cost estimates as required by Code of Federal Regulations, title 40, section 144.62 are shown for each facility:

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year end financial statements for the latest completed fiscal year, ended [date].

[Fill in Part A if you are using the financial test to demonstrate coverage only for the liability requirements.]

Part A. Liability Coverage for Accidental Occurrences.

[Fill in Alternative I if the criteria of Minnesota Rules, part 7045.0518, subpart 6, item B or 7045.0620, subpart 5, item B are used. Fill in Alternative II if the criteria of Minnesota Rules, part 7045.0518, subpart 6, item C or 7045.0620, subpart 5, item C are used.]

ALTERNATIVE I

- | | | |
|------|---|----------|
| 1. | Amount of annual aggregate liability coverage to be demonstrated | \$ _____ |
| *2. | Current assets | \$ _____ |
| *3. | Current liabilities | \$ _____ |
| 4. | Net working capital (line 2 minus line 3) | \$ _____ |
| *5. | Tangible net worth | \$ _____ |
| *6. | If less than 90 percent of assets are located in the United States, give total United States assets | \$ _____ |
| | | YES NO |
| 7. | Is line 5 at least \$10,000,000? | ___ ___ |
| 8. | Is line 4 at least 6 times line 1? | ___ ___ |
| 9. | Is line 5 at least 6 times line 1? | ___ ___ |
| *10. | Are at least 90 percent of assets located in the United States? If not, complete line 11 | ___ ___ |
| 11. | Is line 6 at least 6 times line 1? | ___ ___ |

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ALTERNATIVE II

- | | | |
|--|----------|-------|
| 1. Amount of annual aggregate liability coverage to be demonstrated | \$ _____ | |
| 2. Current bond rating of most recent issuance and name of rating service | _____ | |
| 3. Date of issuance of bond | _____ | |
| 4. Date of maturity of bond | _____ | |
| *5. Tangible net worth | \$ _____ | |
| *6. Total assets in United States (required only if less than 90 percent of assets located in the United States) | \$ _____ | |
| | YES | NO |
| 7. Is line 5 at least \$10,000,000? | _____ | _____ |
| 8. Is line 5 at least 6 times line 1? | _____ | _____ |
| *9. Are at least 90 percent of assets located in the United States? If not, complete line 10 | _____ | _____ |
| 10. Is line 6 at least 6 times line 1? | _____ | _____ |

Part B. Corrective Action, Closure, or Post Closure Care and Liability Coverage.

[Fill in Alternative I if the criteria of Minnesota Rules, parts 7045.0504, subpart 7, item B; 7045.0508, subpart 7, item B; 7045.0514, subpart 7, item B; and 7045.0518, subpart 6, item B are used or if the criteria of Minnesota Rules, parts 7045.0612, subpart 6, item B or 7045.0616, subpart 6, item B; and 7045.0620, subpart 5, item B are used. Fill in Alternative II if the criteria of Minnesota Rules, parts 7045.0504, subpart 7, item C; 7045.0508, subpart 7, item C; 7045.0514, subpart 7, item C; and 7045.0518, subpart 6, item C are used or if the criteria of Minnesota Rules, parts 7045.0612, subpart 6, item C; 7045.0616, subpart 6, item C; and 7045.0620, subpart 5, item C are used.]

ALTERNATIVE I

- | | | |
|--|----------|--|
| 1. Sum of current corrective action, closure, and post closure cost estimates (total of all cost estimates listed above) | \$ _____ | |
| 2. Amount of annual aggregate liability coverage to be demonstrated | \$ _____ | |
| 3. Sum of lines 1 and 2 | \$ _____ | |
| *4. Total liabilities (if any portion of your current corrective action, closure, or post closure cost estimates is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 and 6) | \$ _____ | |
| *5. Tangible net worth | \$ _____ | |
| *6. Net worth | \$ _____ | |
| *7. Current assets | \$ _____ | |
| *8. Current liabilities | \$ _____ | |
| 9. Net working capital (line 7 minus line 8) | \$ _____ | |
| *10. The sum of net income plus depreciation, depletion, and amortization | \$ _____ | |
| *11. Total assets in United States (required only if less than 90 percent of assets are located in the United States) | \$ _____ | |

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- | | YES | NO |
|---|-----|-----|
| 12. Is line 5 at least \$10,000,000? | ___ | ___ |
| 13. Is line 5 at least 6 times line 3? | ___ | ___ |
| 14. Is line 9 at least 6 times line 3? | ___ | ___ |
| *15. Are at least 90 percent of assets located in the United States? If not, complete line 16 | ___ | ___ |
| 16. Is line 11 at least 6 times line 3? | ___ | ___ |
| 17. Is line 4 divided by line 6 less than 2.0? | ___ | ___ |
| 18. Is line 10 divided by line 4 greater than 0.1? | ___ | ___ |
| 19. Is line 7 divided by line 8 greater than 1.5? | ___ | ___ |

ALTERNATIVE II

- | | | |
|---|-----|-------|
| 1. Sum of current corrective action, closure, and post closure cost estimates (total of all cost estimates listed above) | \$ | _____ |
| 2. Amount of annual aggregate liability coverage to be demonstrated | \$ | _____ |
| 3. Sum of lines 1 and 2 | \$ | _____ |
| 4. Current bond rating of most recent issuance and name of rating service | | _____ |
| 5. Date of issuance of bond | | _____ |
| 6. Date of maturity of bond | | _____ |
| *7. Tangible net worth (if any portion of the current corrective action, closure, or post closure cost estimates is included in "total liabilities" on your financial statements you may add that portion to this line) | \$ | _____ |
| *8. Total assets in the United States (required only if less than 90 percent of assets are located in the United States) | \$ | _____ |
| | YES | NO |
| 9. Is line 7 at least \$10,000,000? | ___ | ___ |
| 10. Is line 7 at least 6 times line 3? | ___ | ___ |
| *11. Are at least 90 percent of assets located in the United States? If not, complete line 12 | ___ | ___ |
| 12. Is line 8 at least 6 times line 3? | ___ | ___ |

I hereby certify that the wording of this letter is identical to the wording specified in Minnesota Rules, part 7045.0524, subpart 7, as the rules were constituted on the date shown immediately below.

[SIGNATURE]

[NAME]

[TITLE]

[DATE]

Subp. 8. **Corporate guarantee for corrective action, closure, or post closure care.** A corporate guarantee as specified in part 7045.0504, subpart 7; 7045.0508, subpart 7; 7045.0514, subpart 7; 7045.0612, subpart 6; or 7045.0616, subpart 6 must be worded as specified in this subpart, except that instructions in brackets must be replaced with the relevant information and the brackets deleted.

CORPORATE GUARANTEE FOR CORRECTIVE ACTION, CLOSURE, OR POST CLOSURE CARE

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of the state of [insert name of state], herein referred to as guarantor, to the Minnesota Pollution Control Agency (Agency), obligee, on behalf of our subsidiary [owner or operator] of [business address].

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in Minnesota Rules, parts 7045.0504, subpart 7; 7045.0508, subpart 7; 7045.0514, subpart 7; 7045.0612, subpart 6; and 7045.0616, subpart 6.

2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: identification number, name, and address. Indicate for each whether guarantee is for corrective action, closure, post closure care, or a combination of the three.]

3. "Closure plans" and "post closure plans" as used below refer to the plans maintained as required by Minnesota Rules, parts 7045.0486 to 7045.0494 and 7045.0594 to 7045.0606 for the closure and post closure care of facilities as identified above. "Corrective action plans" as used below refers to the plans maintained as required by Minnesota Rules, part 7045.0484, subpart 2, item D; and subpart 14 for corrective action for the facilities as identified above.

4. For value received from [owner or operator], guarantor guarantees to the Agency that in the event that [owner or operator] fails to perform [insert "corrective action," "closure," "post closure care," or any combination of the three] of the above facility(ies) in accordance with the corrective action, closure, or post closure plans and other permit or interim status requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in Minnesota Rules, parts 7045.0498 to 7045.0524 or 7045.0608 to 7045.0624 as applicable, in the name of [owner or operator] in the amount of the current corrective action, closure, or post closure cost estimates as specified in Minnesota Rules, parts 7045.0498 to 7045.0524 and 7045.0608 to 7045.0624

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the Agency Commissioner and to [owner or operator] that he or she intends to provide alternate financial assurance as specified in Minnesota Rules, parts 7045.0498 to 7045.0524 or 7045.0608 to 7045.0624, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish financial assurance unless [owner or operator] has done so.

6. The guarantor agrees to notify the Agency Commissioner by certified mail of a voluntary or involuntary proceeding under United States Code, title 11, Bankruptcy, naming guarantor as debtor, within ten days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by the Agency Commissioner of a determination that guarantor no longer meets the financial test criteria or that he or she is disallowed from continuing as a guarantor of corrective action, closure, or post closure care, the guarantor shall establish alternate financial assurance as specified in Minnesota Rules, parts 7045.0498 to 7045.0524 or 7045.0608 to 7045.0624, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the corrective action, closure or post closure plan, amendment or modification of the permit, the extension or reduction of the time of performance of corrective action, closure, post closure, or any other modification or alteration of an obligation of the owner or operator pursuant to Minnesota Rules, parts 7045.0450 to 7045.0544 or 7045.0552 to 7045.0642.

9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable financial assurance requirements of Minnesota Rules, parts 7045.0498 to 7045.0524 and 7045.0608 to 7045.0624 for the above listed facilities, except that guarantor may cancel this guarantee by sending notice by certified mail to the Agency Commissioner and to [owner or operator], the cancellation to become effective no earlier than 120 days after receipt of notice by both the Agency Commissioner and [owner or operator], as evidenced by the return receipts.

10. Guarantor agrees that if [owner or operator] fails to provide alternate financial assurance as specified in Minnesota Rules, parts 7045.0498 to 7045.0524 or 7045.0608 to 7045.0624, as applicable, and obtain written approval of such assurance from the Agency

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Commissioner within 90 days after a notice of cancellation by the guarantor is received by the Agency Commissioner from guarantor, guarantor shall provide alternate financial assurance in the name of [owner or operator].

11. Guarantor expressly waives notice of acceptance of this guarantee by the Agency or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the corrective action, closure, and/or post closure plan and of amendments or modifications of the facility permit(s).

I hereby certify that the wording of this guarantee is identical to the wording specified in Minnesota Rules, part 7045.0524, subpart 8, as such rules were constituted on the date first above written.

Effective date: _____

[NAME OF GUARANTOR]

[AUTHORIZED SIGNATURE FOR GUARANTOR]

[NAME OF PERSON SIGNING]

[TITLE OF PERSON SIGNING]

[SIGNATURE OF WITNESS OR NOTARY]

Subp. 8a. **Corporate guarantee for liability coverage.** A corporate guarantee as specified in part 7045.0518, subpart 7, or 7045.0620, subpart 6, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CORPORATE GUARANTEE FOR LIABILITY COVERAGE

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of [if incorporated within the United States, insert "the State of _____" and insert name of state; if incorporated outside the United States, insert the name of the country in which incorporated, the principal place of business within the United States, and the name and address of the registered agent in the state of the principal place of business], referred to in this guarantee as the guarantor. This guarantee is made on behalf of our subsidiary [owner or operator] of [business address], to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee.

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in Minnesota Rules, parts 7045.0518, subpart 7, and 7045.0620, subpart 6.

2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA Identification Number, name, and address; and if guarantor is incorporated outside the United States, list the name and address of the guarantor's registered agent in each state.] This corporate guarantee satisfies RCRA third party liability requirements for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences in above named owner or operator facilities for coverage in the amount of [insert dollar amount] for each occurrence and [insert dollar amount] annual aggregate.

3. For value received from [owner or operator], guarantor guarantees to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operations of the facility(ies) covered by this guarantee that in the event that [owner or operator] fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by [sudden and/or nonsudden] accidental occurrences, arising from the operation of the above named facilities, or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor will satisfy such judgment(s), award(s), or settlement agreement(s), up to the limits of coverage identified above.

4. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90

days, by certified mail, notice to the commissioner and to [owner or operator] that (s)he intends to provide alternate liability coverage as specified in Minnesota Rules, parts 7045.0518 and 7045.0620, as applicable, in the name of [owner or operator]. Within 120 days after the end of that fiscal year, the guarantor shall establish the liability coverage unless [owner or operator] has done so.

5. The guarantor agrees to notify the commissioner by certified mail of a voluntary or involuntary proceeding under Title 11 (bankruptcy), United States Code, naming guarantor as debtor, within ten days after commencement of the proceeding.

6. Guarantor agrees that within 30 days after being notified by the commissioner of a determination that guarantor no longer meets the financial test criteria or that (s)he is disallowed from continuing as a guarantor, (s)he shall establish alternate liability coverage as specified in Minnesota Rules, part 7045.0518 or 7045.0620 in the name of [owner or operator], unless [owner or operator] has done so.

7. Guarantor reserves the right to modify this agreement to take into account amendment or modification of the liability requirements established by Minnesota Rules, parts 7045.0518 and 7045.0620, but the modification becomes effective only if the commissioner does not disapprove the modification within 30 days of receipt of notification of the modification.

8. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable requirements of Minnesota Rules, parts 7045.0518 and 7045.0620 for the above listed facility(ies), except as provided in paragraph 9 of this agreement.

9. Guarantor may terminate this guarantee by sending notice by certified mail to the commissioner and to [owner or operator] but this guarantee may not be terminated unless and until [owner or operator] obtains, and the commissioner approves alternate liability coverage complying with Minnesota Rules, parts 7045.0518 and/or 7045.0620.

10. Guarantor hereby expressly waives notice of acceptance of this guarantee by any party.

11. Guarantor agrees that this guarantee is in addition to and does not affect any other responsibility or liability of the guarantor with respect to the covered facilities.

12. Exclusions

This corporate guarantee does not apply to:

A. Bodily injury or property damage for which the owner or operator is obliged to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that the owner or operator would be obligated to pay in the absence of the contract or agreement.

B. Any obligation of the owner or operator under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

C. Bodily injury to:

(1) an employee of the owner or operator arising from, and in the course of, employment by the owner or operator; or

(2) the spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of, employment by the owner or operator.

This exclusion applies whether the owner or operator is liable as an employer or in any other capacity. This exclusion also applies to any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in item C.

D. Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft.

E. Property damage to:

(1) any property owned, rented, or occupied by the owner or operator;

(2) premises that are sold, given away, or abandoned by the owner or operator if the property damage arises out of any part of those premises;

(3) property loaned to the owner or operator;

(4) personal property in the care, custody, or control of the owner or operator; and

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(5) that particular part of real property on which the owner or operator or any contractors or subcontractors working directly or indirectly on behalf of the owner or operator are performing operations, if the property damage arises out of these operations.

I hereby certify that the wording of the guarantee is identical to the wording specified in Minnesota Rules, part 7045.0524, subpart 8a.

Effective date: _____

[Name of guarantor]

[Authorized signatures for guarantor]

[Names of persons signing]

[Titles of persons signing (Two corporate officers must sign for parent corporation.)]

Corporate resolution attached [(Attach resolution adopted by parent corporation authorizing parent corporation to provide the corporate guarantee for subsidiary)]

Signature of witness or notary:

Subp. 9. **Hazardous waste facility liability endorsement.** A hazardous waste facility liability endorsement as required in part 7045.0518 or 7045.0620 must be worded as specified in this subpart, except that instructions in brackets must be replaced with the relevant information and the brackets deleted.

HAZARDOUS WASTE FACILITY LIABILITY ENDORSEMENT

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under Minnesota Rules, part 7045.0518 or 7045.0620. The coverage applies at [list identification number, name, and address for each facility] for [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the insurer's liability] exclusive of legal defense costs.

2. The insurance afforded with respect to the occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with a. to e. are hereby amended to conform with a. to e.

a. Bankruptcy or insolvency of the insured shall not relieve the insurer of its obligations under the policy to which this endorsement is attached.

b. The insurer is liable for the payment of amounts within any deductible applicable to the policy with a right of reimbursement by the insured for any such payment made by the insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in Minnesota Rules, part 7045.0518, subpart 6 or 7045.0620, subpart 5.

c. Whenever requested by the Minnesota Pollution Control Agency (Agency) Commissioner, the insurer agrees to furnish to the Agency Commissioner a signed duplicate original of the policy and all endorsements.

d. Cancellation of this endorsement, whether by the insurer or the insured, will be effective only upon written notice and only after the expiration of 60 days after a copy of written notice is received by the Agency Commissioner.

e. Any other termination of this endorsement will be effective only upon written notice and only after the expiration of 30 days after a copy of written notice is received by the Agency Commissioner.

Attached to and forming part of policy number _____ issued by [name of insurer], herein called the insurer, of [address of insurer] to [name of insured] of [address] this _____ day of _____, 19____. The effective date of said policy is _____ day of _____, 19____.

I hereby certify that the wording of this endorsement is identical to the wording specified in Minnesota Rules, part 7045.0524, subpart 9, as the rule was constituted on the date

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first above written and that the insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

[SIGNATURE OF AUTHORIZED REPRESENTATIVE OF INSURER]

[TYPE NAME]

[TITLE], Authorized Representative of [NAME OF INSURER]

[ADDRESS OF REPRESENTATIVE]

Subp. 10. **Hazardous waste facility certificate of liability insurance.** A certificate of liability insurance as required in part 7045.0518 or 7045.0620 must be worded as specified in this subpart, except that instructions in brackets must be replaced with the relevant information and the brackets deleted.

HAZARDOUS WASTE FACILITY CERTIFICATE OF LIABILITY INSURANCE

1. [Name of insurer], (the "insurer"), of [address of insurer] hereby certifies that it has issued liability insurance covering bodily injury and property damage to [name of insured], (the "insured"), of [address of insured] in connection with the insured's obligation to demonstrate financial responsibility under Minnesota Rules, part 7045.0518 or 7045.0620. The coverage applies [list identification number, name, and address for each facility] for [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences"]; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the insurer's liability], exclusive of legal defense costs. The coverage is provided under policy number _____, issued on [date]. The effective date of the policy is [date].

2. The insurer further certifies the following with respect to the insurance described in 1.:

a. Bankruptcy or insolvency of the insured shall not relieve the insurer of its obligations under the policy.

b. The insurer is liable for the payment of amounts within any deductible applicable to the policy with a right of reimbursement by the insured for any such payment made by the insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in Minnesota Rules, part 7045.0518, subpart 6 or 7045.0620, subpart 5.

c. Whenever requested by the Minnesota Pollution Control Agency (Agency) Commissioner, the insurer agrees to furnish to the Agency Commissioner a signed duplicate original of the policy and all endorsements.

d. Cancellation of the insurance, whether by the insurer or the insured, will be effective only upon written notice and only after the expiration of 60 days after a copy of written notice is received by the Agency Commissioner.

e. Any other termination of the insurance will be effective only upon written notice and only after the expiration of 30 days after a copy of written notice is received by the Agency Commissioner.

I hereby certify that the wording of this instrument is identical to the wording specified in Minnesota Rules, part 7045.0524, subpart 10, as the rule was constituted on the date first above written, and that the insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

[SIGNATURE OF AUTHORIZED REPRESENTATIVE OF INSURER]

[TYPE NAME]

[TITLE], Authorized Representative of [NAME OF INSURER]

[ADDRESS OF REPRESENTATIVE]

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 13 SR 577; 17 SR 1279*

7045.0526 USE AND MANAGEMENT OF CONTAINERS.

Subpart 1. **Scope.** This part applies to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as part 7045.0450 provides otherwise.

Under parts 7045.0127 and 7045.0135, subpart 4, item C, if a hazardous waste is emptied from a container, the residue remaining in the container is not considered a hazardous waste if the container is empty, as defined in part 7045.0127. In that event, management of the container is exempt from the requirements of this part.

Subp. 2. Condition of containers. Containers used to store hazardous waste must meet the following requirements:

A. be of sturdy leakproof construction, adequate wall thickness, adequate weld, hinge, and seam strength and sufficient strength to withstand side and bottom shock, while filled, without impairment of the ability of the container to fully contain the hazardous waste; and

B. have lids, caps, hinges, or other closure devices of sufficient strength and construction so that when closed they will withstand dropping, overturning, or other shock without impairment of the container's ability to fully contain the hazardous waste.

If a container holding hazardous waste does not meet the requirements of items A and B, or if it begins to leak, the owner or operator shall transfer the hazardous waste from this container to a container that does meet the requirements of items A and B or manage the waste in some other way that complies with the requirements of this part.

Subp. 3. Compatibility of waste with container. The owner or operator shall use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored and other substances that the container may foreseeably contact, so that the ability of the container to contain the waste is not impaired.

Subp. 4. Management of containers. A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak. Reuse of containers is governed by the United States Department of Transportation regulations, including those set forth in Code of Federal Regulations, title 49, section 173.28 (1983).

If exposure of the containers to moisture or direct sunlight may create a hazardous condition or adversely affect the container's ability to contain the hazardous waste, the owner or operator must store the containers in an area with overhead roofing or other covering that does not obstruct the visibility of the labels.

Subp. 5. Inspections. At least weekly, the owner or operator shall inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors. The owner or operator shall comply with subpart 2, and part 7045.0452, subpart 5, item D if remedial action is required because deterioration or leaks are detected.

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

A. Container storage areas must have a containment system that is capable of collecting and holding spills, leaks, and precipitation. The containment system must:

(1) have a floor underlying the containers that is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

(2) have a floor that is sloped, or be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or in some other manner are protected from contact with accumulated liquids; and

(3) have sufficient capacity to contain ten percent of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination.

B. Run-on into the containment system must be prevented, unless the agency waives this requirement in the permit after determining that the collection system has sufficient excess capacity in addition to that required in item A, subitem (3) to accommodate any run-on which might enter the system.

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 7045.0100 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.

D. Except as provided by item E, storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system defined by item A if:

(1) the storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation; or

(2) the containers are elevated or are otherwise protected from contact with accumulated liquid.

E. Storage areas that store containers holding wastes F020, F021, F022, F023, F026, F027, and F028 from part 7045.0135, subpart 2 that do not contain free liquids must have a containment system defined by item A.

Subp. 7. **Special requirements for ignitable or reactive waste.** Containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line. Nothing in this subpart shall relieve the facility owner or operator from the obligation to comply with any local, state, or federal law governing storage of these wastes.

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 stored nearby in other containers, piles, open tanks, or surface impoundments, must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

Subp. 9. **Closure.** At closure, all hazardous waste and hazardous waste residues must be removed from the containment system. Remaining containers, liners, floors, and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed. At closure and throughout the operating period, unless the owner or operator can demonstrate that the waste removed from the containment system 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 7045.0205 to 7045.1030.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 10 SR 1212; 14 SR 2248; 16 SR 2102*

7045.0528 TANK SYSTEMS.

Subpart 1. **Scope.** This part applies to owners and operators of facilities that use tank systems to treat or store hazardous waste, except as part 7045.0450, and items A and B provide otherwise.

A. Tank systems that are used to store or treat hazardous waste that contains no free liquids and are situated inside a building with an impermeable floor are exempted from the requirements in subparts 4 and 5. To demonstrate the absence or presence of free liquids in the stored or treated waste, EPA Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Publication No. SW-846) must be used.

B. Tank systems, including sumps, as defined in part 7045.0020, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempt from the requirements in subparts 4 and 5.

Subp. 2. Assessment of existing tank system's integrity. The following requirements apply to existing tank systems:

A. For each existing tank system that does not have secondary containment meeting the requirements of subparts 4 and 5, the owner or operator must determine whether the tank system is leaking or is unfit for use. Except as provided in item C, the owner or operator must obtain and keep on file at the facility a written assessment reviewed and certified by an independent, qualified registered professional engineer, that attests to the tank system's integrity. The certification must include the statements in parts 7001.0070 and 7001.0540.

B. This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the wastes to be stored or treated to ensure that it will not collapse, rupture, or fail. This assessment must consider the following:

(1) design standards, if available, according to which the tank and ancillary equipment were constructed;

(2) hazardous characteristics of the waste that has been and will be handled;

(3) existing corrosion protection measures;

(4) documented age of the tank system, if available (otherwise, an estimate of the age); and

(5) results of a leak test, internal inspection, or other tank integrity examination. For nonenterable underground, inground, or onground tanks, the assessment must include a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects. For other than nonenterable underground, inground, or onground tanks and for ancillary equipment, this assessment must include either a leak test, as described above, or other integrity examination, that is certified by an independent, qualified, registered professional engineer, that addresses cracks, leaks, corrosion, and erosion. The certification must include the statements in parts 7001.0070 and 7001.0540.

C. Owners or operators of tank systems that were required to conduct this assessment by Code of Federal Regulations, title 40, section 264.191(a), must conduct and keep this assessment on file as required by that section. Owners or operators of all other existing tank systems must conduct this assessment by February 8, 1990. Owners or operators of tank systems that store or treat materials that become hazardous wastes must conduct this assessment within 12 months after the date the waste becomes a hazardous waste.

D. If, as a result of the assessment conducted in accordance with item A, a tank system is found to be leaking or unfit for use, the owner or operator must comply with the requirements of subpart 8.

Subp. 3. Design and installation of new tank systems or components. New tank systems and components must be designed as follows:

A. Owners or operators of new tank systems or components must obtain and submit a written assessment, reviewed and certified by an independent, qualified registered professional engineer, attesting that the tank system has sufficient structural integrity and is acceptable for storing and treating hazardous waste. The owners or operators of tank systems that were required to conduct this assessment by Code of Federal Regulations, title 40, section 264.192(a), must submit this assessment as required by that regulation. Owners or operators of other new tank systems must submit this assessment to the commissioner at the time of submittal of Part B information. The certification must include the statements in parts 7001.0070 and 7001.0540. The assessment must show that the foundation, structural support, seams, connections, and pressure controls, if applicable, are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste to be stored or treated, and corrosion protection to ensure that it will not collapse, rupture, or fail. This assessment, which will be used by the commissioner to review and approve or disapprove the acceptability of the tank system design, must include the following information:

(1) design standards according to which tanks and/or the ancillary equipment are constructed;

(2) hazardous characteristics of the waste to be handled;

(3) for new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, a determination by a corrosion expert of the factors affecting the potential for corrosion, including soil moisture content, soil pH, soil sulfides level, soil resistivity, structure to soil potential, influence of nearby underground metal structures such as piping, existence of stray electric current, and existing corrosion protection measures such as coating and cathodic protection. The determination must also address the type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component. This protection must consist of corrosion resistant materials of construction such as special alloys or fiberglass reinforced plastic; corrosion resistant coating, such as epoxy or fiberglass, with cathodic protection such as impressed current or sacrificial anodes; or electrical isolation devices such as insulating joints, or flanges;

(4) for underground tank system components that are likely to be adversely affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage;

(5) design considerations to ensure that tank foundations will maintain the load of a full tank, tank systems will be anchored to prevent flotation or dislodgement where the tank system is placed in a saturated zone, and tank systems will withstand the effects of frost heave; and

(6) any additional information that the commissioner determines is relevant to the tank system design.

B. The owner or operator of a new tank system must ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Before covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or an independent, qualified, registered professional engineer, either of whom is trained and experienced in the proper installation of tank systems or components, must inspect the system for the presence of weld breaks, punctures, scrapes of protective coatings, cracks, corrosion, or other structural damage or inadequate construction or installation. All discrepancies must be remedied before the tank system is covered, enclosed, or placed in use.

C. New tank systems or components that are placed underground and that are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

D. All new tanks and ancillary equipment must be tested for tightness before being covered, enclosed, or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leaks in the system must be performed before the tank system is covered, enclosed, or placed into use.

E. Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.

F. The owner or operator must provide the type and degree of corrosion protection recommended by an independent corrosion expert, based on the information provided under item A, subitem (3), or other corrosion protection if the commissioner believes other corrosion protection is necessary to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation.

G. The owner or operator must obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of items A to F that attest that the tank system was properly designed and installed and that repairs under items B and D were performed. The certification must include the statements in parts 7001.0070 and 7001.0540.

Subp. 4. Containment and detection of releases. The following requirements apply to the containment and detection of releases from tanks:

A. In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this part must be provided, except as provided in item H:

- (1) for new tank systems or components, before they are put into service;
- (2) for an existing tank system that on August 8, 1988, is less than ten years old by August 8, 1993;
- (3) for an existing tank system that on August 8, 1988, is ten or more years old but less than 15 years old, by the date the tank system is 15 years old or by January 12, 1989, whichever is later;
- (4) for an existing tank system that on August 8, 1988, is 15 or more years old, by January 12, 1989;
- (5) for an existing tank system for which the age cannot be documented, the tank system must be treated as if it is 15 years old as specified in subitem (4); however, if the owner or operator demonstrates that the age of the tank system does not exceed 15 years, the tank system shall be treated as specified in subitem (2) or (3), as applicable;
- (6) for a tank system that stores or treats a material that is not a hazardous waste on August 8, 1988, but which later becomes subject to regulation as a hazardous waste, within two years of the date the material becomes subject to regulation as a hazardous waste; and
- (7) for an existing tank system used to store or treat hazardous wastes F020, F021, F022, F023, F026, F027, and F028, listed under part 7045.0135, subpart 2, by January 12, 1989.

B. Secondary containment systems must be:

- (1) designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and
- (2) capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

C. To meet the requirements of item B, secondary containment systems must be:

- (1) constructed of or lined with materials that are compatible with the waste to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients, including static head and external hydrological forces; physical contact with the waste to which it is exposed; climatic conditions; and the stress of daily operation, including stresses from nearby vehicular traffic;
- (2) placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;
- (3) provided with a leak detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the owner or operator can demonstrate to the commissioner that existing detection technologies or site conditions will not allow detection of a release within 24 hours; and
- (4) sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health and the environment, if the owner or operator can demonstrate to the commissioner that removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

D. Unless a petition is granted under part 7045.0075, subpart 7, secondary containment for tanks must include one or more of the following devices:

- (1) a liner external to the tank;
- (2) a vault;
- (3) a double walled tank; or

(4) an equivalent device as approved by the commissioner under part 7045.0075, subpart 6.

E. In addition to the requirements of items B, C, and D, an external liner system of secondary containment systems must be:

(1) designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(2) designed and operated to prevent run on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run on or infiltration. The additional capacity must be sufficient to contain precipitation from a 25 year, 24 hour rainfall event;

(3) free of cracks or gaps; and

(4) designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank; that is, capable of preventing lateral as well as vertical migration of the waste.

F. In addition to the requirements of items B, C, and D, a vault system must be:

(1) designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(2) designed or operated to prevent run on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25 year, 24 hour rainfall event;

(3) constructed with chemical resistant water stops in place at all joints, if any;

(4) provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;

(5) provided with a means to protect against the formation and ignition of vapors within the vault, if the waste being stored or treated meets the definition of ignitable waste under part 7045.0131, or reactive waste under part 7045.0131 and may form an ignitable or explosive vapor; and

(6) provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

G. In addition to the requirements of items B, C, and D, double walled tanks must be:

(1) designed as an integral structure, that is, an inner tank completely enveloped within an outer shell, so that any release from the inner tank is contained by the outer shell;

(2) protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell; and

(3) provided with a built-in continuous leak detection system capable of detecting a release within 24 hours, or at the earliest practicable time, if the owner or operator can demonstrate to the commissioner, and the commissioner concludes, that the existing detection technology or site conditions would not allow detection of a release within 24 hours.

H. Ancillary equipment must be provided with secondary containment, such as trench, jacketing, or double walled piping, that meets the requirements of items B and C, except for:

(1) aboveground piping, exclusive of flanges, joints, valves, and other connections, that are visually inspected for leaks on a daily basis;

(2) welded flanges, welded joints, and welded connections, that are visually inspected for leaks on a daily basis;

(3) sealless or magnetic coupling pumps and sealless valves that are visually inspected for leaks on a daily basis; and

(4) pressurized aboveground piping systems with automatic shutoff devices, such as excess flow check valves, flow metering shutdown devices, and loss of pressure actuated shutoff devices, that are visually inspected for leaks on a daily basis.

Subp. 5. Requirements for tank systems. All tank systems, until such time as secondary containment that meets the requirements of this part is provided, must comply with the following:

A. For nonenterable underground, inground, and onground tanks, a leak test that meets the requirements of subpart 2, item B, subitem (5), or other tank integrity method, as approved or required by the commissioner, must be conducted at least annually.

B. For other than nonenterable underground, inground, and onground tanks, the owner or operator must either conduct a leak test as in item A, or develop a schedule and procedure for an assessment of the overall condition of the tank system by an independent, qualified, registered professional engineer. The schedule and procedure must be adequate to detect obvious cracks, leaks, and corrosion or erosion that may lead to cracks and leaks. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed. The frequency of these assessments must be based on the material of construction of the tank and its ancillary equipment, the age of the system, the type of corrosion or erosion protection used, the rate of corrosion or erosion observed during the previous inspection, and the characteristics of the waste being stored or treated.

C. For underground, inground, and onground tanks, a test to detect tank wall thinning and to determine that the minimum tank wall thickness is maintained. The frequency of the inspections will be determined by the commissioner based on consideration of waste type, tank construction and materials, age of facility, and facility management practices.

D. For ancillary equipment, a leak test or other integrity assessment as approved by the commissioner, must be conducted at least annually.

E. The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with items A to D.

F. If a tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment in items A to D, the owner or operator must comply with the requirements of subpart 8.

Subp. 6. General operating requirements.

A. Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.

B. The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or containment systems. These include:

(1) spill prevention controls such as check valves and dry disconnect couplings;

(2) overflow prevention controls such as level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank; and

(3) maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

C. The owner or operator must comply with the requirements of subpart 8 if a leak or spill occurs in the tank system.

Subp. 7. MR 1987 [Renumbered 7045.0528, subpart 10]

Subp. 7. Inspections. The following requirements apply to inspections:

A. The owner or operator must develop and follow a schedule and procedure for inspecting overflow controls.

B. The owner or operator must inspect at least once each operating day:

(1) aboveground portions of the tank system, if any, to detect corrosion or releases of waste;

(2) data gathered from monitoring and leak detection equipment, such as pressure or temperature gauges and monitoring wells, to ensure that the tank system is being operated according to its design; and

(3) the construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system, such as dikes, to detect erosion or signs of releases of hazardous waste such as wet spots and dead vegetation.

C. The owner or operator must inspect cathodic protection systems, if present, according to the following schedule to ensure that they are functioning properly:

(1) the proper operation of the cathodic protection system must be confirmed within six months after initial installation and annually thereafter; and

(2) all sources of impressed current must be inspected and/or tested, as appropriate, at least bimonthly.

D. The owner or operator must document in the operating record of the facility an inspection of those items in items A to C.

Subp. 8. MR 1987 [Renumbered 7045.0528, subpart 11]

Subp. 8. Response to leaks or spills and disposition of leaking or unfit for use tank systems. The owner or operator of a tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must satisfy the following requirements:

A. The owner or operator must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

B. Removal of waste from tank system or secondary containment system:

(1) If the release was from the tank system, the owner or operator must, within 24 hours after detection of the leak, or if the owner or operator demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(2) If the material released was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

C. The owner or operator must immediately conduct a visual inspection of the release and, based upon that inspection:

(1) prevent further migration of the leak or spill to soils or surface water; and

(2) remove and properly dispose of any visible contamination of the soil or surface water.

D. Notification and reports.

(1) Any release to the environment must be reported to the commissioner within 24 hours of its detection.

(2) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the commissioner. The report must include the likely route of migration of the release; the characteristics of the surrounding soil, including soil composition, geology, hydrogeology, and climate; and the results of any monitoring or sampling conducted in connection with the release, if available. If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the commissioner as soon as they become available. The report must also address the proximity to downgradient drinking water, surface water, and populated areas and a description of response actions taken or planned.

(3) A leak or spill of hazardous waste that is less than or equal to a quantity of one pound and immediately contained and cleaned up is exempt from the requirements of subitem (2).

E. Provision of secondary containment, repair, or closure.

(1) Unless the owner or operator satisfies the requirements of subitems (2) to (4), the tank system must be closed in accordance with subpart 9.

(2) If the cause of the release was a spill that has not damaged the integrity of the system, the owner or operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

(3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired before returning the tank system to service.

(4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner or operator must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of subparts 4 and 5 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system that can be inspected visually. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of item F are satisfied. If a component is replaced to comply with the requirements of this subitem, that component must satisfy the requirements for new tank systems or components in subparts 3 to 5. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection, such as the bottom of an inground or onground tank, the entire component must be provided with secondary containment in accordance with subparts 4 and 5 before being returned to use.

F. If the owner or operator has repaired a tank system in accordance with item E and the repair has been extensive, such as installation of an internal liner or repair of a ruptured primary containment or secondary containment vessel, the tank system must not be returned to service unless the owner or operator has obtained a certification by an independent, qualified, registered professional engineer that the repaired system is capable of handling hazardous wastes without release. This certification must be submitted to the commissioner before returning the tank system to use and must include the statements in parts 7001.0070 and 7001.0540.

Subp. 9. MR 1987 [Repealed, 13 SR 259]

Subp. 9. **Closure and post closure care.** The requirements for closure and post closure care of tank systems are as follows:

A. At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components, such as liners, contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste unless it can be demonstrated that they are not a hazardous waste. Metal tanks and tank system components that have been decontaminated in accordance with an approved closure plan prepared in accordance with part 7045.0486, subpart 3, or 7045.0594, subpart 3, must be considered scrap metal for purposes of part 7045.0125, subpart 4, and if recycled, are not subject to parts 7045.0205 to 7045.0685. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements of parts 7045.0486 to 7045.0524.

B. If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in item A, then the owner or operator must close the tank system and perform post closure care in accordance with the closure and post closure care requirements of part 7045.0538, subpart 7. In addition, for the purposes of closure, post closure, and financial responsibility, the tank system is then considered to be a landfill, and the owner or operator must meet all of the requirements of parts 7045.0486 to 7045.0524.

C. If an owner or operator has a tank system that does not have secondary containment that meets the requirements of subpart 4, items B to F, and has not been granted a petition under part 7045.0075, subpart 6 or 7, then:

(1) the closure plan for the tank system must include both a plan for complying with item A and a contingent plan for complying with item B;

(2) a contingent post closure plan for complying with item B must be prepared and submitted as part of the permit application;

(3) the cost estimates calculated for closure and post closure care must reflect the costs of complying with the contingent closure plan and the contingent post closure plan, if those costs are greater than the costs of complying with the closure plan prepared for the expected closure under item A;

(4) financial assurance must be based on the cost estimates in subitem (3); and

(5) for the purposes of the contingent closure and post closure plans, the tank system is considered to be a landfill, and the contingent plans must meet all of the closure, post closure, and financial responsibility requirements of parts 7045.0486 to 7045.0524.

Subp. 10. **Special requirements for ignitable or reactive waste.** Ignitable or reactive waste must not be placed in a tank unless:

A. the waste is treated, rendered, or mixed before or immediately after placement in the tank so that the resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under part 7045.0131, subparts 2 and 5, and compliance with part 7045.0456, subpart 2 is maintained;

B. the waste is stored or treated in such a way that it is protected from any materials or conditions which may cause the waste to ignite or react; or

C. the tank is used solely for emergencies.

The owner or operator of a facility that treats or stores ignitable or reactive waste in a tank shall comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon, as required in the National Fire Protection Association's buffer zone requirements for tanks contained in Tables 2-1 to 2-6 of the Flammable and Combustible Liquids Code in the National Fire Codes, 1981 issued by the National Fire Protection Association (Quincy, Massachusetts, 1981). As required by part 7045.0458, the waste analysis plan must include analyses needed to comply with these special requirements for ignitable or reactive waste. Additional requirements for ignitable and reactive wastes are contained in part 7045.0456, subpart 1. Part 7045.0456, subpart 3 also requires waste analysis, 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 and trial test, and any documented information, in the operating record of the facility.

Subp. 11. **Special requirements for incompatible wastes.** Incompatible wastes or incompatible wastes and materials, must not be placed in the same tank, unless compliance with part 7045.0456, subpart 2 is maintained.

Hazardous waste must not be placed in a tank system that has not been decontaminated and which previously held an incompatible waste or material, unless compliance with part 7045.0456, subpart 2 is maintained. As required by part 7045.0458, the waste analysis plan must include analyses needed to comply with these special requirements for incompatible wastes. 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 and trial test, and any documented information, in the operating record of the facility.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 10 SR 1212; L 1987 c 186 s 15; 13 SR 259; 15 SR 1515*

7045.0530 [Repealed by amendment, 9 SR 115]

7045.0532 SURFACE IMPOUNDMENTS.

Subpart 1. **Scope.** This part applies to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste, except as part 7045.0450 provides otherwise.

Subp. 2. **Locational requirements.** Locational requirements are as follows:

A. A surface impoundment must not be located in an area characterized by surficial karst features.

B. The owner or operator of a proposed or existing surface impoundment shall submit to the agency with the permit application a hydrogeologic report which provides sufficient information and detail on the site's topography, soils, geology, surface hydrology, and ground water hydrology to evaluate the facility's actual and potential effects on subsoils, surface water, and ground water. This report must include:

- (1) a geologic history of the area;
- (2) the stratigraphy of the area;
- (3) the composition of the site's soil and rock formations;

- (4) the hydraulic characteristics of the site's soil and rock formations;
- (5) the occurrence of ground water in the area;
- (6) directions and rates of ground water and surface water movements;
- (7) ground water and surface water interactions;
- (8) existing and future uses of ground water and surface water;
- (9) existing quality of ground water and surface water; and
- (10) if a ground water monitoring system which complies with part 7045.0484, subpart 11, item A can be installed at the site;
- (11) climatological information; and
- (12) all other factors that would influence the quality and mobility of the leachate produced and the potential for it to migrate to subsoils, ground water, or surface water.

C. A surface impoundment, including its underlying liners, must be located entirely above the seasonal high water table.

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

A. A surface impoundment must have a double liner system that is designed, constructed, and installed to prevent migration of waste out of the impoundment to the adjacent soil or ground water or surface water at any time during the active life, including the closure and post closure periods, of the impoundment. The double liner system must consist of two liners with a leak detection, collection, and removal system between the liners. This system must be designed, constructed, maintained, and operated to detect, collect, and remove liquids from the space between the liners, without clogging, through the scheduled post closure care period of the surface impoundment. The liners must conform to the requirements of item B or C, as appropriate, and must be:

(1) constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients, including static head and external hydrogeologic forces, physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(2) placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(3) installed to cover all surrounding earth likely to be in contact with the waste or leachate.

B. For any surface impoundment that is not covered by item C or part 7045.0630, the liners may be constructed of materials that may allow wastes to migrate into the liner, but not into the adjacent subsurface soil or drainage layer or ground water or surface water provided that the impoundment is closed according to subpart 7, item A, subitem (1). For impoundments that will be closed according to subpart 7, item A, subitem (2), at least one liner must be constructed of materials that can prevent wastes from migrating into the liner.

C. For any new surface impoundment, new surface impoundment unit at an existing facility, replacement of an existing surface impoundment unit, and lateral expansion of an existing surface impoundment unit that accepts waste after issuance of a permit for units where Part B of the permit application is received by the commissioner after November 8, 1984, the top liner must be constructed of materials that prevent wastes from migrating into the liner. The lower liner may be constructed of materials that allow wastes to migrate into the liner, but not into the adjacent subsurface soil or drainage layer or ground water or surface water. For the purpose of the preceding sentence, a lower liner satisfies the requirement if it is constructed of at least a three-foot thick layer of recompacted clay or other natural material with a permeability of no more than 1×10^{-7} centimeter per second.

D. A surface impoundment must be designed, constructed, maintained, and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and water action; rainfall; run-on; malfunctions of level controllers, alarms, and other equipment; and human error.

E. A surface impoundment must have dikes that are designed, constructed, and maintained with sufficient structural integrity to prevent massive failure of the dikes. Mas-

sive failure of the dikes means any uncontrolled flow of hazardous waste from the surface impoundment. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the unit.

F. The owner or operator of a surface impoundment shall have a method of emptying its wastes in an emergency. Acceptable methods include backup surface impoundments or tanks.

G. The owner or operator of a surface impoundment shall submit to the agency with the permit application a plan for the treatment and disposal of leachate which is removed from the surface impoundment.

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

I. 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. 4. Leak detection. If liquids are detected in the leak detection, collection, and removal system, the owner or operator shall notify the commissioner of that fact in writing within seven days after detecting the liquids and:

A. within a period of time specified in the permit, remove accumulated liquids, repair or replace any liner which is leaking to prevent the migration of liquids through the liner, and obtain a certification from a qualified engineer that, to the best of the engineer's knowledge and opinion, the leak has been stopped; or

B. remove accumulated liquids and begin to comply with the monitoring requirements of part 7045.0484, subpart 12, item E within a time specified in the permit. The owner or operator shall continue to remove accumulated liquids from the leak detection, collection, and removal system during the active life and the post closure care period of the surface impoundment.

C. The agency shall specify in the permit the design and operating practices that are necessary to ensure that the requirements of item A or B are satisfied.

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

A. During construction and installation, liners and cover systems, such as membranes, sheets, or coatings, must be inspected for uniformity, damage, and imperfections, such as holes, cracks, thin spots, or foreign materials. Immediately after construction or installation and for liners prior to the placement of waste into the impoundment:

(1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters;

(2) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural nonuniformities that may cause an increase in the permeability of the liner or cover; and

(3) The owner or operator shall conduct a water balance test which demonstrates that the liner system is functioning as designed.

The agency shall specify in the permit acceptable methods of liner and cover inspection and the method and duration of the water balance test.

B. While a surface impoundment is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) deterioration, malfunctions, or improper operation of overtopping control systems;

(2) drops in the level of the impoundment's contents;

(3) the presence of liquids in leak detection, collection, and removal systems;

and

(4) severe erosion or other signs of deterioration in dikes or other containment devices.

If evidence of a condition described in subitems (1) to (4) is detected, the owner or operator shall immediately notify the commissioner of the condition and remedies to correct the condition.

C. Prior to the issuance of a permit, and after any extended period of time, at least six months, during which the impoundment is not in service, the owner or operator of an existing surface impoundment shall obtain a certification from a qualified engineer that the impoundment's dike, including that portion of any dike which provides freeboard, has structural integrity. For a new surface impoundment, the owner or operator shall obtain the certification upon completion of construction in accordance with the plans and specifications, prior to the placement of waste into the impoundment. The certification must establish, in particular, that the dike:

(1) will withstand the stress of the pressure exerted by the types and amounts of waste to be placed in the impoundment; and

(2) will not fail due to scouring or piping, without dependence on any liner system included in the surface impoundment construction.

D. Prior to the issuance of a permit, after any dredging activities, and after any extended period of time, at least six months, during which the impoundment is not in service, the owner or operator shall obtain certification from a qualified engineer that the uppermost liner and the leak detection, collection, and removal system is intact and remains at design specifications. For a new surface impoundment, the owner or operator shall obtain the certification upon completion of construction in accordance with the plans and specifications, prior to the placement of waste into the impoundment. This certification must address both liners.

Subp. 6. Emergency repairs, contingency plans. Emergency repairs and contingency plans are as follows:

A. A surface impoundment must be removed from service in accordance with item B if:

(1) the level of liquids in the impoundment drops and the drop is not known to be caused by changes in the flows into or out of the impoundment; or

(2) the dike leaks.

B. If a surface impoundment must be removed from service as required by item A, the owner or operator shall:

(1) immediately shut off the flow or otherwise stop the addition of wastes into the impoundment;

(2) immediately contain any surface leakage which has occurred or is occurring;

(3) immediately stop the leak;

(4) take any other necessary steps to stop or prevent catastrophic failure;

(5) if a leak cannot be stopped immediately by any other means, empty the impoundment; and

(6) notify the commissioner of the problem immediately by telephone and submit a report in writing within seven days after detecting the problem. The report must discuss the problem and the remedial actions taken and their effects.

C. As part of the contingency plan required in part 7045.0466 the owner or operator shall specify a procedure for complying with the requirements of item B.

D. No surface impoundment that has been removed from service in accordance with the requirements of items A to C may be restored to service unless the portion of the impoundment which was failing is repaired and the following steps are taken:

(1) If the impoundment was removed from service as the result of actual or imminent dike failure, the dike's structural integrity must be recertified in accordance with subpart 5, item C.

(2) If the impoundment was removed from service as the result of a drop in the liquid level, the repaired liner system must be certified by a qualified engineer as meeting the design specifications approved in the permit.

E. A surface impoundment that has been removed from service in accordance with the requirements of items A to C and that is not being repaired must be closed according to subpart 7.

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

A. At closure, the owner or operator shall:

(1) 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 7045.0100 to 7045.0143; or

(2) eliminate free liquids by removing liquid waste or solidifying the remaining waste and waste residues; stabilize remaining wastes to a bearing capacity sufficient to support final cover; and provide a final cover over the surface impoundment. The final cover must be designed and constructed to provide long-term minimization of the migration of liquids through the closed impoundment, function with minimum maintenance, promote drainage and minimize erosion or abrasion of the final cover, accommodate settling and subsidence so that the cover's integrity is maintained, and have a permeability less than or equal to the permeability of any bottom liner system.

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

(1) maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

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

(3) maintain and monitor the ground water monitoring system and comply with all other applicable requirements of part 7045.0484; and

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

C. If an owner or operator plans to close a surface impoundment in accordance with item A, subitem (1) and the impoundment does not comply with the liner requirements of subpart 3, item A, then:

(1) the closure plan for the impoundment under part 7045.0486 must include both a plan for complying with item A, subitem (1) and a contingent plan for complying with item A, subitem (2) in case not all contaminated subsoils can be practicably removed at closure; and

(2) the owner or operator shall prepare a contingent post closure plan under part 7045.0490 for complying with item B if not all contaminated subsoils can be practicably removed at closure.

D. The cost estimates calculated under parts 7045.0502 and 7045.0506 for closure and post closure care of an impoundment subject to item C must include the cost of complying with the contingent closure plan and the contingent post closure plan, as well as the cost of expected closure under item A, subitem (1).

E. During the post closure care period, if liquids are detected in a leak detection, collection, and removal system, the owner or operator shall:

(1) notify the commissioner of that fact in writing within seven days after detecting the liquids; and

(2) remove accumulated liquids and begin to comply with the monitoring requirements of part 7045.0484, subpart 12, item E within a time specified in the permit.

Subp. 8. **Special requirements for ignitable or reactive waste.** Ignitable or reactive waste must not be placed in a surface impoundment, unless the waste and impoundment satisfy all applicable requirements of parts 7045.1300 to 7045.1380, and:

A. the waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under part 7045.0131, subparts 2 and 5, and compliance with part 7045.0456, subpart 2 is maintained;

B. the waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; or

C. the surface impoundment is used solely for emergencies.

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

Subp. 10. **Special requirements for hazardous wastes F020, F021, F022, F023, F026, F027, and F028.** The following requirements apply to the hazardous wastes indicated:

A. Hazardous waste F020, F021, F022, F023, F026, and F027 listed under part 7045.0135, subpart 2 must not be placed in a surface impoundment.

B. Hazardous waste F028 and treatment residues and soils contaminated with hazardous wastes F020, F021, F022, F023, F026, F027, and F028 listed under part 7045.0135, subpart 2, must not be placed in surface impoundments unless the owner or operator operates the surface impoundment in accordance with all applicable requirements of this part and in accordance with a management plan that is approved by the commissioner considering the following factors:

(1) the volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) the attenuative properties of underlying and surrounding soils or other materials;

(3) the mobilizing properties of other materials codisposed with these wastes; and

(4) the effectiveness of additional treatment, design, or monitoring techniques.

C. The commissioner shall impose additional design, operating, and monitoring requirements if the commissioner finds that additional requirements are necessary for surface impoundments used to treat, store, or dispose of hazardous waste F028 and treatment residues and soils contaminated with hazardous wastes F020, F021, F022, F023, F026, F027, and F028 listed under part 7045.0135, subpart 2 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 10 SR 1212; L 1987 c 186 s 15; 15 SR 1877; 16 SR 2102; 16 SR 2239; 17 SR 1279*

7045.0534 WASTE PILES.

Subpart 1. **Scope.** This part applies to owners and operators of facilities that store or treat hazardous waste in piles, except as part 7045.0450 provides or as otherwise provided in this subpart.

The requirements of this part do not apply to owners or operators of waste piles that are closed with wastes left in place. Such waste piles are subject to regulation under part 7045.0538.

The owner or operator of a waste pile that is inside or under a structure that provides protection from precipitation so that neither run-off nor leachate is generated is not subject to subparts 2, items A and B; 3; or part 7045.0484 if:

A. liquids or materials containing free liquids are not placed in the pile;

B. the pile is protected from surface water run-on by the structure or in some other manner;

C. the pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting; and

D. the pile will not generate leachate through decomposition or other reactions.

Subp. 2. **Locational requirements.** Locational requirements are as follows:

A. A waste pile must not be located in an area characterized by surficial karst features.

B. The owner or operator of a proposed or existing waste pile shall submit to the agency with the permit application a hydrogeologic report which provides sufficient information and detail on the site's topography, soils, geology, surface hydrology, and ground water hydrology to evaluate the facility's actual and potential effects on subsoils, surface water, and ground water. This report must include:

- (1) a geologic history of the area;
- (2) the stratigraphy of the area;
- (3) the composition of the site's soil and rock formations;
- (4) the hydraulic characteristics of the site's soil and rock formations;
- (5) the occurrence of ground water in the area;
- (6) directions and rates of ground water and surface water movements;
- (7) ground water and surface water interactions;
- (8) existing and future uses of ground water and surface water;
- (9) existing quality of ground water and surface water;
- (10) if a ground water monitoring system which complies with part 7045.0484, subpart 11, item A can be installed at the site;
- (11) climatological information; and
- (12) all other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to subsoils, ground water, or surface water.

C. A waste pile, including its underlying liners, must be located entirely above the seasonal high water table.

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

A. A waste pile must have a liner that is designed, constructed, and installed to prevent any migration of wastes out of the pile into the adjacent subsurface soil or ground water or surface water at any time during the active life, including the closure period, of the waste pile. The liner may be constructed of materials that may allow waste to migrate into the liner itself, but not into the adjacent subsurface soil or ground water or surface water, during the active life, including the closure period, of the facility. The liner must be:

- (1) constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients, including static head and external hydrogeologic forces, physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;
- (2) placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and
- (3) installed to cover all surrounding earth likely to be in contact with the waste or leachate.

B. A waste pile must have a leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the pile. The agency shall specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 centimeters (one foot) at any point. The leachate collection and removal system must be:

- (1) constructed of materials that are chemically resistant to the waste managed in the pile and the leachate expected to be generated; and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying wastes, waste cover materials, and by any equipment used at the pile; and
- (2) designed and operated to function without clogging through the scheduled closure of the waste pile.

C. 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.

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

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

F. 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.

G. 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 run-off contained in the run-off management system and leachate which is removed from the waste pile.

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

I. 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. 4. [Repealed, 11 SR 1832]

Subp. 5. [Repealed, 11 SR 1832]

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

A. During construction or installation, liners and cover systems, such as membranes, sheets, or coatings, must be inspected for uniformity, damage, and imperfections such as holes, cracks, thin spots, or foreign materials. Immediately after construction or installation:

(1) synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters;

(2) soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural nonuniformities that may cause an increase in the permeability of the liner or cover; and

(3) the construction of the liners must be certified by a qualified engineer to comply with the approved plans and specifications.

B. While a waste pile is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(2) the presence of liquids in leak detection, collection, and removal systems;

(3) improper functioning of wind dispersal control systems, where present; or

(4) the presence of leachate in and proper functioning of leachate collection and removal systems.

If any evidence of a condition described in subitems (1) to (3) is detected, the owner or operator shall notify the commissioner of the condition and remedies to correct this condition.

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 7045.0100 to 7045.0143.

B. If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in item A, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he or she must close the facility and perform post closure care in accordance with the closure and post closure care requirements that apply to landfills, part 7045.0538, subpart 7.

C. The owner or operator of a waste pile that does not comply with the liner requirements of subpart 3, item A and is not exempt from them in accordance with subpart 1 shall:

(1) include in the closure plan for the pile under part 7045.0486 both a plan for complying with item A and a contingent plan for complying with item B in case not all contaminated subsoils can be practicably removed at closure; and

(2) prepare a contingent post closure plan under part 7045.0490 for complying with item B in case not all contaminated subsoils can be practicably removed at closure.

D. The cost estimates calculated under parts 7045.0502 and 7045.0506 for closure and post closure care of a pile subject to item C must include the cost of complying with the contingent closure plan and the contingent post closure plan, as well as the cost of expected closure under item A.

Subp. 8. Special requirements for ignitable or reactive waste. Ignitable or reactive waste must not be placed in a waste pile unless the waste and waste pile satisfy all applicable requirements of parts 7045.1300 to 7045.1380, and:

A. the waste is treated, rendered, or mixed before or immediately after placement in the pile so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under part 7045.0131, subpart 2 or 5, and compliance with part 7045.0456, subpart 2 is maintained; or

B. the waste is managed to protect it from material or conditions which may cause it to ignite or react.

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 stored nearby in containers, other piles, open tanks, or surface impoundments must be 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.

Subp. 10. Special requirements for hazardous wastes F020, F021, F022, F023, F026, F027, and F028. The following requirements apply to the hazardous wastes indicated:

A. Hazardous wastes F020, F021, F022, F023, F026, and F027 listed under part 7045.0135, subpart 2 must not be placed in waste piles.

B. Hazardous waste F028 and treatment residues and soils contaminated with hazardous wastes F020, F021, F022, F023, F026, F027, and F028 listed under part 7045.0135, subpart 2, must not be placed in waste piles that are not enclosed as provided by subpart 1, unless the owner or operator operates the waste pile in accordance with all applicable requirements of this part and in accordance with a management plan for these wastes that is approved by the commissioner considering the following factors:

(1) the volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) the attenuative properties of underlying and surrounding soils or other materials;

(3) the mobilizing properties of other materials codisposed with these wastes;

and

(4) the effectiveness of additional treatment, design, or monitoring techniques.

C. The commissioner shall impose additional design, operating, and monitoring requirements if the commissioner determines that the additional requirements are necessary for piles used to store or treat hazardous waste F028 and treatment residues and soils contaminated with hazardous wastes F020, F021, F022, F023, F026, F027, and F028 listed under

part 7045.0135, subpart 2 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

Statutory Authority: *MS s 116.07; 116.37*

History: 9 SR 115; 10 SR 1212; L 1987 c 186 s 15; 15 SR 1877; 16 SR 2102; 16 SR 2239

7045.0536 LAND TREATMENT.

Subpart 1. **Scope.** This part applies to owners and operators of facilities that treat or dispose of hazardous waste in land treatment units except as part 7045.0450 provides otherwise.

Subp. 2. **Treatment program.** Treatment program requirements are as follows:

A. An owner or operator of a land treatment unit shall establish a land treatment program that is designed to ensure that hazardous constituents placed in or on the treatment zone are degraded, transformed to nonhazardous forms, or immobilized within the treatment zone. The agency shall specify in the facility permit the elements of the treatment program, including:

- (1) the wastes that are capable of being treated at the unit based on a treatment demonstration;
- (2) design measures and operating practices necessary to ensure the success of degradation, transformation, and immobilization processes in the treatment zone in accordance with subpart 4, item A; and
- (3) unsaturated zone monitoring provisions meeting the requirements of subpart 6.

B. The agency shall specify in the facility permit the hazardous constituents that must be degraded, transformed, or immobilized.

C. The agency shall specify the vertical and horizontal dimensions of the treatment zone in the facility permit. The treatment zone is the portion of the unsaturated zone below and including the land surface in which the owner or operator intends to maintain the conditions necessary for effective degradation, transformation, or immobilization of hazardous constituents. The maximum depth of the treatment zone must be:

- (1) not more than 1.5 meters (five feet) from the initial soil surface; and
- (2) more than one meter (three feet) above the seasonal high water table. The actual separation distance must be based on soil characteristics, results of the demonstration, proposed management, and the characteristics of the waste applied. The seasonal high water table must be determined by monitoring at the unit or by other acceptable means.

Subp. 3. **Treatment demonstration.** Treatment demonstration requirements are as follows:

A. For each waste that will be applied to the treatment zone, the owner or operator shall demonstrate, prior to application of the waste, that hazardous constituents in the waste can be completely degraded, transformed to nonhazardous forms, or immobilized in the treatment zone.

B. In making this demonstration, the owner or operator may use laboratory analyses, available data, or in the case of existing units, operating data and shall conduct field tests unless a written exemption from field testing is obtained from the commissioner. The owner or operator shall obtain a land treatment demonstration permit in accordance with the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050. The agency shall specify in this permit the testing, analytical, design, and operating requirements, including the duration of the tests and analyses, and, for field tests, the horizontal and vertical dimensions of the treatment zone, monitoring procedures, closure, and cleanup activities necessary to meet the requirements in item C.

C. Any field test or laboratory analysis conducted in order to make a demonstration must:

- (1) accurately simulate the characteristics and operating conditions for the proposed land treatment unit including the characteristics of the waste and the presence of hazardous constituents that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone, the climate in the area, the topography of the surrounding area, the

characteristics of the soil in the treatment zone, including depth, and the operating practices to be used at the unit;

(2) be likely to show that hazardous constituents in the waste to be tested will be completely degraded, transformed to a nonhazardous form, or immobilized in the treatment zone of the proposed land treatment unit;

(3) be conducted in a manner that protects human health and the environment considering, the characteristics of the waste to be tested, the operating and monitoring measures taken during the course of the test, the duration of the test, the volume of waste used in the test, and the potential for migration of hazardous constituents to ground water or surface water; and

(4) provide for acceptable statistical analysis.

Subp. 4. Design and operating requirements. The agency shall specify in the facility permit how the owner or operator shall design, construct, operate, and maintain the land treatment unit. The owner or operator shall also comply with the following:

A. The owner or operator shall design, construct, operate, and maintain the unit to ensure the degradation, transformation to nonhazardous forms, and immobilization of hazardous constituents in the treatment zone. The owner or operator shall design, construct, operate, and maintain the unit in accordance with all design and operating conditions that were used in the treatment demonstration. The agency shall specify the following in the facility permit:

(1) the rate and method of waste application to the treatment zone;

(2) measures to control soil pH;

(3) measures to enhance microbial or chemical reactions such as fertilization and tilling; and

(4) measures to control the moisture content of the treatment zone.

B. The owner or operator shall design, construct, operate, and maintain the treatment zone to minimize run-off of hazardous constituents during the active life of the land treatment unit.

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

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

E. The owner or operator of a land treatment unit shall submit to the agency with the permit application a plan for the treatment and disposal of run-off contained in the run-off management system.

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

G. The owner or operator shall manage the unit to control wind dispersal.

H. The owner or operator shall inspect the unit weekly and after storms to detect evidence of:

(1) deterioration, malfunctions, or improper operation of run-on and run-off control systems; and

(2) improper functioning of wind dispersal control measures.

If evidence of the conditions described in subitems (1) and (2) is detected, the owner or operator shall notify the agency of the condition and the measures taken to correct the condition.

I. 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. 5. Food chain crops. The agency may specify in the permit the specific conditions of food chain crop production. The agency shall not allow the growth of food chain crops in or on the treatment zone unless the owner or operator satisfies the following requirements:

A. No food chain crops may be grown during the active life of the unit unless:

(1) the only wastes disposed of at the land treatment unit are wastes which are hazardous only because they exhibit characteristics of ignitability, corrosivity, reactivity, or oxidativity as established in part 7045.0131; and

(2) it can be demonstrated that no substantial risk to human health exists from the production of food chain crops in or on the treatment zone. The demonstration must be conducted according to item C.

B. Food chain crops may be grown on a land treatment unit after closure if:

(1) cadmium is the only hazardous constituent present and no more than 5 kg/ha has been applied; or

(2) the cumulative addition of cadmium does not exceed 10 kg/ha if soil cation exchange capacity (CEC) is 5–15 milliequivalents/100 grams (meq/100g); and 20 kg/ha if the CEC is greater than 15 meq/100g; and

(3) it can be demonstrated that no substantial risk to human health exists or will exist from the current or future production of food chain crops in or on the treatment zone. The demonstration must be conducted according to item C.

C. The demonstration that there is no substantial risk to human health caused by the growth of food chain crops must be conducted as specified in subitems (1) to (5). The owner or operator shall make the required demonstration prior to the planting of crops at the facility. In making this demonstration, the owner or operator may use field tests, greenhouse studies, available data, or in the case of existing units, operating data.

(1) The demonstration must show that under conditions of current and future land use hazardous constituents and characteristics will not be transferred to the food or feed portions of the crop by plant uptake or direct contact, and will not otherwise be ingested by food chain animals, or that hazardous constituents will not occur in greater concentrations than in or on identical portions of the same crops grown on untreated soils under similar conditions in the same region.

(2) The demonstration must be based on conditions similar to those present in the treatment zone, including soil characteristics such as pH, CEC and texture, specific waste characteristics, application rates and methods, and crops to be grown.

(3) The demonstration must describe the procedures used in conducting tests, including the sample selection criteria, sample size, analytical methods, and statistical procedures.

(4) The demonstration must address all hazardous characteristics and all hazardous constituents which are reasonably expected to be in or derived from the wastes to be deposited at the unit.

(5) The owner or operator shall obtain a permit or letter of approval prior to the demonstration in accordance with the agency's permitting requirements for demonstration permits in chapter 7001 and parts 7023.9000 to 7023.9050.

Subp. 6. Unsaturated zone monitoring. An owner or operator shall establish an unsaturated zone monitoring program to discharge the following responsibilities:

A. The owner or operator shall monitor the soil and soil-pore liquid to determine whether hazardous constituents migrate out of the treatment zone. The agency shall specify the hazardous constituents to be monitored in the facility permit. The hazardous constituents to be monitored are those specified under subpart 2, item B. The agency may require monitoring for principal hazardous constituents in lieu of the constituents specified under subpart 2, item B. Principal hazardous constituents are hazardous constituents contained in the wastes to be applied at the unit that are the most difficult to treat, considering the combined effects of degradation, transformation, and immobilization. The agency shall establish principal hazardous constituents if it finds, based on waste analyses, treatment demonstration, or other data, that effective degradation, transformation, or immobilization of the principal hazardous constituents will assure treatment at at least equivalent levels for the other hazardous constituents in the wastes.

B. The owner or operator shall install an unsaturated zone monitoring system that includes soil monitoring using soil cores and soil-pore liquid monitoring using devices such

as lysimeters. The unsaturated zone monitoring system must be designed and maintained to prevent contamination of the unsaturated zone by migration through bore holes or along lysimeter installations. The unsaturated zone monitoring system must consist of a sufficient number of sampling points at appropriate locations and depths to yield samples that:

(1) represent the quality of background soil-pore liquid and the chemical makeup of soil that has not been affected by leakage from the treatment zone; and

(2) indicate the quality of soil-pore liquid and the chemical makeup of the soil below the treatment zone.

C. The owner or operator shall establish an unsaturated zone background value for each hazardous constituent to be monitored. The permit must specify the background values for each constituent or specify the procedures to be used to calculate the background values.

Background soil values shall be based on a sampling at the land treatment unit for new facilities, or at a background plot having characteristics similar to those of the treatment zone for existing facilities.

Background soil-pore liquid values must be based on at least quarterly sampling for one year at the land treatment unit for new facilities or at a background plot having characteristics similar to those of the treatment zone for existing facilities.

The owner or operator shall express all background values in a form necessary for the determination of statistically significant increases under item F.

In taking samples used in the determination of all background values, the owner or operator shall use an unsaturated zone monitoring system that complies with item B, subitem (1).

D. The owner or operator shall conduct soil monitoring and soil-pore liquid monitoring immediately below the treatment zone. The agency shall specify the frequency and timing of soil and soil-pore liquid monitoring in the facility permit after considering the frequency, timing, and rate of waste application, the climate, and the soil and waste characteristics. The owner or operator shall express the results of soil and soil-pore liquid monitoring in a form necessary for the determination of statistically significant increases under item F.

E. The owner or operator shall use consistent sampling and analysis procedures that are designed to ensure sampling results that provide a reliable indication of soil-pore liquid quality and the chemical makeup of the soil below the treatment zone. The owner or operator shall implement procedures and techniques for sample collection, sample preservation and shipment, analytical procedures, and chain of custody control.

F. The owner or operator shall determine whether there is a statistically significant change over background values for any hazardous constituent to be monitored under item A below the treatment zone each time he or she conducts soil monitoring and soil pore liquid monitoring under item D.

In determining whether a statistically significant increase has occurred, the owner or operator shall compare the value of a constituent, as determined under item D to the background value for that constituent according to the statistical procedure specified in the facility permit.

The owner or operator shall determine whether there has been a statistically significant increase below the treatment zone within a reasonable time period after completion of sampling. The determination of increase must be submitted to the commissioner within two weeks of sampling unless a different reporting period is established in the permit.

The owner or operator shall determine whether there is a statistically significant increase below the treatment zone using a statistical procedure that provides reasonable confidence that migration from the treatment zone will be identified. The agency shall specify a statistical procedure in the facility permit that is appropriate for the distribution of the data used to establish background values and provides a reasonable balance between the probability of falsely identifying migration of hazardous constituents from the treatment zone and the probability of failing to identify real migration of hazardous constituents from the treatment zone.

G. If the owner or operator determines under item F that there is a statistically significant increase of hazardous constituents below the treatment zone, he or she shall:

(1) notify the commissioner of this finding in writing within seven days, indicating in the notice the constituents that have shown statistically significant increases; and

(2) within 90 days, submit to the agency an application for a permit modification to modify the operating practices at the facility in order to maximize the success of degradation, transformation, or immobilization processes in the treatment zone.

H. If the owner or operator determines under item F that there is a statistically significant increase of hazardous constituents below the treatment zone, he or she may demonstrate that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration, he or she is not relieved of the requirement to submit a permit modification application within the time specified in item G, subitem (2). In making a demonstration the owner or operator shall:

(1) notify the commissioner in writing within seven days of determining a statistically significant increase below the treatment zone that he or she intends to make the determination;

(2) within 90 days, submit a report to the commissioner demonstrating that a source other than the regulated units caused the increase or that the increase resulted from error in sampling, analysis, or evaluation;

(3) within 90 days, submit to the agency an application for a permit modification to make any appropriate changes to the unsaturated zone monitoring program at the facility; and

(4) continue to monitor in accordance with the unsaturated zone monitoring program.

Subp. 7. Recordkeeping. The owner or operator shall include hazardous waste application dates and rates in the operating record required under part 7045.0478. The owner or operator shall also include in the operating record facility management practices, such as fertilization, cultivation, irrigation, and crop production, and climatological data, such as precipitation and temperature.

Subp. 8. Closure and post closure. Requirements of closure and post closure are as follows:

A. During the closure period the owner or operator shall:

(1) continue all operations, including pH control, necessary to maximize degradation, transformation, or immobilization of hazardous constituents within the treatment zone as required under subpart 4, item A;

(2) continue all operations in the treatment zone to minimize run-off of hazardous constituents as required under subpart 4, item B;

(3) maintain the run-on control system required under subpart 4, item C;

(4) maintain the run-off management system required under subpart 4, item

D;

(5) control wind dispersal of hazardous waste if required under subpart 4, item G;

(6) continue unsaturated zone monitoring in compliance with subpart 6;

(7) continue to comply with any prohibitions or conditions concerning growth of food chain crops under subpart 5; and

(8) establish a vegetative cover on the portion of the facility being closed at such time that the cover will not substantially impede degradation, transformation, or immobilization of hazardous constituents in the treatment zone. The vegetative cover must be capable of maintaining growth without extensive maintenance.

B. For the purpose of complying with part 7045.0486, subpart 4, when closure is complete the owner or operator may submit to the commissioner certification by an independent qualified soil scientist, in lieu of an independent registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

C. During the post closure care period the owner or operator shall:

(1) continue all operations, including pH control, necessary to enhance degradation and transformation and sustain immobilization of hazardous constituents in the treatment zone;

- (2) maintain a vegetative cover over closed portions of the facility;
- (3) maintain the run-on control system required under subpart 4, item C;
- (4) maintain the run-off management system required under subpart 4, item D;
- (5) control wind dispersal of hazardous waste under subpart 4, item G;
- (6) continue to comply with any prohibitions or conditions concerning growth of food chain crops under subpart 5; and
- (7) continue unsaturated zone monitoring in compliance with subpart 6.

D. The owner or operator is not subject to regulation under items A, subitem (8), and C if the commissioner finds that the level of hazardous constituents in the treatment zone soil does not exceed the background value of those constituents by an amount that is statistically significant when using the test specified in subitem (3). The owner or operator may submit a demonstration to the commissioner at any time during the closure or post closure care periods. For this purpose:

(1) The owner or operator must establish background soil values and determine whether there is a statistically significant increase over those values for all hazardous constituents specified in the facility permit under subpart 2, item B. Background soil values shall be based on a sampling of the land treatment unit for new facilities, or at a background plot having characteristics similar to those of the treatment zone for existing facilities. Background values and values for hazardous constituents in the treatment zone must be expressed in a form necessary for the determination of statistically significant increases under subitem (3).

(2) In taking samples used in the determination of background and treatment zone values, the owner or operator shall take samples at a sufficient number of sampling points and at appropriate locations and depths to yield samples that represent the chemical makeup of soil that has not been affected by leakage from the treatment zone and the soil within the treatment zone, respectively.

(3) In determining whether a statistically significant increase has occurred, the owner or operator shall compare the value of a hazardous constituent in the treatment zone to the background value for that hazardous constituent using a statistical procedure that provides reasonable confidence that the presence of the hazardous constituents in the treatment zone will be identified. The owner or operator shall use a statistical procedure that is appropriate for the distribution of the data used to establish background values and provides a reasonable balance between the probability of falsely indicating the presence of hazardous constituents in the treatment zone and the probability of failing to indicate the real presence of hazardous constituents in the treatment zone.

E. The owner or operator is not subject to regulation under part 7045.0484 if the commissioner finds that the owner or operator satisfies item D and if unsaturated zone monitoring under subpart 6 indicates that hazardous constituents have not migrated beyond the treatment zone during the active life of the land treatment unit.

Subp. 9. Ignitable or reactive waste. The owner or operator shall not apply ignitable or reactive waste to the treatment zone unless the waste and the treatment zone meet all applicable requirements of parts 7045.1300 to 7045.1380, and:

A. the waste is immediately incorporated into the soil so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under part 7045.0131, subpart 2 or 5, and compliance with part 7045.0456, subpart 2 is maintained; or

B. the waste is managed to protect it from material or conditions which may cause it to ignite or react.

Subp. 10. Incompatible wastes. The owner or operator shall not place incompatible wastes or incompatible wastes and materials in or on the same treatment zone, unless compliance with part 7045.0456, subpart 2 is maintained.

Subp. 11. Special requirements for hazardous wastes F020, F021, F022, F023, F026, F027, and F028. The following requirements apply to the hazardous wastes indicated:

A. Hazardous wastes F020, F021, F022, F023, F026, and F027 listed under part 7045.0135, subpart 2 must not be placed in a land treatment unit.

B. Hazardous waste F028 and treatment residues and soils contaminated with hazardous wastes F020, F021, F022, F023, F026, F027, and F028 listed under part 7045.0135, subpart 2 must not be managed at land treatment units unless the owner or operator operates the land treatment unit in accordance with all applicable requirements of this part and in accordance with a management plan that is approved by the commissioner considering the following factors:

- (1) the volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;
 - (2) the attenuative properties of underlying and surrounding soils or other materials;
 - (3) the mobilizing properties of other materials codisposed with these wastes;
- and
- (4) the effectiveness of additional treatment, design, or monitoring techniques.

C. The commissioner shall impose additional design, operating, and monitoring requirements if the commissioner finds that the additional requirements are necessary for land treatment facilities used to treat or dispose of hazardous waste F028 and treatment residues and soils contaminated with hazardous wastes F020, F021, F022, F023, F026, F027, and F028 listed under part 7045.0135, subpart 2 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 10 SR 1212; L 1987 c 186 s 15; 16 SR 2239; 18 SR 614*

7045.0538 LANDFILLS.

Subpart 1. **Scope.** This part applies to owners and operators of facilities that dispose of hazardous waste in landfills, except as part 7045.0450 provides otherwise.

Subp. 2. **Location.** Location requirements are as follows:

A. A landfill must not be located in an area characterized by surficial karst features.

B. The owner or operator of a proposed or existing landfill shall submit to the agency with the permit application a hydrogeologic report which provides sufficient information and detail on the site's topography, soils, geology, surface hydrology, and ground water hydrology to evaluate the facility's actual and potential effects on subsoils, surface water, and ground water. This report must include:

- (1) a geologic history of the area;
- (2) the stratigraphy of the area;
- (3) the composition of the site's soil and rock formations;
- (4) the hydraulic characteristics of the site's soil and rock formations;
- (5) the occurrence of ground water in the area;
- (6) directions and rates of ground water and surface water movements;
- (7) ground water and surface water interactions;
- (8) existing and future uses of ground water and surface water;
- (9) existing quality of ground water and surface water;
- (10) if a ground water monitoring system which complies with part 7045.0484, subpart 11, item A can be installed on the site;
- (11) climatological information; and
- (12) all other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to subsoils, ground water, or surface water.

C. A landfill, including its underlying liners, must be located entirely above the seasonal high water table.

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

A. A landfill must have a double liner system that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil

or ground water or surface water at any time during the active life, including the closure and post closure periods, of the landfill. The double liner system must consist of two liners with a leak detection, collection, and removal system. This system must be designed, constructed, maintained, and operated to detect, collect, and remove liquids without clogging, through the scheduled post closure care period of the landfill. Both liners and the leak detection, collection, and removal system must conform to the requirements of item B or C, as appropriate, and must be:

(1) constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients, including static head and external hydrogeologic forces, physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(2) placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(3) installed to cover all surrounding earth likely to be in contact with the waste or leachate.

B. For any landfill that is not covered by item C or part 7045.0638, one of the liners may be constructed of materials that allow wastes to migrate into the liner, but not into the adjacent subsurface soil, drainage layer, or ground water or surface water. At least one liner must be constructed of materials that prevent wastes from passing into the liner. The double liner system must consist of two liners with a leak detection, collection, and removal system between the liners.

C. For any new landfill, new landfill unit at an existing facility, replacement of an existing landfill unit, and lateral expansion of an existing landfill unit that accepts waste after issuance of a permit for units where Part B of the permit application is received by the commissioner after November 8, 1984, the top liner must be constructed of materials that prevent wastes from migrating into the liner. The lower liner may be constructed of materials that allow wastes to migrate into the liner, but not into the adjacent subsurface soil or drainage layer or ground water or surface water. For the purpose of the preceding sentence, a lower liner satisfies the requirement if it is constructed of at least a three-foot thick layer of recompressed clay or other natural material with a permeability of no more than 1×10^{-7} centimeter per second. The double liner system must consist of two liners with a leak detection, collection, and removal system above and between the liners.

D. A landfill must have a leachate collection and removal system immediately above each liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The agency shall specify design and operating conditions in the permit to ensure that the leachate depth over each liner does not exceed 30 centimeters (one foot) at any point. The leachate collection and removal systems must be:

(1) 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 by any equipment used at the landfill; and

(2) designed, constructed, maintained, and operated to function without clogging through the scheduled post closure care period of the landfill.

E. 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 100-year storm.

F. 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.

G. 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.

H. The owner or operator shall cover or otherwise manage the landfill to control wind dispersal of particulate matter.

I. The owner or operator shall develop the landfill in appropriately sized cells to minimize the amounts of liquids entering each cell due to precipitation.

J. The owner or operator of a landfill 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 landfill.

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 K are satisfied.

Subp. 4. Leak detection. If liquids are detected in the leak detection, collection, and removal system, the owner or operator shall notify the commissioner of that fact in writing within seven days after detecting the liquids, and:

A. within a period of time specified in the permit, remove accumulated liquids, repair or replace any liner which is leaking to prevent the migration of liquids through the liner, and obtain a certification from a qualified engineer that, to the best of his or her knowledge and opinion, the leak has been stopped; or

B. if the owner or operator can demonstrate to the commissioner that the repair of the liner is not possible or feasible, he or she must begin to comply with the monitoring requirements of part 7045.0484, subpart 12, item E within a period of time specified in the permit.

The agency will specify in the permit all design and operating practices that are necessary to ensure that the requirements of item A or B are satisfied.

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

A. During construction or installation, liners and cover systems such as membranes, sheets, or coatings, must be inspected for uniformity, damage, and imperfections such as holes, cracks, thin spots, or foreign materials. Immediately after construction or installation:

(1) synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters;

(2) soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural nonuniformities that may cause an increase in the permeability of the liner or cover; and

(3) the construction of the liners must be certified by a qualified engineer to be in accordance with the approved plans and specifications.

B. While a landfill is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) deterioration, malfunctions, or improper operation of run-on and runoff control systems;

(2) the presence of liquids in leak detection systems;

(3) improper functioning of wind dispersal control systems, where present;

and

(4) the presence of leachate in and proper functioning of leachate collection and removal systems.

If any evidence of any condition described in subitems (1) to (3) is detected, the owner or operator shall notify the commissioner of the condition and remedies to correct the condition.

Subp. 6. Surveying and recordkeeping. The owner or operator of a landfill shall maintain the following items in the operating record required under part 7045.0478:

A. on a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

B. the contents of each cell and the approximate location of each hazardous waste type within each cell.

Subp. 7. Closure and post closure care. Closure and post closure care requirements are as follows:

A. At final closure of the landfill and upon closure of any cell, the owner or operator shall cover the landfill or cell with a final cover designed and constructed to:

- (1) provide long-term minimization of migration of liquids through the closed landfill;
- (2) function with minimum maintenance;
- (3) promote drainage and minimize erosion or abrasion of the cover;
- (4) accommodate settling and subsidence so that the cover's integrity is maintained; and
- (5) have a permeability less than or equal to the permeability of any bottom liner system.

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

- (1) maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;
- (2) maintain and monitor the leak detection system in accordance with subparts 3 and 4;
- (3) continue to operate the leachate collection and removal systems;
- (4) maintain and monitor the ground water monitoring systems and comply with all other applicable requirements of part 7045.0484;
- (5) prevent run-on and runoff from eroding or otherwise damaging the final cover;
- (6) protect and maintain surveyed benchmarks used in complying with subpart 6; and
- (7) survey the landfill at least annually to determine any effects from settling, subsidence, erosion, or other events.

C. During the post closure care period, if liquids are detected in a leak detection system, the owner or operator shall:

- (1) notify the commissioner of that fact in writing within seven days after detecting the liquids; and
- (2) remove accumulated liquids and begin to comply with the monitoring requirements of part 7045.0484, subpart 12, item E within a time specified in the permit.

Subp. 8. Special requirements for ignitable or reactive waste. Special requirements for ignitable or reactive waste are as follows:

A. Except as provided in item B and subpart 12, ignitable or reactive waste must not be placed in a landfill, unless the waste and landfill meet all applicable requirements of parts 7045.1300 to 7045.1380, and the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under part 7045.0131, subpart 2 or 5, and compliance with part 7045.0456, subpart 2 is maintained.

B. Except for prohibited wastes which remain subject to treatment standards in parts 7045.1350 to 7045.1360, ignitable wastes in containers may be landfilled without meeting the requirements of item A, provided that the wastes are disposed of in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes must be disposed of in nonleaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes; must be covered daily with soil or other noncombustible material to minimize the potential for ignition of the wastes; and must not be disposed of in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste.

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

Subp. 10. **Special requirements for liquid waste.** Special requirements for liquid waste are as follows:

A. The placement of bulk or noncontainerized liquid hazardous waste or waste containing free liquids, whether or not absorbents have been added, is prohibited.

B. Containers holding free liquids must not be placed in a landfill unless:

(1) all free-standing liquid has been removed by decanting, or other methods; has been mixed with absorbent or solidified so that freestanding liquid is no longer observed; or has been otherwise eliminated;

(2) the container is very small, such as an ampule; or

(3) the container is a laboratory pack as defined in subpart 12 and is disposed of in accordance with subpart 12.

C. The presence or absence of free liquids in containerized or bulk waste must be demonstrated using the Paint Filter Liquids Test, Method 9095 as described in Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, EPA publication number SW 846.

Subp. 11. **Special requirements for containers.** Unless they are very small, such as an ampule, containers must be either:

A. at least 90 percent full when placed in the landfill; or

B. crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

Subp. 12. **Disposal of small containers of hazardous waste in overpacked drums.** Small containers of hazardous waste in overpacked drums, or laboratory packs, may be placed in a landfill if the requirements of items A to F are met:

A. Hazardous waste must be packaged in nonleaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the contained waste. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the United States Department of Transportation hazardous materials regulations under Code of Federal Regulations, title 49, parts 173, 178, and 179 (1983), if those regulations specify a particular inside container for the waste.

B. The inside containers must be overpacked in an open head metal shipping container as specified in the United States Department of Transportation regulations under Code of Federal Regulations, title 49, parts 178 and 179 (1983), of no more than 415 liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of absorbent material to completely absorb all of the liquid contents of the inside containers. The metal outer container must be full after packing with inside containers and absorbent materials.

C. The absorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers in accordance with part 7045.0456, subpart 2.

D. Incompatible wastes, as defined in part 7045.0020 must not be placed in the same outside container.

E. Reactive wastes, other than cyanide- or sulfide-bearing waste as defined in part 7045.0131, subpart 5, item E, must be treated or rendered nonreactive prior to packaging in accordance with items A to D. Cyanide- and sulfide-bearing reactive waste may be packed in accordance with item A to D without first being treated or rendered nonreactive.

F. The disposal is in compliance with parts 7045.1300 to 7045.1380. Persons who incinerate lab packs according to part 7045.1360 may use fiber drums in place of metal outer containers. The fiber drums must meet United States Department of Transportation specifications in Code of Federal Regulations, title 49, section 173.12, and be overpacked according to the requirements in item B.

Subp. 13. **Special requirements for hazardous wastes F020, F021, F022, F023, F026, F027, and F028.** The following requirements apply to the hazardous wastes indicated:

A. Hazardous wastes F020, F021, F022, F023, F026, and F027 listed under part 7045.0135, subpart 2 must not be placed in a landfill.

B. Hazardous waste F028 and treatment residues and soils contaminated with hazardous wastes F020, F021, F022, F023, F026, F027, and F028 listed under part 7045.0135,

subpart 2, must not be managed at landfills unless the owner or operator operates the landfill in accordance with all applicable requirements of this part and in accordance with a management plan that is approved by the commissioner considering the following factors:

- (1) the volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;
 - (2) the attenuative properties of underlying and surrounding soils or other materials;
 - (3) the mobilizing properties of other materials codisposed with these wastes;
- and
- (4) the effectiveness of additional treatment, design, or monitoring techniques.

C. The commissioner shall impose additional design, operating, and monitoring requirements if the commissioner finds that the additional requirements are necessary for landfills used to dispose of hazardous waste F028 and treatment residues and soil contaminated with hazardous wastes F020, F021, F022, F023, F026, F027, and F028 listed under part 7045.0135, subpart 2 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 10 SR 1212; 11 SR 1832; L 1987 c 186 s 15; 15 SR 1877; 16 SR 2239*

7045.0539 MISCELLANEOUS UNITS.

Subpart 1. **Scope.** The requirements in this part apply to owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellaneous units.

Subp. 2. **Environmental performance standards.** A miscellaneous unit must be located, designed, constructed, operated, maintained, and closed in a manner that will ensure protection of human health and the environment. Permits for miscellaneous units are to contain the terms and provisions necessary to protect human health and the environment, including, but not limited to, as appropriate, design and operating requirements, detection and monitoring requirements, and requirements for responses to releases of hazardous waste or hazardous constituents from the unit. Permit terms and provisions shall include those requirements of parts 7023.9000 to 7023.9050, 7045.0526 to 7045.0542 and chapter 7001 that are appropriate for the miscellaneous unit being permitted. Protection of human health and the environment includes, but is not limited to:

A. prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in the groundwater or subsurface environment, considering:

- (1) the volume and physical and chemical characteristics of the waste in the unit, including its potential for migration through soil, liners, or other containing structures;
- (2) the hydrologic and geologic characteristics of the unit and the surrounding area;
- (3) the existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater;
- (4) the quantity and direction of groundwater flow;
- (5) the proximity to and withdrawal rates of current and potential groundwater users;
- (6) the patterns of land use in the region;
- (7) the potential for deposition or migration of waste constituents into subsurface physical structures, and into the root zone of food chain crops and other vegetation;
- (8) the potential for health risks caused by human exposure to waste constituents; and
- (9) the potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

B. prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in surface water, or wetlands or on the soil surface considering:

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

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

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

(4) the patterns of precipitation in the region;

(5) the quantity, quality, and direction of groundwater flow;

(6) the proximity of the unit to surface waters;

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

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

(9) the patterns of land use in the region;

(10) the potential for health risks caused by human exposure to waste constituents; and

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

C. prevention of any release that may have adverse effects on human health or the environment due to migration of waste constituents in the air, considering:

(1) the volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases, aerosols, and particulates;

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

(3) the operating characteristics of the unit;

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

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

(6) the potential for health risks caused by human exposure to waste constituents; and

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

Subp. 3. Monitoring, analysis, inspection, response, reporting, and corrective action. Monitoring, testing, analytical data, inspections, response, and reporting procedures and frequencies shall ensure compliance with subpart 2; parts 7045.0452, subpart 5; 7045.0462, subpart 4; 7045.0482, subparts 2 to 4; and 7045.0485, as well as meet any additional requirements needed to protect human health and the environment as specified in the permit.

Subp. 4. Postclosure care. A miscellaneous unit that is a disposal unit shall be maintained in a manner that complies with subpart 2 during the postclosure care period. In addition, if a treatment or storage unit has contaminated soils or groundwater that cannot be completely removed or decontaminated during closure, then that unit shall also meet the requirements of subpart 2 during postclosure care. The postclosure plan under part 7045.0490 must specify the procedures that will be used to satisfy this requirement.

Statutory Authority: *MS s 116.07*

History: *13 SR 2761; 18 SR 614*

7045.0540 [Repealed by amendment, 9 SR 115]

7045.0542 THERMAL TREATMENT.

Subpart 1. Scope. This part applies as follows:

A. This part applies to owners and operators of facilities that thermally treat hazardous waste, except as part 7045.0450 provides otherwise. The following facility owners or

operators are considered to thermally treat hazardous waste: owners or operators of hazardous waste incinerators as defined in part 7045.0020; and owners or operators who burn hazardous waste in boilers or in industrial furnaces in order to destroy the waste.

B. For owners or operators of thermal treatment facilities, the commissioner may, in establishing the permit conditions, exempt the applicant from all requirements of this part except subparts 2 and 8, if after examination of the waste analysis included with the applicant's permit application, the commissioner finds that the waste to be treated contains none of the hazardous constituents listed in part 7045.0141 which would reasonably be expected to be in the waste and that the waste to be treated is:

(1) listed as a hazardous waste in part 7045.0135 only because it is ignitable, corrosive, or both;

(2) listed as a hazardous waste in part 7045.0135 only because it is reactive for characteristics other than those listed in part 7045.0131, subpart 5, items D and E, and will not be treated when other hazardous wastes are present in the combustion zone;

(3) a hazardous waste only because it possesses the characteristics of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous wastes under part 7045.0131; or

(4) a hazardous waste only because it possesses any of the reactivity characteristics described by part 7045.0131, subpart 5, items A, B, C, F, G, and H, and will not be treated when other hazardous wastes are present in the combustion zone.

C. For owners or operators of thermal treatment facilities, the commissioner may, in establishing the permit conditions, exempt the applicant from all requirements of this part except subparts 2 and 8, if after examination of the waste analysis included with the applicant's permit application the commissioner finds that:

(1) the waste to be treated is one which is specified in item B, subitem (1), (2), (3), or (4), and contains insignificant concentrations of the hazardous constituents listed in part 7045.0141; and

(2) the thermal treatment facility will not endanger human health or the environment, if the exemption is approved.

D. For owners or operators of thermal treatment facilities whose primary purpose is the production of energy, the commissioner may, after review of the request for exemption, exempt the owner or operator from any requirements of this part except subparts 2 and 8. The owner or operator shall submit to the commissioner a request for exemption which shall include the following information:

(1) waste analysis results for each waste to be treated;

(2) a complete description of the thermal treatment unit, including air pollution control equipment;

(3) a description of the operating procedures; and

(4) an evaluation of the suitability of the thermal treatment process for the wastes to be treated.

E. The commissioner shall approve the request for exemption if the commissioner finds that:

(1) the primary purpose of the thermal treatment facility is the production of energy;

(2) the thermal treatment process is suitable for the wastes to be treated; and

(3) the thermal treatment facility will not endanger human health or the environment, if the exemption is approved.

F. The owner or operator of a thermal treatment facility may conduct trial burns, subject only to the requirements of a trial burn approval as issued under the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050.

Subp. 2. Waste analysis. As a portion of a trial burn plan or with a permit application, the owner or operator shall have included an analysis of waste feed sufficient to provide all information required by the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050. Owners or operators of new hazardous waste thermal treatment facilities shall provide the required information to the greatest extent possible.

Throughout normal operation the owner or operator shall conduct sufficient waste analysis to verify that waste feed to the thermal treatment process is within the physical and chemical composition limits specified in the permit.

Subp. 3. Principal organic hazardous constituents. Principal organic hazardous constituents in the waste feed must be treated to the extent required by the performance standard of subpart 4.

One or more principal organic hazardous constituents will be specified in the facility's permit, from among those constituents listed in part 7045.0141, for each waste feed to be treated. This specification will be based on the degree of difficulty of thermal treatment of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with the facility's permit application. Organic constituents which represent the greatest degree of difficulty of thermal treatment will be those most likely to be designated as a principal organic hazardous constituent. Constituents are more likely to be designated as principal organic hazardous constituents if they are present in large quantities or concentrations in the waste.

Trial principal organic hazardous constituents will be designated for performance of trial burns in accordance with the procedure specified for obtaining trial burn approval.

Subp. 4. Performance standards. A thermal treatment facility thermally treating hazardous waste must be designed, constructed, and maintained so that, when operated in accordance with operating requirements specified under subpart 6 it will comply with all federal and state air quality rules and regulations and will meet the performance standards of items A to E, whichever are applicable:

A. Except as provided in item E, a thermal treatment facility thermally treating hazardous waste must achieve a destruction and removal efficiency of 99.99 percent for each principal organic hazardous constituent designated in its permit for each waste feed. The destruction and removal efficiency (DRE) is determined for each principal organic hazardous constituent from the following equation:

$$\text{DRE} = \frac{(\text{Win} - \text{Wout})}{\text{Win}} \times 100\%$$

where:

Win = Mass feed rate of one principal organic hazardous constituent in the waste stream feeding the thermal treatment process, and

Wout = Mass emission rate of the same principal organic hazardous constituent present in exhaust emissions prior to release to the atmosphere.

B. A thermal treatment facility thermally treating hazardous waste and producing stack emissions of more than 1.8 kilograms per hour (four pounds per hour) of hydrogen chloride (HCl) must control hydrogen chloride emissions such that the rate of emission is no greater than the larger of either 1.8 kilograms per hour or one percent of the hydrogen chloride in the stack gas prior to entering any pollution control equipment.

C. A thermal treatment facility thermally treating hazardous waste must not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) when corrected for the amount of oxygen in the stack gas according to the formula:

$$\text{Pc} = \text{Pm} \times \frac{14}{21 - \text{Y}}$$

where:

Pc = corrected concentration of particulate matter;

Pm = measured concentration of particulate matter; and

Y = measured concentration of oxygen in the stack gas; using the Orsat method for oxygen analysis of dry flue gas, presented in Code of Federal Regulations, title 40, part 60, appendix A (method 3) (1983). This correction procedure is to be used by all hazardous waste

thermal treatment facilities except those operating under conditions of oxygen enrichment. For these facilities the commissioner will select an appropriate correction procedure to be specified in the facility permit.

D. For purposes of permit enforcement, compliance with the operating requirements specified in the permit will be regarded as compliance with this part. However, evidence that compliance with these permit conditions is insufficient to ensure compliance with the performance requirements of this part may be information justifying modification, revocation, or reissuance of a permit.

E. A thermal treatment facility thermally treating hazardous wastes F020, F021, F022, F023, F026, and F027 listed under part 7045.0135, subpart 2 must achieve a destruction and removal efficiency ("DRE") of 99.9999 percent for each principal organic hazardous constituent designated in its permit. This performance must be demonstrated on principal organic hazardous constituents that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-p-dioxins and dibenzofurans. DRE is determined for each principal organic hazardous constituent from the equation in item A. In addition, the owner or operator of the thermal treatment facility must notify the commissioner of the intent to burn waste F020, F021, F022, F023, F026, or F027.

Subp. 5. Hazardous waste thermal treatment facility permits. Requirements for hazardous waste thermal treatment facility permits are as follows:

A. The owner or operator of a hazardous waste thermal treatment facility may thermally treat only wastes specified in the permit and only under operating conditions specified for these wastes under subpart 6, except for the following cases:

- (1) in approved trial burns under the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050; or
- (2) under exemptions created by subpart 1.

B. Other hazardous wastes may be thermally treated only after operating conditions have been specified in a new permit, or a permit modification as applicable. Operating requirements for new wastes may be based on either trial burn results or alternative data included with a permit application.

C. The permit for a new hazardous waste thermal treatment facility must establish appropriate conditions for each of the applicable requirements of this part, including but not limited to allowable waste feeds and operating conditions necessary to meet the requirements of subpart 6, sufficient to comply with the following standards:

- (1) For the period beginning with initial introduction of hazardous waste to the thermal treatment process and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in item B, not to exceed a duration of 720 hours operating time for treatment of hazardous waste, the operating requirements must be those most likely to ensure compliance with the performance standards of subpart 4, based on the commissioner's engineering judgment. The agency may once extend the duration of this period for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

- (2) For the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the performance standards of subpart 4, and must be in accordance with the approved trial burn plan.

- (3) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the agency, the operating requirements must be those most likely to ensure compliance with the performance standards of subpart 4 based on the commissioner's engineering judgment.

- (4) For the remaining duration of the permit, the operating requirements must be those demonstrated, in a trial burn or by alternative data specified in the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050, as sufficient to ensure compliance with the performance standards of subpart 4.

Subp. 6. **Operating requirements.** Operating requirements are as follows:

A. A thermal treatment facility must be operated in accordance with operating requirements specified in the permit. These will be specified on a case-by-case basis as those demonstrated in a trial burn or in alternative data as specified in subpart 5, item B and included with a facility's permit application to be sufficient to comply with the performance standards of subpart 4. The agency may specify additional operating requirements necessary to assure compliance with air quality emission and ambient limits and to protect public health and property.

B. Each set of operating requirements will specify the composition of the waste feed (including acceptable variations in the physical or chemical properties of the waste feed which will not affect compliance with the performance requirement of subpart 4) to which the operating requirements apply. For each waste feed, the permit shall specify acceptable operating limits, including the following conditions:

- (1) carbon monoxide level in the stack exhaust gas;
- (2) waste feed rate;
- (3) treatment process temperature;
- (4) an appropriate indicator of combustion gas velocity;
- (5) allowable variations in treatment system design or operating procedures;

and

(6) other operating requirements that are necessary to ensure that the performance standards of subpart 4, federal and state statutes and rules, and those required by the agency to protect the environment are met.

C. During start-up and shutdown of a thermal treatment process, hazardous waste, except ignitable waste exempted in accordance with subpart 1, must not be fed into the thermal treatment process unless the treatment process and air pollution control equipment are operating within the conditions of operation specified in the permit.

D. Fugitive emissions from the thermal treatment zone must be controlled by:

- (1) keeping the thermal treatment zone totally sealed against fugitive emissions;
- (2) maintaining a thermal treatment zone pressure lower than atmospheric pressure; or
- (3) an alternate means of control demonstrated with the permit application to provide fugitive emissions control equivalent to maintenance of thermal treatment zone pressure lower than atmospheric pressure.

E. A thermal treatment facility must be operated with a functioning system to automatically cut off waste feed to the treatment process when operating conditions deviate from limits established under item A.

F. A thermal treatment facility must cease operation when changes in waste feed, treatment process design, or operating conditions exceed limits designated in its permit.

Subp. 7. **Monitoring, reporting, and inspections.** Monitoring, reporting, and inspection requirements are as follows:

A. For monitoring:

(1) The owner or operator shall conduct monitoring while thermally treating hazardous waste. Treatment temperature, waste feed rate, oxygen, carbon dioxide, and the indicator of combustion gas velocity specified in the permit must be monitored on a continuous basis.

(2) Carbon monoxide, oxygen, and carbon dioxide must be monitored on a continuous basis at a point in the treatment facility downstream of the thermal treatment zone and prior to release to the atmosphere.

(3) Upon request by the commissioner, sampling and analysis of the waste and exhaust emissions must be conducted as specified in the permit to verify that the operating requirements established in the permit achieve the performance standards of subpart 4 and requirements of federal and state statutes, regulations, and rules.

(4) The agency may specify in the permit other monitors for demonstration of combustion and destruction efficiency of air pollutants.

B. The thermal treatment process and associated equipment must be subjected to thorough visual inspection at least daily for leaks, spills, fugitive emissions, and signs of tampering.

C. The emergency waste feed cut off system and associated alarms must be tested at least weekly to verify operability, unless the applicant demonstrates to the commissioner that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. Operational testing must be conducted at least monthly.

D. This monitoring and inspection data must be recorded and the records must be placed in the operating log required by part 7045.0478.

Subp. 8. **Closure.** At closure the owner or operator shall remove all hazardous waste and hazardous waste residues including, but not limited to, ash, scrubber waters, and scrubber sludges from the thermal treatment facility site. At closure, as throughout the operating period, unless the owner or operator can demonstrate that any waste removed from the thermal treatment process or equipment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it in accordance with the requirements of parts 7045.0205 to 7045.1030.

Subp. 9. **Open burning; waste explosives.** Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate, and bulk military propellants which cannot safely be disposed through other modes of treatment. Detonation is an explosion in which chemical transformation passes through the material faster than the speed of sound (0.33 kilometers/second at sea level). Owners or operators choosing to open burn or detonate waste explosives shall do so in accordance with the following table and in a manner that does not threaten human health or the environment.

Property Line Separation

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others
0 to 100	204 meters (670 feet)
101 to 1,000	380 meters (1,250)
1,001 to 10,000	530 meters (1,730)
10,001 to 30,000	690 meters (2,260)

Statutory Authority: *MS s 116.07*

History: 9 SR 115; 10 SR 1212; 10 SR 1688; L 1987 c 186 s 15; 17 SR 1279; 18 SR 614

7045.0544 COCHRAN'S APPROXIMATION TO THE BEHRENS-FISHER STUDENTS' T-TEST.

Subpart 1. **In general.** Subpart 2 describes Cochran's approximation to the Behrens-Fisher Students' t-test. Subpart 3 presents the standard t-tables at the 0.05 level of significance.

Subp. 2. **Cochran's Approximation to the Behrens-Fisher Students' t-test.** Using all the available background data (n_b readings), calculate the background mean (X_B) and background variance (s_B^2). For the single monitoring well under investigation (n_m reading), calculate the monitoring mean (X_m) and monitoring variance (s_m^2).

For any set of data (X_1, X_2, \dots, X_n) the mean is calculated by:

$$\bar{X} = \frac{X_1 + X_2 \dots + X_n}{n}$$

and the variance is calculated by:

$$s^2 = \frac{(X_1 - \bar{X})^2 + (X_2 - \bar{X})^2 \dots + (X_n - \bar{X})^2}{n-1}$$

where "n" denotes the number of observations in the set of data.

The t-test uses these data summary measures to calculate a t-statistic (t^*) and a comparison t-statistic (t_c). The t^* value is compared to the t_c value and a conclusion reached as to whether there has been a statistically significant change in any indicator parameter.

The t-statistic for all parameters except pH and similar monitoring parameters is:

$$t^* = \sqrt{\frac{X_m - \bar{X}_B}{\frac{S_m^2}{n_m} + \frac{S_B^2}{n_B}}}$$

If the value of this t-statistic is negative then there is no significant difference between the monitoring data and background data. It should be noted that significantly small negative values may be indicative of a failure of the assumption made for test validity or errors have been made in collecting the background data.

The t-statistic (t_c), against which t^* will be compared, necessitates finding t_B and t_m from standard (one-tailed) tables where,

t_B = t-tables with (n_B-1) degrees of freedom, at the 0.05 level of significance.

t_m = t-tables with (n_m-1) degrees of freedom, at the 0.05 level of significance.

Finally, the special weightings W_B and W_m are defined as:

$$W_B = \frac{S_B^2}{n_B} \quad \text{and} \quad W_M = \frac{S_m^2}{n_m}$$

and so the comparison t-statistic is:

$$t_c = \frac{W_B t_B + W_m t_m}{W_B + W_m}$$

The t-statistic (t^*) is now compared with the comparison t-statistic (t_c) using the following decision-rule:

If t^* is equal to or larger than t_c , then conclude that there most likely has been a significant increase in this specific parameter.

If t^* is less than t_c , then conclude that most likely there has not been a change in this specific parameter.

The t-statistic for testing pH and similar monitoring parameters is constructed in the same manner as previously described except the negative sign (if any) is discarded and the caveat concerning the negative value is ignored. The standard (two-tailed) tables are used in the construction t_c for pH and similar monitoring parameters.

If t^* is equal to or larger than t_c then conclude that there most likely has been a significant increase (if the initial t^* had been negative, this would imply a significant decrease). If t^* is less than t_c , then conclude that there most likely has been no change.

A further discussion of the test may be found in Statistical Methods (Sixth Edition, section 4.14) by G.W. Snedecor and W.G. Cochran, or Principles and Procedures of Statistics (First Edition, section 5.8) by R.G.D. Steel and J.H. Torrie.

Subp. 3. **Standard T—Tables 0.05 Level of Significance¹.**Standard T—Tables 0.05 Level of Significance¹

Degrees of Freedom	t-values (one-tail)	t-values (two-tail)
1	6.314	12.706
2	2.920	4.303
3	2.353	3.182
4	2.132	2.776
5	2.015	2.571
6	1.943	2.447
7	1.895	2.365
8	1.860	2.306
9	1.833	2.262
10	1.812	2.228
11	1.796	2.201
12	1.782	2.179
13	1.771	2.160
14	1.761	2.145
15	1.753	2.131
16	1.746	2.120
17	1.740	2.110
18	1.734	2.101
19	1.729	2.093
20	1.725	2.086
21	1.721	2.080
22	1.717	2.074
23	1.714	2.069
24	1.711	2.064
25	1.708	2.060
30	1.697	2.042
40	1.684	2.021

¹Adopted from Table III of Statistical Tables for Biological, Agricultural, and Medical Research (1947, R.A. Fisher and F. Yates).

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0547 FEDERAL AIR EMISSION STANDARDS FOR PROCESS VENTS.

Subpart 1. **Federal regulation adopted.** If the applicant proposes to treat, store, or dispose of hazardous waste in a facility that uses process vents as defined in Code of Federal Regulations, title 40, section 264.1031, as amended, the applicant must comply with the air emission standards for process vents in Code of Federal Regulations, title 40, subpart AA, sections 264.1030 to 264.1049, as amended.

Subp. 2. **Exceptions to adopted federal regulation.** Exceptions to the federal regulation adopted in subpart 1 are as follows:

A. references in the adopted regulation to other federal regulations also refer to the corresponding Minnesota rules; and

B. references in the adopted regulation to “regional administrator” mean “agency commissioner.”

Statutory Authority: *MS s 116.07*

History: *16 SR 2321*

7045.0548 FEDERAL AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS.

Subpart 1. **Federal regulation adopted.** If the applicant proposes to treat, store, or dispose of hazardous waste in a facility that uses equipment as defined in Code of Federal Regulations, title 40, section 264.1031, as amended, the applicant must comply with the air emission standards for equipment leaks in Code of Federal Regulations, title 40, subpart BB, sections 264.1050 to 264.1079, as amended.

Subp. 2. **Exceptions to adopted federal regulation.** Exceptions to the federal regulation adopted in subpart 1 are as follows:

A. references in the adopted regulation to other federal regulations also refer to the corresponding Minnesota rules; and

B. references in the adopted regulation to "regional administrator" mean "agency commissioner."

Statutory Authority: *MS s 116.07*

History: *16 SR 2321*

7045.0550 [Renumbered 7045.0397]

INTERIM STATUS STANDARDS

7045.0552 FACILITIES GOVERNED BY INTERIM STATUS.

Subpart 1. **General requirements.** Parts 7045.0552 to 7045.0642 establish minimum standards for the management of hazardous waste during the period of interim status and until certification of final closure or, if the facility is subject to postclosure requirements, until postclosure responsibilities are fulfilled. These standards apply to owners and operators of existing facilities who have fully complied with the requirements for state or federal interim status until a permit is issued or until applicable interim status closure and postclosure responsibilities are fulfilled, and those who have failed to achieve state or federal interim status. These standards apply to all treatment, storage, or disposal of hazardous waste at these facilities after July 16, 1984, except as specifically provided otherwise.

For existing facilities which were not required to obtain federal interim status under the Resource Conservation and Recovery Act, United States Code, title 42, sections 6901 to 6986, as amended through June 30, 1983, but are required to obtain state interim status, the requirements of parts 7045.0590; 7045.0592; 7045.0632, subpart 4, items A and B; 7045.0634, subpart 2; 7045.0638, subparts 2, 7, and 8, become effective 12 months after July 16, 1984, and the requirements of parts 7045.0608 to 7045.0624 become effective 90 days after July 16, 1984.

Parts 7045.0552 to 7045.0642 apply to the owners and operators of all facilities that treat, store, or dispose of hazardous waste referred to in parts 7045.1300 to 7045.1380, land disposal restrictions, and those restrictions are considered material conditions or requirements of parts 7045.0552 to 7045.0642, interim status standards.

Subp. 1a. **Applicability for owners and operators of facilities not regulated as hazardous waste facilities by federal regulation.** Owners and operators of hazardous waste facilities that are not federally regulated as hazardous waste facilities that are, for example, regulated as facilities by state rule only, are subject to the applicable requirements of parts 7045.0552 to 7045.0642 on the effective date of any rules that make the facility subject to regulation. The facility shall submit a Part B application for a hazardous waste facility permit to the commissioner within one year of the effective date of any rules that first make the facility subject to the requirement to obtain a hazardous waste facility permit.

Subp. 2. **Existing hazardous waste facilities.** For facilities subject to the provisions of Code of Federal Regulations, title 40, part 265 (1983) an "existing hazardous waste facility" or "existing facility" means a facility which was in operation or for which construction commenced on or before November 19, 1980. For all other facilities, an "existing hazardous waste facility" or "existing facility" means a facility which was in operation on or before July 16, 1984, or for which construction commenced on or before July 16, 1984. 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 either:

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.

Subp. 3. **Exemptions.** The requirements of parts 7045.0522 to 7045.0642 do not apply to:

A. The owner or operator of a publicly owned treatment works which treats, stores, or disposes of hazardous waste. The owner or operator of a publicly owned treatment works is subject to the requirements of parts 7045.0450 to 7045.0544 to the extent they are included in a permit-by-rule granted to such a person, under the agency permitting procedures.

B. The owner or operator of a facility managing recyclable hazardous wastes subject to regulation under part 7045.0125, 7045.0665, 7045.0675, or 7045.0685; however, this exemption does not apply where part 7045.0125, 7045.0665, 7045.0675, or 7045.0685 makes the requirements of parts 7045.0522 to 7045.0642 applicable by cross-reference.

C. A generator accumulating waste on-site in compliance with part 7045.0292, except to the extent the requirements are included in part 7045.0292.

D. A farmer disposing of waste pesticides from the farmer's own use in compliance with part 7045.0213, subpart 2.

E. The owner or operator of a totally enclosed treatment facility.

F. The owner or operator of an elementary neutralization unit, pretreatment unit, or wastewater treatment unit, if the unit does not receive hazardous waste from generators other than the owner or operator of the unit.

G. The owner or operator of that portion of a combustion waste facility which is used to manage hazardous wastes produced in conjunction with the combustion of fossil fuels if the wastes:

(1) are generated on-site;

(2) traditionally have been and actually are mixed with and codisposed or co-treated with fly ash, bottom ash, boiler slag, or flue gas emission control wastes from coal combustion; and

(3) are necessarily associated with the production of energy, such as boiler cleaning solutions, boiler blowdown, demineralizer regenerant, pyrites, and cooling tower blowdown.

H. A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of part 7045.0270, subpart 4 at a transfer facility for a period of ten days or less in compliance with part 7045.0365.

I. Persons with respect to the addition of absorbent material to hazardous waste in a container or the addition of hazardous waste to absorbent material in a container if these actions occur at the time hazardous waste is first placed in the container, and part 7045.0562, subpart 2, and 7045.0626, subparts 2 and 3, are complied with.

J. (1) Except as provided in subitem (2), a person engaged in treatment or containment activities during immediate response to any of the following situations: a discharge of a hazardous waste, an imminent and substantial threat of a discharge of a hazardous waste, or a discharge of a material which, when discharged, becomes a hazardous waste.

(2) An owner or operator of a facility otherwise regulated by parts 7045.0552 to 7045.0642 shall comply with all applicable requirements of parts 7045.0395, 7045.0397, 745.0558, and 7045.0566 to 7045.0576.

(3) A person who is covered by subitem (1) and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of parts 7045.0552 to 7045.0642 and the agency's permitting procedures for those activities.

Subp. 4. Restrictions. Hazardous wastes F020, F021, F022, F023, F026, F027, and F028 listed under part 7045.0135, subpart 2 must not be managed at facilities governed by interim status unless:

A. the wastewater treatment sludge is generated in a surface impoundment as part of the plant's wastewater treatment system;

B. the waste is stored in tanks or containers; or

C. the waste is stored or treated in waste piles that are enclosed in accordance with part 7045.0534, subpart 1 and comply with all other provisions of part 7045.0534.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 10 SR 929; 10 SR 1212; 10 SR 1688; 11 SR 1832; L 1987 c 186 s 15; 13 SR 1238; 16 SR 2102; 16 SR 2239*

7045.0554 QUALIFICATIONS FOR OBTAINING INTERIM STATUS.

Subpart 1. **Qualifications for obtaining state interim status.** Any person who owns or operates an existing facility, has filed Part A of the permit application for the type of facility owned or operated with this agency within 90 days after July 16, 1984, or to Environmental Protection Agency Region V, and has not received federal interim status shall be treated as having state interim status and a permit until such time as final disposition of the permit application is made.

Subp. 2. **Qualification for obtaining federal interim status.** Owners or operators of existing facilities having fully complied with the requirements for interim status under the Resource Conservation and Recovery Act of 1976, United States Code, title 42, sections 6901 to 6986, as amended through June 30, 1983, before July 16, 1984, are considered to have federal interim status and are not required to obtain state interim status.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0556 GENERAL FACILITY STANDARDS.

Subpart 1. **Scope.** This part applies to owners and operators of all hazardous waste facilities except as provided by part 7045.0552.

Subp. 2. **Identification number.** A facility owner or operator shall apply for an identification number in accordance with agency procedures.

Subp. 3. **Required notices.** Notices are required in the following situations:

A. The owner or operator of a facility who has arranged to receive hazardous waste from a foreign source shall notify the commissioner as well as the Environmental Protection Agency Region V Administrator in writing at least four weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

B. No facility owner or operator may accept a shipment of hazardous waste which he or she is not allowed to manage under interim status. The owner or operator shall notify the commissioner immediately upon receiving such hazardous wastes.

C. Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post closure care period, the owner or operator shall notify the new owner or operator in writing of the requirements of parts 7045.0552 to 7045.0642. An owner's or operator's failure to notify the new owner or operator of these requirements does not relieve the new owner or operator of the obligation to comply with all applicable requirements.

Subp. 4. **Security.** Security measures include the following:

A. The owner or operator shall prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of the facility, unless:

(1) physical contact with the waste, structures, or equipment with the active portion of the facility will not injure unknowing or unauthorized persons or livestock which could enter the active portion of a facility; and

(2) disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of parts 7045.0552 to 7045.0642.

B. Unless exempt under item A, a facility must have:

(1) a 24-hour surveillance system which continuously monitors and controls entry onto the active portion of the facility; or

(2) an artificial or natural barrier which completely surrounds the active portion of the facility and a means to control entry at all times through the gates or other entrances to the active portion of the facility.

C. Unless exempt under item A, a sign with the legend, "Danger—Unauthorized Personnel Keep Out," must be posted at each entrance to the active portion of a facility and at other locations in sufficient numbers to be seen from any approach to the active portion. The legend must be written in English and in any other language predominant in the area sur-

rounding the facility and must be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger—Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion and that entry onto the active portion can be dangerous.

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

A. The owner or operator shall inspect the facility for malfunctions and deterioration, operator errors, and discharges which may be causing or may lead to the release of hazardous waste constituents to the environment or a threat to human health. The owner or operator shall conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

B. The owner or operator shall develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment that are important to preventing, detecting, or responding to environmental or human health hazards. The owner or operator shall keep this schedule at the facility. The schedule must identify the types of problems which are to be looked for during the inspection.

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; 7045.0640, 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.

D. The owner or operator shall remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

E. The owner or operator shall record inspections in an inspection log or summary. He or she shall keep these records for at least three years from the date of inspection. These records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

Subp. 6. Location in floodplains. A facility located in a 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood.

As used herein:

A. "100-year floodplain" means any land area which is subject to a one percent or greater chance of flooding in any given year from any source;

B. "washout" means the flow of hazardous waste from the active portion of the facility, the buildings, or equipment as a result of flooding; and

C. "100-year flood" means a flood that has a one percent chance of being equalled or exceeded in any given year.

Subp. 7. Prohibition. Placement of a hazardous waste in a salt dome, salt bed formation, underground mine, or cave is prohibited.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 11 SR 1832; L 1987 c 186 s 15; 13 SR 259; 16 SR 2321*

7045.0558 PERSONNEL TRAINING.

Subpart 1. In general. Hazardous waste facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this chapter. The owner or operator shall ensure that this program includes all the elements described in the document required by subpart 6, item C.

Subp. 2. **Program director.** This program must be directed by a person trained in hazardous waste management procedures.

Subp. 3. **Minimum program requirements.** The training program must include instruction which teaches facility personnel hazardous waste management procedures relevant to the positions in which they are employed, including contingency plan implementation procedures. The training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

- A. procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
- B. key parameters for automatic waste feed cutoff systems;
- C. communications or alarm systems;
- D. procedures for response to fires or explosions;
- E. procedures for response to ground water contamination incidents; and
- F. procedures for shutdown of operations.

Subp. 4. **Effective date.** Facility personnel shall successfully complete the program required in subpart 3 by July 16, 1984 or six months after the date of their employment or assignment to a facility or to a new position at a facility, whichever is later. Facility personnel not subject to the requirements of Code of Federal Regulations, title 40, section 265.16 (1983) shall successfully complete the program required in subpart 3 by October 16, 1984, or six months after the date of their employment or assignment to a facility or assignment to a new position at a facility, whichever is later. Employees hired after July 16, 1984, shall not work in unsupervised positions until they have completed the training requirements of subparts 1 to 3.

Subp. 5. **Training review.** Facility personnel shall take part in an annual review of the initial training required in subparts 1 to 3.

Subp. 6. **Personnel records.** The following documents and records must be maintained at the facility:

- A. The job title for each position at the facility related to hazardous waste management and the name of the employee filling each job.
- B. A written job description for each position at the facility related to hazardous waste. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position.
- C. A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position described in item A.
- D. Records that document that the training or job experience required under subparts 1 to 5 has been given to, and completed by, facility personnel.

Subp. 7. **Record retention.** Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; L 1987 c 186 s 15; 14 SR 2248*

7045.0560 [Repealed by amendment, 9 SR 115]

7045.0562 GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE.

Subpart 1. **Required notices.** The owner or operator shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction, including but not limited to open flames, smoking, cutting and welding, hot surfaces, frictional heat, static sparks, electrical sparks, mechanical sparks, spontaneous ignition, and radiant heat. While ignitable or reactive waste

is being handled, the owner or operator shall confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

Subp. 2. **Required precautions.** When specifically required by other rules in this chapter, the owner or operator of a facility that treats, stores, or disposes of ignitable or reactive waste or mixes incompatible waste or incompatible wastes and other materials, shall take precautions to prevent reactions which:

A. generate extreme heat, pressure, fire, explosions, or violent reactions unless the process is designed to handle these types of reactions;

B. produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;

C. produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

D. damage the structural integrity of the device or facility; or

E. through other like means threaten human health or the environment.

Subp. 3. **Documentation of compliance.** When required to comply with subpart 1 or 2, the owner or operator shall document that compliance. This documentation may be based on reference to published scientific or engineering literature, data from trial tests, waste analyses, or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

Statutory Authority: *MS s 116.07 subs 4,4b*

History: *9 SR 115*

7045.0564 WASTE ANALYSIS REQUIREMENTS.

Subpart 1. **Waste analysis.** The analysis must comply with the requirements in items A to D.

A. Before an owner or operator treats, stores, or disposes of any hazardous waste, or nonhazardous waste if applicable under part 7045.0596, subpart 2a, the owner or operator shall obtain a detailed chemical and physical analysis of a representative sample of the waste. This analysis must contain all the information which must be known in order to treat, store, or dispose of the waste in accordance with the requirements of parts 7045.0552 to 7045.0642 and 7045.1300 to 7045.1380.

B. The analysis may include data developed under parts 7045.0100 to 7045.0143, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes, including data obtained from the generator.

C. The analysis must be repeated as necessary to ensure that it is accurate and up-to-date. The analysis must be repeated:

(1) when the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste, or nonhazardous waste if applicable under part 7045.0596, subpart 2a, has changed; and

(2) for off-site facilities, when the results of the inspection required in item D indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

D. The owner or operator of an off-site facility shall inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

Subp. 2. **Waste analysis plan.** The owner or operator shall develop and follow a written waste analysis plan which describes the procedures the owner or operator will carry out to comply with subpart 1. The owner or operator shall keep this plan at the facility. The plan must specify:

A. The parameters for which each hazardous waste, or nonhazardous waste if applicable under part 7045.0596, subpart 2a, will be analyzed and the rationale for the selection of these parameters.

B. The test methods which will be used to test for these parameters.

C. The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(1) one of the sampling methods described in Code of Federal Regulations, title 40, part 261, appendix I (1983); or

(2) an equivalent sampling method as approved by the commissioner.

D. The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up-to-date.

E. For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply.

F. Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in parts 7045.0628, subpart 12; 7045.0630, subpart 4; 7045.0632, subpart 3; 7045.0634, subpart 3; 7045.0638, subpart 7; 7045.0640, subpart 2; 7045.0642, subpart 3; and 7045.1315; and the process vent and equipment leak test methods and procedures in Code of Federal Regulations, title 40, sections 264.1034(d) and 264.1063(d), as amended.

G. For off-site facilities, the waste analysis plan must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. The plan must describe:

(1) the procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) the sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

H. For surface impoundments exempted from the land disposal restrictions under part 7045.1310, the procedures and schedule for:

(1) the sampling of impoundment contents;

(2) the analysis of test data; and

(3) the annual removal of residues which are not delisted under part 7045.0075, subpart 2, or which exhibit a characteristic of hazardous waste under part 7045.0131, and either do not meet applicable treatment standards of parts 7045.1350 to 7045.1360, or, where no treatment standards have been established, such residues are prohibited from land disposal under parts 7045.1320 to 7045.1333 or RCRA section 3004(d).

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 11 SR 1832; L 1987 c 186 s 15; 13 SR 259; 13 SR 1238; 16 SR 1225; 16 SR 2102; 16 SR 2239; 16 SR 2321*

7045.0566 PREPAREDNESS AND PREVENTION.

Subpart 1. **Scope.** This part applies to owners and operators of all hazardous waste facilities, except as provided otherwise in part 7045.0552.

Subp. 2. **Operation of facility.** Facilities must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or nonsudden release to air, land, or water of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Subp. 3. **Required equipment.** All facilities must be equipped with the following, unless it can be demonstrated to the commissioner that none of the hazards posed by waste handled at the facility could require the particular equipment specified below in items A to D:

A. an internal communications or alarm system capable of providing immediate emergency instruction to facility personnel;

B. a device, such as a telephone or a hand-held two-way radio, which is immediately available at the scene of operations and which is capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;

C. portable fire extinguishers, spill control equipment, decontamination equipment, and fire control equipment, including special extinguishing devices such as those using foam, inert gas, or dry chemicals; and

D. water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems.

Subp. 4. **Testing and maintenance of equipment.** All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to ensure proper operation in time of emergency.

Subp. 5. **Access to communications or alarm system.** Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation shall have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless the commissioner has ruled that such a device is not required under subpart 3.

If at any time only one employee is on the premises while the facility is operating, that employee shall have immediate access to a device, such as a telephone or a hand-held, two-way radio, which is immediately available at the scene of operation and which is capable of summoning external emergency assistance unless the commissioner has ruled that such a device is not required under subpart 3.

Subp. 6. **Required aisle space.** The owner or operator shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency unless it can be demonstrated to the commissioner that aisle space is not needed for any of these purposes.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

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 layout of 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;

B. where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

C. agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and

D. arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

Subp. 2. **Refusal by authorities.** If state or local authorities decline to enter into arrangements described in subpart 1, the owner or operator shall document the refusal in the operating record.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0570 [Repealed by amendment, 9 SR 115]

7045.0572 CONTINGENCY PLAN.

Subpart 1. **Scope.** Parts 7045.0568 to 7045.0576 apply to owners and operators of all hazardous waste facilities, except as provided otherwise in part 7045.0552.

Subp. 2. **General requirements.** An owner or operator shall have a contingency plan for the facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, land, or water.

Subp. 3. **Implementation of plan.** The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Subp. 4. **Content of contingency plan.** The contingency plan must comply with the following:

A. The contingency plan must describe the actions facility personnel must take to comply with subparts 2 and 3, and part 7045.0574.

B. If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures Plan in accordance with Code of Federal Regulations, title 40, sections 112 and 1510 (1983), or some other emergency or contingency plan, that plan must only be amended to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this chapter.

C. The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services pursuant to part 7045.0568.

D. The plan must list names, addresses, and office and home telephone numbers of all persons qualified to act as emergency coordinator, and this list must be kept up-to-date. If more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.

E. The plan must include a list of all emergency equipment at the facility such as fire extinguishing systems, spill control equipment, internal and external communications and alarm systems, and decontamination equipment, where this equipment is required. This list must be kept up-to-date. In addition, the plan must include the location and a physical description of each item on the list and a brief outline of its capabilities.

F. The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe the signal or signals to be used to begin evacuation, evacuation routes, and alternate evacuation routes in cases where the primary routes could be blocked by the release of hazardous waste or fire.

Subp. 5. **Copies of contingency plan.** A copy of the contingency plan and all revisions to the plan must be:

A. maintained at the facility; and

B. submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.

Subp. 6. **Amendment of contingency plan.** The contingency plan must be reviewed, and immediately amended if necessary, whenever:

A. the applicable rules are revised;

B. the plan fails in an emergency;

C. the facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or the release of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;

D. the list of emergency coordinators changes; or

E. the list of emergency equipment changes.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0574 EMERGENCY PROCEDURES.

Subpart 1. **Emergency coordinator.** At all times, there must be at least one employee either on the facility premises or on call with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. This person must also have the authority to commit the resources needed to carry out the contingency plan. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste handled by the facility and type and complexity of the facility.

Subp. 2. **Notification of emergency.** Whenever there is an imminent or actual emergency situation, 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 there is a release, fire, or explosion, 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 release, fire, or explosion. 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 facility has had a release, fire, or explosion which could threaten human health or the environment outside the facility, the findings must be reported as provided in items A and B:

A. If the assessment indicates that evacuation of local areas may be advisable, the appropriate local authorities must be immediately notified, and the emergency coordinator shall be available to help appropriate officials decide whether local areas should be evacuated.

B. The agency's emergency response unit must be immediately notified at the 24-hour telephone number, (612) 296-8100, and notification must also be given to either the governmental official designated as the on-scene coordinator for that geographical area in the applicable regional contingency plan under Code of Federal Regulations, title 40, part 1510 (1983) or to the National Response Center using their 24-hour toll free telephone number, (800) 424-8802. The report must include:

- (1) name and telephone number of reporter;
- (2) name and address of facility;
- (3) time and type of incident;
- (4) name and quantity of material involved, to the extent known;
- (5) the extent of injuries, if any; and
- (6) the possible hazards to human health or the environment outside the facility.

Subp. 6. Duty to notify. The emergency coordinator shall immediately notify the agency if the released hazardous waste may cause pollution of the air, land resources, or waters of the state. The emergency coordinator shall use the agency's 24-hour telephone number (612) 296-8100.

Subp. 7. Containment measures. During an emergency, 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 a fire, explosion, or release, 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: 9 SR 115; 14 SR 2248

7045.0576 POST EMERGENCY REQUIREMENTS.

Subpart 1. Cleanup. Immediately after an emergency, 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

7045.0100 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.

Subp. 2. Notice before resuming operations. The owner or operator shall notify the regional administrator, the commissioner, and other appropriate state and local authorities that the facility is in compliance with subpart 1 before operations are resumed in the affected area or areas of the facility.

Subp. 3. Reporting. The owner or operator shall note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he or she shall submit a written report on the incident to the commissioner. The report must include:

- A. name, address, and telephone number of the owner or operator;
- B. name, address, and telephone number of the facility;
- C. date, time, and type of incident;
- D. name and quantity of material involved;
- E. the extent of injuries, if any;
- F. an assessment of actual or potential hazards to human health or the environment, where this is applicable; and

G. estimated quantity and disposition of recovered material that resulted from the incident.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.0578 FACILITY SHIPMENT REQUIREMENTS.

Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility shall comply with the requirements of parts 7045.0205 to 7045.0320.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 16 SR 2102*

7045.0580 MANIFEST SYSTEM.

Subpart 1. Scope. This part applies to owners and operators of both on-site and off-site facilities, except as part 7045.0552 provides otherwise. The provisions of subpart 2 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources.

Subp. 2. General manifest requirements. If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or this person's agent, shall:

A. Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received.

B. Note any discrepancies in the manifest on each copy of the manifest. The owner or operator of a facility whose procedures under part 7045.0564, subpart 2, item G, include waste analysis need not perform that analysis before signing the manifest and giving it to the transporter. However, part 7045.0582, subpart 3, requires reporting any discrepancy discovered during later analysis.

C. Immediately give the transporter at least one copy of the signed manifest.

D. Within ten days after the delivery, send a copy of the manifest to the generator and the commissioner.

E. Retain at the facility a copy of each manifest for at least three years from date of delivery.

Subp. 3. Rail and water shipment requirements. If a facility receives from a rail or water bulk shipment transporter hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest, the owner or operator, or agent shall:

A. Sign and date each copy of the manifest or shipping paper, if the manifest has not been received, to certify that the hazardous waste covered by the manifest or shipping paper was received.

B. Note any discrepancies in the manifest or shipping paper, if the manifest has not been received, on each copy of the manifest or shipping paper. The owner or operator of a facility whose procedures under part 7045.0564, subpart 2, item G, include waste analysis need not perform that analysis before signing the shipping paper and giving it to the transporter. However, part 7045.0582, subpart 3, requires reporting any discrepancy discovered during later analysis.

C. Immediately give the rail or water bulk shipment transporter at least one copy of the signed manifest or shipping paper, if the manifest has not been received.

D. Within ten days after the delivery, send a copy of the signed and dated manifest to the generator; however, if the manifest has not been received within ten days after delivery, the owner or operator, or agent, shall send a copy of the shipping paper signed and dated to the generator. The generator is required under part 7045.0265 to send three copies of the manifest to the facility when hazardous waste is sent by rail or water bulk shipment.

E. Retain at the facility a copy of the manifest or shipping paper, if signed in lieu of the manifest at the time of delivery, for at least three years from the date of delivery.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15; 17 SR 1279*

7045.0582 MANIFEST DISCREPANCIES.

Subpart 1. **Scope.** This part applies to owners and operators of both on-site and off-site facilities, except as part 7045.0552 provides otherwise. This part does not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources.

Subp. 2. **Definition of discrepancy.** Manifest discrepancies are defined as significant or minor as follows:

A. Significant discrepancies include differences between the quantity or type of hazardous waste designated on the manifest or shipping paper and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are weight differences for bulk wastes greater than ten percent and variation in piece count for batch waste, such as a difference of one drum in a truckload. Significant discrepancies in types of waste are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

B. Minor discrepancies are all other discrepancies including but not limited to manifests other than the required Minnesota manifest (Minnesota Form PQ-00371-01), incomplete manifests or shipping papers, manifests or shipping papers which are inconsistent, and a container or portable tank containing hazardous waste which is not properly labeled.

Subp. 3. **Handling of discrepancies.** Upon discovery of a discrepancy, the owner or operator of a treatment, storage or disposal facility shall take action as described in item A, B, or C, as applicable:

A. Upon discovering a significant discrepancy, the owner or operator shall attempt to reconcile the discrepancy with the waste generator and transporter. If the discrepancy is not resolved in ten days, the owner or operator shall immediately submit to the commissioner a letter describing the discrepancy, attempts made to reconcile it, and a copy of the manifest or shipping paper. The type of discrepancy must be noted on the manifest.

B. Upon discovering a minor discrepancy, the owner or operator must attempt to reconcile the discrepancy with the waste generator and transporter. The owner or operator shall indicate the type of discrepancy and its resolution on the manifest. If the discrepancy cannot be reconciled, the owner or operator shall note this on the manifest with a brief explanation.

C. If a movement of hazardous waste is delivered to a facility not allowed to manage the waste under interim status, the owner or operator shall notify the commissioner immediately.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; 9 SR 2118; L 1987 c 186 s 15*

7045.0584 OPERATING RECORD.

Subpart 1. **Scope.** This part applies to owners and operators of both on-site and off-site facilities, except as part 7045.0552 provides otherwise.

Subp. 2. **Record requirements.** The owner or operator shall keep a written operating record at the facility.

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:

A. The names of the generators of the hazardous waste and their identification numbers.

B. The date of arrival of each movement along with the transporter's name and identification numbers.

C. A description and the quantity of each hazardous waste received, and the method and date of treatment, storage, or disposal at the facility.

D. The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this information must include cross references to specific manifest document numbers, if the waste was accompanied by a manifest.

E. Records and results of waste analyses and trial tests performed as specified in parts 7045.0564; 7045.0628, subpart 12; 7045.0630, subpart 4; 7045.0632, subpart 3; 7045.0634, subpart 3; 7045.0638, subpart 7; 7045.0640, subpart 2; 7045.0642, subpart 3; 7045.1310; and 7045.1315; and the process vent and equipment leak test methods and procedures in Code of Federal Regulations, title 40, sections 264.1034 and 264.1063, as amended.

F. Summary reports and details of all incidents that require implementing the contingency plan as specified in part 7045.0572, subpart 3.

G. Records and results of inspections as required by part 7045.0556, subpart 5.

H. Monitoring, testing, or analytical data where required by parts 7045.0590, subparts 1, 6, and 7; 7045.0592, subparts 1 and 7; 7045.0628, subparts 2, 4, 5, and 7; 7045.0634, subparts 4 and 6, item D, subitem (1); 7045.0636; 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 post closure period.

I. All closure cost estimates under part 7045.0610 and, for disposal facilities, all post closure estimates under part 7045.0614.

J. Records of the quantities and date of placement of each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted under part 7045.0075, subpart 8 or 9, monitoring data required pursuant to a petition under part 7045.0075, subpart 9, or a certificate and demonstration under Code of Federal Regulations, title 40, section 268.8, and the notice required by a generator under part 7045.1315, subpart 1, item C.

K. For an off-site treatment facility, the notice, and the certification and demonstration, if applicable, required by a generator or the owner or operator under Code of Federal Regulations, title 40, section 268.8, and part 7045.1315, subpart 1, item A.

L. For an on-site treatment facility, the information contained in the notice and the certification and demonstration, if applicable, required by a generator or the owner or operator under Code of Federal Regulations, title 40, section 268.8, and part 7045.1315, subpart 1, item A, except for the manifest number required under part 7045.1315, subpart 1, item A, subitem (3).

M. For an off-site land disposal facility, the notice, certification and demonstration, if applicable, required by the generator, owner or operator of a treatment facility under Code of Federal Regulations, title 40, section 268.8, or part 7045.1315, subpart 2, items A and B, for the facility or part 7045.1315, subpart 1, item B, for the generator, whichever is applicable.

N. For an on-site land disposal facility, the information contained in the notice and the certification and demonstration, if applicable, required by a generator or the owner or operator under Code of Federal Regulations, title 40, section 268.8, or part 7045.1315 except for the manifest number, whichever is applicable.

O. For an off-site storage facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under Code of Federal Regulations, title 40, section 268.8, or part 7045.1315.

P. For an on-site storage facility, the information contained in the notice, except the manifest number, and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under Code of Federal Regulations, title 40, section 268.8, or part 7045.1315.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 11 SR 1832; 13 SR 259; 13 SR 1238; 16 SR 2239; 16 SR 2321*

7045.0586 RETENTION AND DISPOSITION OF RECORDS.

Subpart 1. **Scope.** This part applies to owners and operators of both on-site and off-site facilities, except as part 7045.0552 provides otherwise.

Subp. 2. **Retention of records.** The retention period for all records required under parts 7045.0552 to 7045.0642 is three years and is extended automatically during the course of any unresolved enforcement action regarding the facility.

Subp. 3. **Disposition of records.** A copy of records of waste disposal locations and quantities under part 7045.0584, subpart 3, item D, must be submitted to the Environmental Protection Agency Region V Administrator, the commissioner, and local land authority upon closure of the facility.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.0588 REQUIRED REPORTS.

Subpart 1. **Scope.** This part applies to owners and operators of both on-site and off-site facilities, except as part 7045.0552 provides otherwise. The provisions of subpart 3 do not apply to owners or operators of on-site facilities that do not receive any hazardous waste from off-site sources.

Subp. 2. **Annual report.** The owner or operator shall prepare and submit a single copy of an annual report to the commissioner, no later than March 1 for the preceding calendar year. The report form and instructions to be used may be obtained from the commissioner. The annual report must cover facility activities during the previous calendar year and must include the following information:

- A. the identification number, name, and address of the facility;
- B. the year covered by the report;
- C. for off-site facilities, the identification number of each hazardous waste generator for whom the facility treated, disposed, or stored a hazardous waste during the year, and for imported shipments, the report must give the name and address of the foreign generator;
- D. a description and the quantity of each hazardous waste the facility treated, disposed of, or stored during the year. For off-site facilities, this information must be listed by identification number of each generator;
- E. the method of treatment, storage, or disposal for each hazardous waste;
- F. monitoring data under part 7045.0590, subpart 7 where required;
- G. the most recent closure cost estimate under part 7045.0610 and for disposal facilities, the most recent post closure cost estimate under part 7045.0614;
- H. for generators who treat, store, or dispose of hazardous waste on-site, a description of the efforts undertaken during the year to reduce the volume and toxicity of the waste generated;
- I. for generators who treat, store, or dispose of hazardous waste on-site, a description of the changes in volume and toxicity actually achieved during the year in comparison to previous years to the extent such information is available for the years prior to 1984; and

J. the certification signed by the owner or operator of the facility or an authorized representative.

Subp. 3. Unmanifested waste report. If a shipment of hazardous waste is delivered to a hazardous waste facility from an off-site source without an accompanying manifest or without an accompanying shipping paper, the facility operator shall attempt to reconcile the discrepancy with the waste generator or transporter. If the discrepancy cannot be resolved, the owner or operator shall notify the commissioner prior to acceptance of the waste. Within ten days, a follow-up report shall be mailed to the commissioner. The report must include:

- A. the identification number, name, and address of the facility;
- B. the date the facility received the waste;
- C. the transporter's name, vehicle license, address, and identification number, if available;
- D. the generator's name, address, and identification number, if available;
- E. a description and the quantity of each unmanifested hazardous waste the facility received;
- F. the method of treatment, storage, or disposal for each hazardous waste;
- G. a brief explanation of why the waste was unmanifested, if known; and
- H. the certification signed by the owner or operator of the facility or the authorized representative.

Subp. 4. Additional reports. In addition to submitting the manifest discrepancy report described in part 7045.0582, subpart 3, and the annual report and the unmanifested waste reports described in subparts 2 and 3, the owner or operator shall also report to the commissioner and the Environmental Protection Agency Region V Administrator:

- A. releases, fires, and explosions as specified in part 7045.0576, subpart 3;
- B. groundwater contamination and monitoring data as specified in part 7045.0590, subparts 6 and 7; and 7045.0592, subpart 6;
- C. facility closure as specified in part 7045.0594, subpart 3; and
- D. as otherwise required by the process vent and equipment leak emission standards in Code of Federal Regulations, title 40, part 265, subparts AA and BB, as amended.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 11 SR 1832; L 1987 c 186 s 15; 16 SR 2321*

7045.0590 GROUND WATER MONITORING.

Subpart 1. General requirements. The owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste shall implement a ground water monitoring program capable of determining the facility's impact on the quality of ground water in the uppermost aquifer underlying the facility, except as subparts 2 and 3 and part 7045.0552 provide otherwise.

Except as subparts 2, 3, and 5 provide otherwise, the owner or operator shall install, operate, and maintain a ground water monitoring system which meets the requirements of subparts 4 and 5, and must comply with subparts 6, 7, and 8 and part 7045.0592. This ground water monitoring program must be carried out during the active life of the facility, and for disposal facilities, during the post closure care period as well.

Subp. 2. Neutralization surface impoundments. The ground water monitoring requirements of this part and part 7045.0592, may be waived by the commissioner with respect to any surface impoundment that:

- A. Is used to neutralize wastes which are hazardous only because they exhibit the corrosivity characteristic under part 7045.0131, subpart 4, or are listed as hazardous wastes in part 7045.0135 only for corrosivity.
- B. Contains no other hazardous wastes, if the owner or operator can demonstrate that there is no potential for migration of hazardous wastes from the impoundment. The demonstration must establish, based upon consideration of the characteristics of the wastes and the impoundment, that the corrosive wastes will be neutralized to the extent that they no longer meet the corrosivity characteristic before they can migrate out of the impoundment.

This demonstration must be in writing and must be certified by a qualified professional, and submitted to the commissioner for review.

Subp. 3. Waiving of ground water monitoring requirements. All or part of the ground water monitoring requirements of this part and part 7045.0592 may be waived if the owner or operator can demonstrate that there is a low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to water supply wells including domestic, industrial, or agricultural or to surface water. This demonstration must be in writing, and must be kept at the facility. This demonstration must be certified by a qualified geologist or geotechnical engineer and must establish the following:

A. the potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer, by an evaluation of:

(1) a water balance of precipitation, evapotranspiration, run-off, and infiltration; and

(2) unsaturated zone characteristics including geologic materials, physical properties, and depth to ground water; and

B. the potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water, by an evaluation of:

(1) saturated zone characteristics including geologic materials, physical properties, and rate of ground water flow; and

(2) the proximity of the facility to water supply wells or surface water.

Subp. 4. Ground water monitoring system. Requirements of ground water monitoring systems are as follows:

A. A ground water monitoring system must be capable of yielding ground water samples for analysis and must consist of:

(1) At least one monitoring well installed hydraulically upgradient from the limit of the waste management area. Their number, construction, location, and depth must be sufficient to yield ground water samples that are representative of background ground water quality in the uppermost aquifer near the facility, and not affected by the facility; and

(2) At least three monitoring wells installed hydraulically downgradient at the limits of the waste management area. Their number, locations, and depths must ensure that they immediately detect any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

B. Separate monitoring systems for each waste management component of a facility are not required provided that provisions for sampling upgradient and downgradient water quality will detect any discharge from the waste management area.

In the case of a facility consisting of only one surface impoundment, landfill, or land treatment area, the waste management area is described by the waste boundary.

In the case of a facility consisting of more than one surface impoundment, landfill, or land treatment area, the waste management area is described by an imaginary boundary line which circumscribes the several waste management components.

C. All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. The hole must be screened and packed with gravel or sand where necessary, to enable sample collection at depths where appropriate aquifer flows exist. Where necessary, wells must be properly developed to enable collection of representative ground water samples. The annular space, meaning the space between the bore hole and the well casing, above the sampling depth must be sealed with a suitable material, such as cement grout or bentonite slurry, to prevent contamination of samples and the ground water. All monitoring wells must be constructed in accordance with the Minnesota Water Well Construction Code in chapter 4725.

Subp. 5. Alternate ground water monitoring systems. If an owner or operator assumes or knows that ground water monitoring of indicator parameters in accordance with subparts 4, items A and B, and 6 would show statistically significant increases, or decreases in the case of pH, when evaluated under item A, he or she may install, operate, and maintain an alternate ground water monitoring system other than the one described in subparts 4 and 6.

If the owner or operator decides to use an alternate ground water monitoring system, he or she shall:

A. within one year after July 16, 1984, submit to the commissioner a specific plan, certified by a qualified geologist or geotechnical engineer, which satisfies the requirements of part 7045.0592, subpart 4, item C, for an alternate ground water monitoring system;

B. not later than one year after July 16, 1984, initiate the determinations specified in part 7045.0592, subpart 4, item D;

C. prepare and submit a written report in accordance with part 7045.0592, subpart 4, item E;

D. continue to make the determination specified in part 7045.0592, subpart 4, item D on a quarterly basis until final closure of the facility; and

E. comply with the record keeping and reporting requirements in subpart 7.

Subp. 6. Sampling and analysis. The sampling and analysis process is as follows:

A. The owner or operator shall obtain and analyze samples from the installed ground water monitoring system. The owner or operator shall develop and follow a ground water sampling and analysis plan. He or she shall keep this plan at the facility. The plan shall include procedures and techniques for: sample collection, sample preservation and shipment, analytical procedures, and chain of custody control.

B. The owner or operator shall determine the concentration or value of the following parameters in ground water samples in accordance with items C and D:

(1) Parameters characterizing the suitability of the ground water as a drinking water supply, as specified in Code of Federal Regulations, title 40, part 265, appendix III (1983).

(2) Parameters establishing ground water quality include chloride, iron, manganese, phenols, sodium, and sulfate. These parameters are to be used as a basis for comparison in the event a ground water quality assessment is required under part 7045.0592.

(3) Parameters used as indicators of ground water contamination are pH, specific conductance, total organic carbon, and total organic halogen.

(4) Waste-specific parameters where not covered in item A and subitems (1) to (3) determined by the commissioner as appropriate to the waste managed at the facility.

C. For all monitoring wells, the owner or operator shall establish initial background concentrations or values of all parameters specified in item B quarterly for one year.

For each of the indicator parameters specified in item B, subitem (3), and determined pursuant to item B, subitem (4), at least four replicate measurements must be obtained for each sample and the initial background arithmetic mean and variance must be determined by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained from upgradient wells during the first year.

D. After the first year, all monitoring wells must be sampled and the samples analyzed with the following frequencies:

(1) samples collected to establish ground water quality must be obtained and analyzed for the parameters specified in item B, subitem (2), at least annually; and

(2) samples collected to indicate ground water contamination must be obtained and analyzed for the parameters specified in item B, subitem (3), and determined pursuant to item B, subitem (4), at least quarterly.

E. Elevation of the ground water surface at each monitoring well must be determined each time a sample is obtained.

Subp. 7. Record keeping. Unless the ground water is monitored to satisfy the requirements of part 7045.0592, subpart 4, item D, the owner or operator shall keep records of the analyses required in subpart 6, items C and D, the associated ground water surface elevations required in subpart 6, item E, and the evaluations required in part 7045.0592, subpart 2, throughout the active life of the facility, and, for disposal facilities, throughout the post closure care period as well.

If the ground water is monitored to satisfy the requirements of part 7045.0592, subpart 4, item D, the owner or operator shall keep records of the analyses and evaluations specified in the plan, which satisfies the requirements of part 7045.0592, subpart 4, item C, throughout

the active life of the facility, and for disposal facilities, throughout the post closure care period as well.

Subp. 8. Reporting. Reporting requirements are as follows:

A. Unless the ground water is monitored to satisfy the requirements of part 7045.0592, subpart 4, item D, the owner or operator shall report the following ground water monitoring information to the commissioner:

(1) During the first year when initial background concentrations are being established for the facility, the owner or operator shall report concentrations or values of the parameters listed in subpart 6, item B, subitem (1), for each ground water monitoring well within 15 days after completing each quarterly analysis. The owner or operator shall separately identify for each monitoring well any parameters whose concentration or value has been found to exceed the maximum contaminant levels listed in Code of Federal Regulations, title 40, part 265, appendix III (1983).

(2) The owner or operator shall annually report concentrations or values of the parameters listed in subpart 6, item B, subitem (3) or (4), for each ground water monitoring well, along with the required evaluations for these parameters under part 7045.0592, subpart 2. The owner or operator shall separately identify any significant differences from initial background found in the upgradient wells, in accordance with part 7045.0592, subpart 3. During the active life of the facility this information must be submitted as part of the annual report required under part 7045.0588, subpart 2.

(3) As a part of the annual report required under part 7045.0588, subpart 2, the owner or operator shall report results of the evaluation of ground water surface elevations under part 7045.0592, subpart 6, and a description of the response to that evaluation, where applicable.

B. If the ground water is monitored to satisfy the requirements of part 7045.0592, subpart 4, item D, the owner or operator shall annually, until final closure of the facility, submit to the commissioner a report containing the results of his or her ground water quality assessment program which includes, but is not limited to, the calculated or measured rate of migration of hazardous waste or hazardous waste constituents in the ground water during the reporting period. This report must be submitted as part of the annual report required under part 7045.0588, subpart 2.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.0592 GROUND WATER QUALITY ASSESSMENT PROGRAM.

Subpart 1. Program outline. The owner or operator shall prepare an outline of a ground water quality assessment program. The outline must describe a more comprehensive ground water monitoring program than that described in part 7045.0590, subparts 4, 5, and 6. The program must be capable of determining:

A. whether hazardous waste or hazardous waste constituents have entered the ground water;

B. the rate and extent of migration of hazardous waste or hazardous waste constituents in the ground water; and

C. the concentrations of hazardous waste or hazardous waste constituents in the ground water.

Subp. 2. Comparison of analysis results. For each indicator parameter specified in part 7045.0590, subpart 6, item B, subitem (3), and determined pursuant to part 7045.0590, subpart 6, item B, subitem (4), the owner or operator shall calculate the arithmetic mean and variance, based on at least four replicate measurements on each sample, for each well monitored in accordance with part 7045.0590, subpart 6, item D, and compare these results with its initial background arithmetic mean. The comparison must consider individually each of the wells in the monitoring system, and must use the Student's *t*-test at the 0.01 level of significance as described in Code of Federal Regulations, title 40, part 265, appendix IV (1983) to determine statistically significant increases and, in the case of pH, decreases from initial background.

Subp. 3. **Additional sampling.** If the comparisons for the upgradient wells made under subpart 2 show a significant increase or pH decrease, the owner or operator shall submit this information in accordance with part 7045.0590, subpart 8, item A, subitem (2).

If the comparisons for downgradient wells made under subpart 2 show a significant increase or pH decrease, the owner or operator shall then immediately obtain additional ground water samples from those downgradient wells where a significant difference was detected, split the samples in two, and obtain analyses of all additional samples to determine whether the significant difference was a result of laboratory error.

Subp. 4. **Notification.** Notification requirements are as follows:

A. If the analyses performed under subpart 3 confirm the significant increase or pH decrease, the owner or operator shall provide written notice to the commissioner, within seven days of the date of such confirmation, that the facility may be affecting ground water quality.

B. Within 15 days after the notification under item A, the owner or operator shall develop and submit to the commissioner a specific plan, based on the outline required under subpart 1 and certified by a qualified geologist or geotechnical engineer, for a ground water quality assessment program at the facility.

C. The plan to be submitted under item B or part 7045.0590, subpart 5, item A must specify:

- (1) the number, location, and depth of wells;
- (2) sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility;
- (3) evaluation procedures, including any use of previously gathered ground water quality information; and
- (4) a schedule of implementation.

D. The owner or operator shall implement the ground water quality assessment plan which satisfies the requirements of item C and determine:

- (1) the rate and extent of migration of the hazardous waste or hazardous waste constituents in the ground water; and
- (2) the concentrations of the hazardous waste or hazardous waste constituents in the ground water.

E. The owner or operator shall make the first determination under item D as soon as technically feasible, and, within 15 days after determination, submit to the commissioner a written report containing an assessment of the ground water quality.

F. If the owner or operator determines, based on the results of the first determination under item D, that no hazardous waste or hazardous waste constituents from the facility have entered the ground water, then he or she may reinstate the indicator evaluation program described in part 7045.0590, subpart 6, item B, subitems (1) and (2). If the owner or operator reinstates the indicator evaluation program, he or she shall so notify the commissioner in the report submitted under item E.

G. If the owner or operator determines, based on the first determination under item D, that hazardous waste or hazardous waste constituents from the facility have entered the ground water, then he or she:

- (1) shall continue to make the determinations required under item D, on a quarterly basis until final closure of the facility, if the ground water quality assessment plan was implemented prior to final closure of the facility; or
- (2) may cease to make the determinations required under item D, if the ground water quality assessment plan was implemented during the post closure care period.

Subp. 5. **Completion requirement.** Notwithstanding any other provision of this part, any ground water quality assessment to satisfy the requirements of subpart 4, item D, which is initiated prior to final closure of the facility must be completed and reported in accordance with subpart 4, item E.

Subp. 6. **Annual evaluation.** Unless the ground water is monitored to satisfy the requirements of subpart 4, item D, the owner or operator shall evaluate at least annually the data on ground water surface elevations obtained under part 7045.0590, subpart 6, item E, to

determine whether the requirements under part 7045.0590, subpart 4, for locating the monitoring wells continues to be satisfied. If the evaluation shows that part 7045.0590, subpart 4, is no longer satisfied, the owner or operator shall immediately modify the number, location, or depth of the monitoring wells to bring the ground water monitoring system into compliance with this requirement.

Subp. 7. Record keeping and reporting. If the ground water is monitored to satisfy the requirements of subpart 4, item D, the owner or operator shall:

A. keep records of the analyses and evaluations specified in the plan, which satisfies the requirements of subpart 4, item C, throughout the active life of the facility, and for disposal facilities, throughout the post closure care period as well; and

B. annually, until final closure of the facility, submit to the commissioner a report containing the results of the ground water quality assessment program which includes, but is not limited to, the calculated or measured rate of migration of hazardous waste or hazardous waste constituents in the ground water during the reporting period. This report must be submitted as part of the annual report.

Statutory Authority: *MS s 116.07 subs 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.0594 CLOSURE.

Subpart 1. Scope. Except as provided otherwise in part 7045.0552, this part and part 7045.0596 apply to the owners and operators of all hazardous waste facilities.

Subp. 2. Closure performance standard. The owner or operator shall close the facility in a manner minimizing the need for further maintenance. Closure procedures must result in controlling, minimizing, or eliminating, to the extent necessary to protect human health and the environment, post closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, in accordance with all closure requirements including the requirements of parts 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.

Subp. 3. Submittal of closure plan. The closure plans must be submitted as follows:

A. A copy of the written closure plan and all revisions to the plan must be furnished to the commissioner upon request, including request by mail until final closure is completed and certified. For facilities without approved closure plans, the plan must also be provided to the commissioner as requested, during site inspections on the day of the inspection. The plan must identify steps necessary to perform partial and/or final closure of the facility at any point during its active life. The closure plan must include:

(1) A description of how each hazardous waste management unit will be closed, if applicable, and how the facility will be finally closed, in accordance with subpart 2. The description must identify the maximum extent of the operation which will be unclosed during the active life of the facility and how the requirements of subpart 2, part 7045.0596, and the applicable closure requirements of 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; 7045.0642, subpart 5; and 7045.0655, subpart 6, will be met;

(2) An estimate of the maximum inventory of wastes in storage and in treatment at any time during the active life of the facility and a detailed description of the methods to be used during partial and final closure, including methods for removing, transporting, treating, storing, or disposing of all hazardous waste, and identification of off-site hazardous waste management units to be used, if applicable;

(3) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, facility equipment, structures and soils during partial or final closure. The description must include procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to satisfy the closure performance standard;

(4) A detailed description of other activities necessary during the partial and final closure period to ensure that all partial closures and final closure satisfy the closure per-

formance standards, including ground water monitoring, leachate collection, and run on and runoff control;

(5) An estimate of the expected year of final closure for facilities that use trust funds to demonstrate financial assurance under parts 7045.0612, subpart 2, and 7045.0616, subpart 2, and whose remaining operating life is less than 20 years, and for facilities without approved closure plans; and

(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial or final closure.

B. The owner or operator may amend the closure plan at any time before notification of partial or final closure of the facility. An owner or operator with an approved closure plan must submit a written request to the commissioner to authorize a change to the approved closure plan. The written request must include a copy of the amended closure plan for approval by the commissioner. The owner or operator shall amend the plan whenever:

(1) changes in operating plans or facility design affect the closure plan; or

(2) there is a change in the expected year of closure, if applicable; or

(3) unexpected events occur during partial or final closure activities which require a modification to the closure plan; or

(4) the commissioner requests modifications to the plan under the conditions described in subitems (1) to (3). An owner or operator with an approved closure plan must submit the modified plan to the commissioner within 60 days after the commissioner's request, or within 30 days if an unexpected event occurs during partial or final closure. A modification to the plan will be approved in accordance with the procedures in item F unless the modification meets the criteria of a minor modification in parts 7001.0190, subparts 2 and 3; and 7001.0730, subpart 4.

The owner or operator must amend the plan at least 60 days before the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must amend the closure plan no later than 30 days after the unexpected event. An owner or operator with an approved closure plan must submit the amended closure plan in accordance with the deadlines specified above. A modification to the plan will be approved in accordance with the procedures in item F unless the modification meets the criteria of a minor modification in parts 7001.0190, subparts 2 and 3; and 7001.0730, subpart 4. These provisions also apply to owners or operators of surface impoundments and waste piles who intended to remove all hazardous wastes at closure in accordance with parts 7045.0630, subpart 6; and 7045.0632, subpart 7, but are required to close as landfills under part 7045.0638, subpart 4.

C. The owner or operator of a hazardous waste facility having interim status shall submit a closure plan to the commissioner at least 180 days before the date he or she expects to begin closure of the first surface impoundment, waste pile, land treatment, or landfill unit, or final facility closure if it involves such a unit, whichever is earlier. The owner or operator shall submit a closure plan to the commissioner at least 45 days before the date he or she expects to begin final closure of a facility with only tanks, container storage, or incinerator units. The owner or operator shall submit the closure plan no later than 15 days after:

(1) termination of interim status, except when a permit is issued simultaneously with termination of interim status; or

(2) issuance of a judicial decree or agency order to cease receiving wastes or close.

D. Owners or operators with approved closure plans must notify the commissioner in writing at least:

(1) 60 days before the date he or she expects to begin closure of a surface impoundment, waste pile, landfill, or land treatment unit, or final closure of a facility involving such a unit; or

(2) 45 days before the date he or she expects to begin final closure of a facility with only tanks, container storage, or incinerator units.

E. The date on which the owner or operator “expects to begin closure” is defined as follows:

(1) Where the owner or operator of a hazardous waste management unit anticipates receiving a volume of hazardous wastes the owner or operator knows will be the final volume, then the date on which the owner or operator “expects to begin closure” is 30 days after the date the final volume is anticipated to be received.

(2) Where the owner or operator of a hazardous waste management unit reasonably anticipates that the owner or operator will continue to receive hazardous wastes, then the date on which the owner or operator “expects to begin closure” is one year after the date on which the last volume of hazardous waste was received by the hazardous waste management unit. An owner or operator shall only be considered to “reasonably anticipate receiving additional hazardous waste” if the owner or operator in fact receives additional hazardous wastes within one year after the last volume was received. If the owner or operator can demonstrate to the commissioner that the unit or facility has the capacity to receive additional hazardous wastes and the owner or operator has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all interim status requirements, the commissioner may approve an extension to this one-year limit.

For units meeting the requirements of part 7045.0596, subpart 2a, the date on which the owner or operator expects to begin closure must be no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of nonhazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional nonhazardous wastes, no later than one year after the date on which the unit received the most recent volume of nonhazardous wastes. If the owner or operator can demonstrate to the commissioner that the hazardous waste management unit has the capacity to receive additional nonhazardous wastes and the owner or operator has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements, the commissioner shall approve an extension to this one-year limit.

F. The commissioner shall provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments, to request modifications, or to request a public information meeting on the closure plan within 30 days of the date of the notice. *In response to a request or at the commissioner’s discretion, the commissioner shall hold a public information meeting whenever a meeting might clarify one or more issues concerning the closure plan.* The commissioner shall approve, modify, or disapprove closure plans for facilities having interim status within 90 days of receipt of the plan. If the commissioner does not approve the plan, the commissioner shall provide the owner or operator with a detailed written statement of reasons for the refusal. The owner or operator shall submit a modified or new plan for approval within 30 days. The commissioner shall approve or modify this plan. If the commissioner modifies the plan, this modified plan becomes the approved closure plan. A copy of the modified plan shall be mailed to the owner or operator.

Subp. 4. Removal of wastes and decontamination or dismantling of equipment. Nothing in this part shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 16 SR 1225*

7045.0596 CLOSURE ACTIVITIES.

Subpart 1. Time allowance to begin closure activities. Within 90 days after receiving the final volume of hazardous waste, or the final volume of nonhazardous waste if the owner or operator complies with all applicable requirements in subpart 2a, at a hazardous waste management unit or facility, or within 90 days after approval of the closure plan, whichever is later, the owner or operator shall treat, remove from the unit or facility, or dispose on-site all hazardous waste in accordance with the approved closure plan. The commissioner may approve a longer period if the owner or operator demonstrates at least 30 days before expiration of the 90 day period, that he or she has taken and will continue to take all steps to prevent

threats to human health and the environment, including compliance with all applicable interim status requirements, and:

A. the activities required to comply with the approved closure plan will, of necessity, take longer than 90 days to complete; or

B. the hazardous waste management unit or facility has the capacity to receive additional hazardous waste, or has the capacity to receive nonhazardous waste if the facility owner or operator complies with subpart 2a, there is a reasonable likelihood that the owner or operator or another person will recommence operation of the hazardous waste management unit or facility within one year, and closure of the unit or facility would be incompatible with continued operation of the site.

If the owner or operator of a facility required to maintain financial assurance for closure, post closure care, or corrective action fails to make any required payment or to substitute alternative financial assurance when required to do so, the commissioner shall order the owner or operator to begin closure activities.

Subp. 2. Time extension for closure activities. The owner or operator shall complete partial or final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous waste, or the final volume of nonhazardous waste if the owner or operator complies with all applicable requirements of subpart 2a, at the hazardous waste management unit or facility, or 180 days after approval of the closure plan if that is later. The commissioner may approve a longer closure period if the owner or operator demonstrates at least 30 days before expiration of the 180 day period that he or she has taken, unless the owner or operator is otherwise subject to the deadlines in subpart 2a, and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including all applicable interim status requirements, and:

A. the partial or final closure activities will, of necessity, take longer than 180 days to complete; or

B. the hazardous waste management unit or facility has capacity to receive additional hazardous waste, or has the capacity to receive nonhazardous wastes if the facility owner or operator complies with subpart 2a, there is a reasonable likelihood that the owner or operator or another person will recommence operation of the unit or facility within one year, and closure of the unit or facility would be incompatible with continued operation of the site.

If operation of the site is recommended, the commissioner may defer completion of partial or final closure activities until the new operation is terminated.

Subp. 2a. Conditions for receiving nonhazardous waste. The commissioner shall allow an owner or operator to receive only nonhazardous waste in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous waste at that unit if:

A. the owner or operator submits an amended Part B application, or a Part B application, if not previously required, and demonstrates that:

(1) the unit has the existing design capacity, as previously indicated by the owner or operator on the Part A application, to receive nonhazardous wastes;

(2) there is a reasonable likelihood that the owner or operator or another person will receive nonhazardous wastes in the unit within one year after the final receipt of hazardous waste;

(3) the nonhazardous waste will not be incompatible with any remaining wastes in the unit, or with the facility design and operating requirements of the unit or facility under parts 7045.0552 to 7045.0642;

(4) closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and

(5) the owner or operator is operating and will continue to operate in compliance with all permit applicable interim status requirements;

B. the Part B application includes an amended waste analysis plan required under part 7045.0564, groundwater monitoring and response program required under parts 7045.0590 and 7045.0592, human exposure assessment required under parts 7001.0590 and 7001.0620, closure and postclosure plans required under parts 7045.0594 and 7045.0600,

and updated cost estimates and demonstration of financial assurance for closure and postclosure care as necessary and appropriate required under parts 7045.0610 to 7045.0618, to reflect any changes due to the presence of hazardous constituents in the nonhazardous wastes, and changes in closure activities required under part 7045.0596, including the expected year of closure if applicable under part 7045.0594, subpart 3, item A, subitem (5), as a result of the receipt of nonhazardous wastes following the final receipt of hazardous wastes;

C. the Part B application is amended, as necessary and appropriate, to account for the receipt of nonhazardous wastes following receipt of the final volume of hazardous wastes; and

D. the Part B application and the demonstrations referred to in items A and B are submitted to the commissioner no later than 120 days before the date which the owner or operator of the facility receives the known final volume of hazardous wastes at the unit.

If the owner or operator of a surface impoundment is not in compliance with the liner and leachate collection system minimum technology requirements of part 7045.0630, subpart 1a, the owner or operator may not delay closure in order to accept nonhazardous wastes.

Subp. 3. Disposal or decontamination of equipment, structures, and soils. During the partial and final closure periods, all contaminated facility equipment, structures, and soils must be properly disposed of or decontaminated, unless otherwise specified in part 7045.0628, subpart 9; 7045.0630, subpart 6; 7045.0632, subpart 7; 7045.0634, subpart 6; or 7045.0638, subpart 4. By removing any hazardous wastes or hazardous constituents during partial or final closure, the owner or operator may become a generator of hazardous waste and must handle that waste according to all applicable requirements of parts 7045.0205 to 7045.0320.

Subp. 4. Certification of closure. Within 60 days after closure is completed for each hazardous waste surface impoundment, waste pile, land treatment, and landfill 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; 116.37*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 15 SR 1515; 16 SR 1225; 16 SR 2102*

7045.0600 POST CLOSURE.

Subpart 1. Scope. This part and parts 7045.0602 to 7045.0606 apply to the owners and operators of all hazardous waste disposal facilities, including surface impoundments and waste piles from which the owner or operator intends to remove the wastes at closure, to the extent that the owner or operator is required to provide post closure care in part 7045.0630, subpart 6, or in part 7045.0632, subpart 7, and also tank systems that are required under part 7045.0628, subpart 9, to meet the requirements for landfills, except as provided otherwise in part 7045.0552.

Subp. 2. Submittal of post closure plan. The post closure plan must be submitted as follows:

A. The owner or operator of a disposal facility shall have a written post closure plan. A copy of the most current plan must be furnished to the commissioner upon request, including request by mail, until the post closure care period begins. For facilities without approved post closure plans, it must also be provided to the commissioner as requested, during site inspections, on the day of inspection. For each hazardous waste management unit subject to post closure care requirements, the plan must identify the activities which will be carried on after closure of the unit and the frequency of these activities, and it must include:

(1) a description of the planned ground water monitoring activities and frequencies at which they will be performed;

(2) a description of the planned monitoring activities, and frequencies at which they will be performed to comply with parts 7045.0630, 7045.0632, 7045.0634, and 7045.0638 during the post closure care period;

(3) a description of the planned maintenance activities and frequencies at which they will be performed to ensure the integrity of the cap and final cover or other containment structures, where applicable, and the function of the facility monitoring equipment; and

(4) the name, address, and telephone number of the person or office to contact about the hazardous waste disposal unit or facility during the post closure period. After final closure has been certified, this person or office must keep an updated post closure plan during the post closure period.

B. The owner or operator may amend the post closure plan at any time during the active life of the disposal facility or during the post closure period. An owner or operator with an approved post closure plan must submit a written request to the commissioner to authorize a change in the approved plan. The owner or operator shall amend the plan whenever the following conditions affect the post closure plan:

(1) changes in operating plans or facility design; or

(2) unexpected events occur during the active life of the facility, including partial and final closure, or during the post closure period; or

(3) there is a change in the expected year of closure, if applicable.

A request for modification of the post closure plan must be made to the commissioner at least 60 days before the proposed changes in operating plans or facility design, or no later than 60 days after the events which affect the post closure plan occur. This request must include the revised post closure plan and indicate the reasons for modifying the plan. The request must be made in accordance with subpart 3 and the commissioner shall take actions required in subpart 3. A modification to the plan will be approved in accordance with item D unless the modification meets the criteria of a minor modification in parts 7001.0190, subparts 2 and 3; and 7001.0730, subpart 4. The commissioner may request modifications to the post closure plan under the conditions described in subitems (1) to (3). An owner or operator with an approved post closure plan must submit the modified plan no later than 60 days after the commissioner's request. If an owner or operator of a surface impoundment or a waste pile who intended to remove all hazardous wastes at closure in accordance with part 7045.0630, subpart 6; or 7045.0632, subpart 7, is required to close as a landfill in accordance with part 7045.0638, subpart 4. The owner or operator must submit a post closure plan within 90 days after the owner or operator or commissioner determines that the unit must be closed as a landfill.

C. The owner or operator of a facility with hazardous waste management units subject to post closure requirements shall submit the post closure plan to the commissioner at least 180 days before the date he or she expects to begin closure of the first hazardous waste disposal unit. The date on which the owner or operator "expects to begin closure" is defined as follows:

(1) Where the owner or operator of a hazardous waste management unit anticipates receiving a volume of hazardous wastes the owner or operator knows will be the final volume, then the date on which the owner or operator "expects to begin closure" is 30 days after the date the final volume is anticipated to be received.

(2) Where the owner or operator of a hazardous waste management unit reasonably anticipates that the owner or operator will continue to receive hazardous wastes, then the date on which the owner or operator "expects to begin closure" is one year after the date the last volume of hazardous waste was received by the hazardous waste management unit. An owner or operator shall only be considered to "reasonably anticipate receiving additional volumes of hazardous waste" if the owner or operator in fact receives additional hazardous wastes within one year after the last volume was received.

The owner or operator also shall submit the plan to the commissioner no later than 15 days after: termination of interim status, except when a permit is issued to the facility simultaneously with termination of interim status; or issuance of a judicial decree or agency order to cease receiving waste or close.

D. The commissioner shall provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments, to request modification, or to request a public information meeting on the post closure plan or substantive amendments to the post closure plan within 30 days of the date of the notice. In response to a request or at his or her own discretion, the commissioner shall hold a public information meeting whenever a meeting might clarify one or more issues concerning the post closure plan. The commissioner shall approve, modify, or disapprove post closure plans for facilities having interim status within 90 days of the receipt of the plan. If the commissioner does not approve the plan, he or she shall provide the owner or operator with a detailed written statement of reasons for the refusal, and the owner or operator shall submit a modified or new plan for approval within 30 days after receiving this written statement. The commissioner shall approve or modify this plan in writing within 60 days. If the commissioner modifies the plan, this modified plan becomes the approved post closure plan. A copy of the modified plan and a detailed statement of reasons for the modifications shall be mailed to the owner or operator. The commissioner shall ensure that the approved post closure plan is consistent with part 7045.0602.

Subp. 3. Modification of post closure period. The post closure period may be modified during the post closure care period as described in items A and B:

A. The owner or operator or any member of the public may petition the commissioner to extend or reduce the post closure care period applicable to a hazardous waste management unit or facility or alter the requirements of the post closure care period based on cause.

(1) The petition must include evidence demonstrating that the secure nature of the hazardous waste management unit or facility makes the post closure care requirements unnecessary or supports reduction of the post closure care period specified in the current post closure plan, or that the requested extension in the post closure care period or alteration of post closure care requirements is necessary to prevent threats to human health and the environment. Areas which must be considered in demonstrating the secure nature of the facility include leachate or ground water monitoring results, characteristics of the waste, application of advanced technology; or alternative disposal, treatment, or reuse techniques that indicate the facility is secure.

(2) These petitions will be considered by the commissioner only when they present new and relevant information. Whenever the commissioner is considering a petition, the commissioner shall provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments or request a public information meeting within 30 days of the date of the notice. In response to a request or at his or her own discretion, the commissioner shall hold a public information meeting whenever a meeting might clarify one or more issues concerning the post closure plan. After considering the comments, a final determination shall be issued. The criteria listed in subitem (1) shall serve as a basis for the final determination. If the commissioner denies the petition, he or she shall send the petitioner a written response detailing the reason for denial.

B. The commissioner may decide to modify the post closure plan if necessary to prevent threats to human health and the environment. Extension or reduction of the post closure care period or alteration of the requirements of the post closure care period may be proposed based on cause.

The commissioner shall provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments or request a public information meeting within 30 days of the date of the notice. The commissioner shall in response to a request or at his or her own discretion hold a public information meeting whenever a meeting might clarify one or more issues concerning the post closure plan. After considering the comments, a final determination shall be issued.

The commissioner shall base the final determination upon the criteria outlined in item A, subitem (1). A modification of the post closure plan may include, when appropriate, the temporary suspension rather than permanent deletion of one or more post closure care requirements. At the end of the specified period of suspension, the commissioner shall deter-

mine whether the requirements should be permanently discontinued or reinstated to prevent threats to human health and the environment.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 13 SR 259; 15 SR 1515*

7045.0602 POST CLOSURE CARE AND USE OF PROPERTY.

Subpart 1. Post closure care requirements. Post closure care for each hazardous waste management unit subject to these requirements must continue for 30 years after the date of completing closure of the unit and must consist of at least ground water monitoring and reporting and the maintenance of monitoring and waste containment systems in accordance with parts 7045.0630, 7045.0632, 7045.0634, and 7045.0638, as applicable.

The commissioner may reduce the post closure care period to less than 30 years for the hazardous waste management unit or facility, if all disposal units have been closed, if it is found that the reduced period is sufficient to protect human health and the environment. This determination must be based on leachate or ground water monitoring results, waste characteristics, application of advanced technology, or alternative disposal, treatment, or reuse techniques indicating the hazardous waste management unit or facility is secure.

Before the time that the post closure care period is due to expire, the commissioner may extend the post closure care period applicable to the hazardous waste management unit or facility, if it is found that the extended period is necessary to protect human health and the environment. This determination must be based on leachate or groundwater monitoring results which indicate a potential for migration of wastes at levels which may be harmful to the environment.

All post closure care activities must be in accordance with the provisions of the approved post closure plan.

Subp. 2. Continuation of security requirements. The commissioner may require, at partial or final closure, continuation of any of the security requirements during part of or all of the post closure period after the date of completing closure when wastes may remain exposed after completion of closure or when access by the public or domestic livestock may pose a hazard to human health.

Subp. 3. Post closure use of property. Post closure use of property on or in which hazardous wastes remain after closure must never be allowed by the owner or operator to disturb the integrity of the final cover, liners, or any other components of any containment system or the function of the facility's monitoring system, unless the owner or operator can demonstrate to the commissioner either in the post closure plan or by petition that the disturbance:

A. is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

B. is necessary to reduce a threat to human health or the environment.

Subp. 4. Certification of completion of post closure care. Within 60 days after completion of the established post closure care period for each hazardous waste disposal unit, the owner or operator shall submit to the commissioner, by registered mail, certification that the post closure care period for the hazardous waste disposal unit was performed in accordance with the approved post closure plan. The certification must be signed by the owner or operator and an independent registered professional engineer. 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 post closure care under part 7045.0616, subpart 9.

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 13 SR 577*

7045.0604 NOTICE TO LOCAL LAND AUTHORITY.

Subpart 1. Submission of survey plat. No later than the certification of closure of each hazardous waste disposal unit is submitted to the commissioner, the owner or operator shall submit to the local zoning authority or the authority with jurisdiction over local land use and to the commissioner a survey plat indicating the location and dimensions of landfill cells or other disposal areas with respect to permanently surveyed bench marks. This plat must be

prepared and certified by a professional land surveyor. The plat filed with the local zoning authority or authority with jurisdiction over local land use must contain a prominently displayed note which states the owner's or operator's obligation to restrict disturbance of the site as specified.

Subp. 2. Post closure notices. Within 60 days after closure is certified for each hazardous waste disposal unit, in addition, the owner or operator shall submit to the local zoning authority or the authority with jurisdiction over local land use and to the commissioner a record of the type, location, and quantity of hazardous waste disposed of within each cell or area of the facility. For hazardous waste disposed of before January 12, 1981, the owner or operator shall identify the type, location, and quantity of the waste to the best of his or her knowledge and in accordance with any records kept. Any changes in the type, location, or quantity of hazardous waste disposed of within each cell or area of the facility that occur after the survey plat and record of waste have been filed must be reported to the local zoning authority or the authority with jurisdiction over local land use and to the commissioner.

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15*

7045.0606 NOTICE IN DEED TO PROPERTY.

Subpart 1. Deed notation. Within 60 days after closure of the first hazardous waste disposal unit is certified and within 60 days after closure of the last hazardous waste disposal unit is certified, the owner or operator of the property on which a disposal unit is located shall:

A. record, in accordance with state law, a notation on the deed to the facility property, or on another instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the property that:

- (1) the land has been used to manage hazardous waste;
- (2) the land use is restricted; and

(3) the survey plat and record of the type, location, and quantity of hazardous waste disposed of within each cell or other hazardous waste disposal unit of the facility required in part 7045.0604 have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the commissioner; and

B. submit a certification signed by the owner or operator that he or she has recorded the notation specified in this subpart, including a copy of the document in which the notation has been placed, to the commissioner.

Subp. 2. Changes to deed. If at any time the owner or operator or any subsequent owner of the land upon which a hazardous waste facility was located intends to remove the hazardous waste and hazardous waste residues, the liner, if any, and all contaminated underlying and surrounding soil, the owner or operator must request a modification to the approved post closure plan in accordance with part 7045.0600, subpart 2, item B. The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of part 7045.0602, subpart 3. If the owner or operator is granted approval to conduct removal activities, he or she may request that the commissioner approve either:

A. removal of the notation on the deed to the facility property or other instrument normally examined during title search; or

B. addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

By removing hazardous waste and hazardous waste residue; the liner, if any; and the contaminated soil, the owner or operator, unless he or she can demonstrate that any waste removed is not a hazardous waste, becomes a generator of hazardous waste and shall manage it in accordance with all applicable requirements of this chapter.

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15*

7045.0608 FINANCIAL REQUIREMENTS.

Subpart 1. Scope. The requirements of parts 7045.0610, 7045.0612, and 7045.0620 to 7045.0624 apply to owners and operators of hazardous waste facilities except as provided otherwise in this part or in part 7045.0552.

The requirements of parts 7045.0614 to 7045.0618 apply only to owners and operators of disposal facilities and tank systems that are required under part 7045.0628, subpart 9, to meet the requirements for landfills.

The state and the federal government are exempt from the requirements of parts 7045.0608 to 7045.0624.

Subp. 2. Definitions. Definitions are as follows:

A. When used in parts 7045.0608 to 7045.0624, the following terms have the meanings given.

(1) "Closure plan" means the plan for closure prepared in accordance with part 7045.0594.

(2) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with part 7045.0610, subparts 1, 2, and 3.

(3) "Current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities" means the most recent of the estimates prepared in accordance with Code of Federal Regulations, title 40, section 144.62(a), (b), and (c).

(4) "Current post closure cost estimate" means the most recent of the estimates prepared in accordance with part 7045.0614, subparts 1, 2, and 3.

(5) "Parent corporation" means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.

(6) "Post closure plan" means the plan for post closure care prepared in accordance with parts 7045.0600 to 7045.0606.

B. The following terms are used in the specifications for the financial tests for closure, post closure care, and liability coverage. The following definitions are intended to assist in the understanding of these parts and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices:

(1) "Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

(2) "Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

(3) "Current liabilities" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

(4) "Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

(5) "Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

(6) "Net working capital" means current assets minus current liabilities.

(7) "Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

(8) "Tangible net worth" means the tangible assets that remain after deducting liabilities; these assets do not include intangibles such as goodwill and rights to patents or royalties.

C. In the liability insurance requirements, the terms "bodily injury" and "property damage" have the meanings given them by applicable state law. However, these terms do not include liabilities which, consistent with standard industry practice, are excluded from coverage in liability policies for bodily injury and property damage. The agency intends the meanings of other terms used in the liability insurance requirements to be consistent with common meanings within the insurance industry. The definitions given in subitems (1) to (4) of several of the terms are intended to assist in the understanding of these parts and are not intended to limit their meanings in a way that conflicts with general insurance industry usage:

(1) "Accidental occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

(2) "Legal defense costs" means expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

(3) "Nonsudden accidental occurrence" means an occurrence which takes place over time and involves continuous or repeated exposure.

(4) "Sudden accidental occurrence" means an occurrence which is not continuous or repeated in nature.

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 11 SR 2415; 13 SR 259*

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 may 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.

B. The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or nonhazardous wastes if applicable under part 7045.0596, subpart 2a, facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.

C. The owner or operator may not incorporate a zero cost for hazardous wastes, or nonhazardous wastes if applicable under part 7045.0596, subpart 2a, that might have economic value.

Subp. 2. Yearly update of cost estimate. During the active life of the facility, the owner or operator shall adjust the closure cost estimate for inflation within 60 days before each anniversary of the date on which the financial instruments used to comply with part 7045.0612 were established. Owners and operators using the financial test or corporate guarantee shall adjust the closure cost estimate for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the commissioner as specified in part 7045.0504, subpart 7, item E. The adjustment must be made as specified in items A and B using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as found in the Survey of Current Business issued by the United States Department of Commerce. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

Adjustments must be made as follows:

A. The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

B. Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

Subp. 3. Cost estimate revisions. The owner or operator shall revise the closure cost estimate within 30 days after a change in the closure plan increases the cost of closure, or within 30 days after the commissioner has approved the request to modify the plan, for facilities with approved closure plans. The revised closure cost estimate must be adjusted for inflation as specified in subpart 2.

Subp. 4. Record retention. The owner or operator shall supply the following to the commissioner upon request, including request by mail until closure is completed: the latest

closure cost estimate prepared in accordance with subparts 1 and 3 and, when this estimate has been adjusted in accordance with subpart 2, the latest adjusted closure cost estimate.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 13 SR 577; 16 SR 1225*

7045.0612 FINANCIAL ASSURANCE FOR FACILITY CLOSURE.

Subpart 1. **In general.** An owner or operator of a facility shall establish financial assurance for closure of the facility by choosing from the options specified in subparts 2 to 6.

Subp. 2. **Closure trust fund.** Requirements for closure trust funds are as follows:

A. An owner or operator may satisfy the requirements of this rule by establishing a closure trust fund which conforms to the requirements of items A to M, and by submitting an originally signed duplicate of the trust agreement to the commissioner. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

B. The wording of the trust agreement must be identical to the wording specified in part 7045.0524, subpart 1, item A, and the trust agreement must be accompanied by a formal certification of acknowledgment as shown in part 7045.0524, subpart 1, item B. Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

C. Payments into the trust fund must be made annually by the owner or operator of a facility required to establish financial assurance for closure under Code of Federal Regulations, title 40, part 265, subpart H (1983) over the 20 years beginning the effective date of Code of Federal Regulations, title 40, section 265.143 (1983), or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the closure trust fund must be made as described in subitems (1) and (2):

(1) The first payment must be made by the effective date of Code of Federal Regulations, title 40, section 265.143 (1983), except as provided in item F. The first payment must be at least equal to the current closure cost estimate, except as provided in subpart 7, divided by the number of years in the pay-in period.

(2) Subsequent payments must be made no later than 30 days after each anniversary date of the first payment.

D. Payments into the trust fund must be made annually by the owner or operator of a facility which was not required to establish financial assurance for closure under Code of Federal Regulations, title 40, part 265, subpart H (1983) but is required to establish financial assurance for closure under these parts over the 20 years beginning with July 16, 1984, or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter. The first payment must be made within 90 days of July 16, 1984. The first payment must be at least equal to the current closure cost estimate, except as provided in subpart 7, divided by the number of years in the pay-in period. Subsequent payments must be made as specified in item C, subitem (2). The amount of each subsequent payment must be determined by this formula:

$$\text{next payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

E. The owner or operator may accelerate payments into the trust fund or may deposit the full amount of the current closure cost estimate at the time the fund is established. However, he or she shall maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in item C or D.

F. If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this part, the first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made as specified in item C or D.

G. After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate and submit a receipt from the trustee for this payment to the commissioner, or obtain other financial assurance as specified in this part to cover the difference.

H. If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the commissioner for release of the amount in excess of the current closure cost estimate.

I. If an owner or operator substitutes other financial assurance as specified in this part for all or part of the trust fund, he or she may submit a written request to the commissioner for release of the amount in excess of the current closure cost estimate covered by the trust fund.

J. The trustee shall notify the owner or operator and the commissioner by certified mail within ten days following the expiration of the 30-day period after the anniversary of the establishment of the trust, if no payment is received from the owner or operator during that period. Within 60 days after receipt by both the owner or operator and the commissioner of a notice of nonpayment of any payment required by this part, the owner or operator shall:

- (1) make the required payment;
- (2) provide alternative financial assurance as specified in this part and obtain the commissioner's written approval of the assurance provided; or
- (3) stop accepting waste and begin closure of the facility.

K. Within 60 days after receiving a request from the owner or operator for release of funds as specified in item H or I, the commissioner shall instruct the trustee to release to the owner or operator funds as the commissioner specifies in writing.

L. After beginning partial or final closure, an owner or operator or any other person authorized to perform partial or final closure may request reimbursement for partial or final closure expenditures by submitting itemized bills to the commissioner. The owner or operator may request reimbursements for partial closure only if sufficient funds remain in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for partial or final closure activities, the commissioner shall determine whether the partial or final closure expenditures comply with the closure plan or are otherwise justified, and if so, the commissioner shall instruct the trustee to make reimbursement in amounts as the commissioner specifies in writing. If the commissioner has reason to believe that the maximum cost of closure will be significantly greater than the value of the trust fund, the commissioner may withhold reimbursement of the amounts as deemed prudent until it is determined, under subpart 9, that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the commissioner withholds reimbursement, the commissioner shall provide the owner or operator with a detailed written statement of reasons.

M. The commissioner shall agree to termination of the trust if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or
- (2) the commissioner releases the owner or operator from the requirements of this part in accordance with subpart 9.

Subp. 3. Surety bond guaranteeing payment into a closure trust fund. Requirements for surety bonds that guarantee payment into a closure trust fund are as follows:

A. An owner or operator may satisfy the requirements of this part by obtaining a surety bond which conforms to the requirements of items A to I, and by submitting the bond to the commissioner. The surety company issuing the bond must be among those listed as acceptable sureties on federal bonds in Circular 570, issued by the United States Department of the Treasury, as published annually in the Federal Register on July 1.

B. The wording of the surety bond must be identical to the wording specified in part 7045.0524, subpart 2.

C. The owner or operator who uses a surety bond to satisfy the requirements of this part, shall also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the commissioner. This standby trust fund must meet the requirements specified in subpart 2 except that: an originally signed duplicate of the trust agreement must be submitted to the commissioner with the surety bond; and until the standby trust fund is funded pursuant to the requirements of subpart 3, the requirements specified in subitems (1) to (4) are not required:

(1) payments into the trust fund as specified in subpart 2;

(2) updating of Schedule A of the trust agreement to show current closure cost estimates;

(3) annual valuations as required by the trust agreement;

(4) notices of nonpayment as required by the trust agreement.

D. The bond must guarantee that the owner or operator will:

(1) fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility;

(2) fund the standby trust fund in an amount equal to the penal sum within 15 days after an order to begin final closure is issued by the commissioner, the agency, or a court of competent jurisdiction; or

(3) provide alternate financial assurance as specified in this rule and obtain the commissioner's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the commissioner of a notice of cancellation of the bond from the surety.

E. Under the terms of the bond, the surety becomes liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

F. The penal sum of the bond must be in an amount at least equal to the current closure cost estimate, except as provided in subpart 7.

G. Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the commissioner, or obtain other financial assurance as specified in this rule to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the commissioner.

H. Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the commissioner, as evidenced by the return receipts.

I. The owner or operator may cancel the bond if the commissioner has given prior written consent based on receipt of evidence of alternate financial assurance as specified in this part.

Subp. 4. Closure letter of credit. Requirements for closure letters of credit are as follows:

A. An owner or operator may satisfy the requirements of this part by obtaining an irrevocable standby letter of credit which conforms to the requirements of items A to J, and by submitting the letter to the commissioner. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

B. The wording of the letter of credit must be identical to the wording specified in part 7045.0524, subpart 4.

C. An owner or operator who uses a letter of credit to satisfy the requirements of this part shall also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the commissioner, shall be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the commis-

sioner. This standby trust fund must meet the requirements of the trust fund specified in subpart 2 except that: an originally signed duplicate of the trust agreement must be submitted to the commissioner with the letter of credit; and unless the standby trust fund is funded according to this subpart, the requirements specified in subitems (1) to (4) are not required:

- (1) payments into the trust fund as specified in subpart 2;
- (2) updating of Schedule A of the trust agreement to show current closure cost estimates;
- (3) annual valuations as required by the trust agreement;
- (4) notices of nonpayment as required by the trust agreement.

D. The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the identification number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

E. The letter of credit must be irrevocable and issued for a period of at least one year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the commissioner, by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days begins on the date when both the owner or operator and the commissioner have received the notice, as evidenced by the return receipts.

F. The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in subpart 7.

G. Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, shall either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the commissioner or obtain other financial assurance as specified in this part to cover the increase. Whenever the current closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the commissioner.

H. Following a determination by the commissioner that the owner or operator has failed to perform final closure in accordance with the closure plan and other interim status requirements when required to do so, the commissioner may draw on the letter of credit.

I. If the owner or operator does not establish alternate financial assurance as specified in this part and obtain written approval of the alternate assurance from the commissioner within 90 days after receipt by both the owner or operator and the commissioner of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the commissioner shall draw on the letter of credit. The commissioner may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of an extension the commissioner shall draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this part and obtain written approval of such assurance from the commissioner.

J. The commissioner shall return the letter of credit to the issuing institution for termination if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or
- (2) the commissioner releases the owner or operator from the requirements of this part in accordance with subpart 9.

Subp. 5. Closure insurance. Requirements for closure insurance are as follows:

A. An owner or operator may satisfy the requirements of this rule by obtaining closure insurance which conforms to the requirements of items A to J, and by submitting a certificate of the insurance to the commissioner by July 16, 1984. By July 16, 1984, the owner or operator of a facility which is not required to establish financial assurance for closure under Code of Federal Regulations, title 40, part 265, subpart H (1983) but is required to establish financial assurance for closure under these parts shall submit to the commissioner a letter from an insurer stating that the insurer is considering issuance of closure insurance conform-

ing to the requirements of items A to J to the owner or operator. Within 90 days after July 16, 1984, the owner or operator of a facility which is not required to establish financial assurance for closure under Code of Federal Regulations, title 40, part 265, subpart H (1983) but is required to establish financial assurance for closure under these parts shall submit the certificate of insurance to the commissioner, or establish other financial assurance as specified in this part. The insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

B. The wording of the certificate of insurance must be identical to the wording specified in part 7045.0524, subpart 5.

C. The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in subpart 7. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer do not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

D. The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the commissioner, to such party or parties as the commissioner specifies.

E. After beginning partial or final closure, an owner or operator, or other person authorized to perform closure, may request reimbursement for closure expenditures by submitting itemized bills to the commissioner. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its operating life. Within 60 days after receiving bills for closure activities, the commissioner shall determine whether the closure expenditures are in accordance with the closure plan or otherwise justified, and if so, the commissioner shall instruct the insurer to make reimbursement in the amounts the commissioner specifies in writing. If the commissioner has reason to believe that the maximum cost of closure will be significantly greater than the face amount of the policy, the commissioner may withhold reimbursement of the amounts deemed prudent until it is determined in accordance with subpart 9 that the owner or operator is no longer required to maintain financial assurance for closure of the facility. If the commissioner withholds reimbursement, the commissioner shall provide the owner or operator with a detailed written statement of reasons.

F. The owner or operator shall maintain the policy in full force and effect until the commissioner consents to termination of the policy by the owner or operator as specified in item J.

G. Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. The assignment may be conditional upon consent of the insurer, if the consent is not unreasonably refused.

H. The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the commissioner. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the commissioner and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect if on or before the date of expiration one or more of the events specified in subitems (1) to (5) occurs:

- (1) the agency deems the facility abandoned;
- (2) interim status is terminated or revoked;
- (3) closure is ordered by the commissioner, the agency, or a court of competent jurisdiction;
- (4) the owner or operator is named as debtor in a voluntary or involuntary proceeding under United States Code, title 11, Bankruptcy;
- (5) the premium due is paid.

I. Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, shall either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the commissioner, or obtain other financial assurance as specified in this part to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the commissioner.

J. The commissioner shall give written consent to the owner or operator to terminate the insurance policy if:

(1) an owner or operator substitutes alternate financial assurance as specified in this part; or

(2) the commissioner releases the owner or operator from the requirements of this part in accordance with subpart 9.

Subp. 6. Financial test and corporate guarantee for closure. The financial test and corporate guarantee for closure is as follows:

A. An owner or operator may satisfy the requirements of this part by demonstrating passage of a financial test as specified in items A to L. To pass this test the owner or operator shall meet the criteria of either item B or C.

B. The owner or operator shall have:

(1) two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5;

(2) net working capital and tangible net worth each at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable;

(3) tangible net worth of at least \$10,000,000; and

(4) assets in the United States amounting to at least 90 percent of his or her total assets or at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable.

C. The owner or operator shall have:

(1) a current rating for his or her most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's;

(2) tangible net worth at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable;

(3) tangible net worth of at least \$10,000,000; and

(4) assets located in the United States amounting to at least 90 percent of his or her total assets or at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable.

D. The phrase "current closure and post closure cost estimates" as used in items A to C refers to the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer, as specified in part 7045.0524, subpart 6. The phrase "current plugging and abandonment cost estimate" as used in items A to C means the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer as specified in Code of Federal Regulations, title 40, section 144.70(f).

E. To demonstrate that he or she meets this test, the owner or operator shall submit the following items to the commissioner:

(1) a letter signed by the owner's or operator's chief financial officer and worded as specified in part 7045.0524, subpart 6;

(2) a copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(3) a special report from the owner's or operator's independent certified public accountant to the owner or operator stating that: he or she has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in the financial statements; and in connection with that procedure, no matters came to his or her attention which caused him or her to believe that the specified data should be adjusted.

F. The owner or operator of a facility which is not required to establish financial assurance for closure under Code of Federal Regulations, title 40, part 265, subpart H (1983) but is required to establish financial assurance for closure under these rules may obtain an extension of the time allowed for submission of the documents specified in item E if the fiscal year of the owner or operator ends during the 90 days prior to July 16, 1984, and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension ends no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer shall send, by July 16, 1984, a letter to the commissioner. This letter from the chief financial officer must:

- (1) request the extension;
- (2) certify that the financial officer has grounds to believe that the owner or operator meets the criteria of the financial test;
- (3) specify for each facility to be covered by the test the identification number, name, address, and current closure and post closure cost estimates to be covered by the test;
- (4) specify the date ending the owner's or operator's last complete fiscal year before July 16, 1984;
- (5) specify the date, no later than 90 days after the end of such fiscal year, when the financial officer will submit the documents specified in item E; and
- (6) certify that the year-end financial statements of the owner or operator for the fiscal year will be audited by an independent certified public accountant.

G. After the initial submission of items specified in item E, the owner or operator shall send updated information to the commissioner within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in item E.

H. If the owner or operator no longer meets the requirements of item A, he or she shall send notice to the commissioner of intent to establish alternate financial assurance as specified in this part. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator shall provide the alternate financial assurance within 120 days after the end of the fiscal year.

I. The commissioner may, based on a reasonable belief that the owner or operator may no longer meet the requirements of item A, require reports of financial condition at any time from the owner or operator in addition to those specified in item E. If the commissioner finds, on the basis of these reports or other information, that the owner or operator no longer meets the requirements of item A, the owner or operator shall provide alternate financial assurance as specified in this part within 30 days after notification of the finding.

J. The commissioner may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his or her report on examination of the owner's or operator's financial statements, required by item E, subitem (2). An adverse opinion or disclaimer of opinion will be cause for disallowance. The commissioner shall evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in this part within 30 days after notification of the disallowance.

K. The owner or operator is no longer required to submit the items specified in item E if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or
- (2) the commissioner releases the owner or operator from the requirements of this part in accordance with subpart 9.

L. An owner or operator may meet the requirements of this part by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owner or operator in items A to J; and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in part 7045.0524, subpart 8. The corporate guarantee must accompany the items sent to the commissioner as specified in item E. The terms of the corporate guarantee must provide that:

(1) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other interim status requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in subpart 2 in the name of the owner or operator.

(2) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the commissioner, as evidenced by the return receipts.

(3) If the owner or operator fails to provide alternate financial assurance as specified in this part and obtain the written approval of the alternate assurance from the commissioner within 90 days after receipt by both the owner or operator and the commissioner of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide the alternate financial assurance in the name of the owner or operator.

Subp. 7. Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this part by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms must be as specified in subparts 2 to 5, respectively, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he or she may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The commissioner may use any or all of the mechanisms to provide for closure of the facility.

Subp. 8. Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this part to meet the requirements of this part for more than one facility. Evidence of financial assurance submitted to the commissioner must include a list showing, for each facility, the identification number, name, address, and the amount of funds for closure assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the commissioner may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

Subp. 9. Release of the owner or operator from requirements of this part. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been accomplished in accordance with the closure plan, the commissioner shall notify the owner or operator in writing that he or she is no longer required by this part to maintain financial assurance for final closure of the particular facility, unless the agency has reason to believe that closure has not been in accordance with the closure plan. The commissioner shall provide the owner or operator a detailed written statement of any reason to believe that closure has not been in accordance with the approved closure plan.

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 17 SR 1279*

7045.0614 COST ESTIMATE FOR POST CLOSURE CARE.

Subpart 1. Cost estimate requirements. The owner or operator of a disposal facility shall prepare a written estimate, in current dollars, of the annual cost of post closure monitor-

ing and maintenance of the facility in accordance with the applicable post closure requirements in parts 7045.0600 to 7045.0606; 7045.0630, subpart 6; 7045.0632, subpart 7; 7045.0634, subpart 6; and 7045.0638, subpart 4. The post closure cost estimate is calculated by multiplying the annual post closure cost estimate by the number of years of post closure care required under part 7045.0602. The post closure cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct post closure care activities. A third party is neither a parent nor a subsidiary of the owner or operator.

Subp. 2. Yearly update of cost estimate. During the active life of the facility, the owner or operator shall adjust the post closure cost estimate for inflation within 60 days before each anniversary of the date on which the financial instruments used to comply with part 7045.0616 were established. For owners or operators using the financial test or corporate guarantee, the post closure cost estimate must be adjusted for inflation within 30 days after the close of the firm's fiscal year and before the submission of updated information to the commissioner as specified in part 7045.0616, subpart 6, item E. The adjustment must be made as specified in items A and B using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as found in the "Survey of Current Business" issued by the United States Department of Commerce. The inflation factor is the result of dividing the latest published annual deflator by the deflator of the previous year. Adjustments must be made as follows:

A. The first adjustment is made by multiplying the post closure cost estimate by the inflation factor. The result is the adjusted post closure cost estimate.

B. Subsequent adjustments are made by multiplying the latest adjusted post closure cost estimate by the latest inflation factor.

Subp. 3. Cost estimate revisions. The owner or operator shall revise the post closure cost estimate during the active life of the facility within 30 days after a change in the post closure plan increases the cost of post closure care, or within 30 days after the commissioner has an approved request to modify the plan, for facilities with approved post closure plan. The revised post closure cost estimate must be adjusted for inflation as specified in subpart 2.

Subp. 4. Record retention. The owner or operator shall furnish the following to the commissioner upon request, including request by mail: the latest post closure cost estimate prepared in accordance with subparts 1 and 3 and, when this estimate has been adjusted in accordance with subpart 2, the latest adjusted post closure cost estimate.

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15*

7045.0616 FINANCIAL ASSURANCE FOR POST CLOSURE CARE.

Subpart 1. In general. An owner or operator of a disposal facility shall establish financial assurance for post closure care of the facility 60 days before the initial receipt of hazardous waste or the effective date of the regulation, whichever is later. The owner or operator shall choose from the options specified in subparts 2 to 6.

Subp. 2. Post closure trust fund. Requirements of a post closure trust fund are as follows:

A. An owner or operator may satisfy the requirements of this part by establishing a post closure trust fund which conforms to the requirements of items A to N, and by submitting an originally signed duplicate of the trust agreement to the commissioner. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

B. The wording of the trust agreement must be identical to the wording specified in part 7045.0524, subpart 1, item A, and the trust agreement must be accompanied by a formal certification of acknowledgment, as shown in part 7045.0524, subpart 1, item B. Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current post closure cost estimate covered by the agreement.

C. Payments into the trust fund must be made annually by the owner or operator of a facility required to establish financial assurance for post closure under Code of Federal Regulations, title 40, part 265, subpart H (1983) over the 20 years beginning with the effective date of Code of Federal Regulations, title 40, section 265.145 (1983) or over the remain-

ing operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the post closure trust fund must be made as described in subitems (1) and (2):

(1) The first payment must be made by the effective date of Code of Federal Regulations, title 40, section 265.145 (1983) except as provided in item F. The first payment must be at least equal to the current post closure cost estimate, except as provided in subpart 7, divided by the pay-in period.

(2) Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{next payment} = \frac{\text{CE}-\text{CV}}{\text{Y}}$$

where CE is the current post closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

D. Payments into the trust fund must be made annually by the owner or operator of a facility which was not required to establish financial assurance for post closure under Code of Federal Regulations, title 40, part 265, subpart H (1983) but is required to establish financial assurance for post closure under these parts over the 20 years beginning with July 16, 1984, or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter. The first payment must be made within 90 days of July 16, 1984. The first payment must be at least equal to the current post closure cost estimate, except as provided in subpart 7, divided by the number of years in the pay-in period. Subsequent payments must be made as specified in item C, subitem (2).

E. The owner or operator may accelerate payments into the trust fund or may deposit the full amount of the current post closure cost estimate at the time the fund is established. However, he or she shall maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in item C or D.

F. If the owner or operator establishes a post closure trust fund after having used one or more alternate mechanisms specified in this part, the first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made as specified in item C or D.

G. After the pay-in period is completed, whenever the current post closure cost estimate changes during the operating life of the facility, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current post closure cost estimate and submit a receipt from the trustee for this payment to the commissioner, or obtain other financial assurance as specified in this part to cover the difference.

H. During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post closure cost estimate, the owner or operator may submit a written request to the commissioner for release of the amount in excess of the current post closure cost estimate.

I. If an owner or operator substitutes other financial assurance as specified in this part for all or part of the trust fund, he or she may submit a written request to the commissioner for release of the amount in excess of the current post closure cost estimate covered by the trust fund.

J. Within 60 days after receiving a request from the owner or operator for release of funds as specified in item H or I, the commissioner shall instruct the trustee to release to the owner or operator such funds as the commissioner specifies in writing.

K. During the period of post closure care, the commissioner may approve a release of funds if the owner or operator demonstrates to the commissioner that the value of the trust fund exceeds the remaining cost of post closure care.

L. The trustee shall notify the owner or operator and the commissioner by certified mail within ten days following the expiration of the 30-day period after the anniversary of the establishment of the trust, if no payment is received from the owner or operator during that period. Within 60 days after receipt by both the owner or operator and the commissioner of a notice of nonpayment of any payment required by this part, the owner or operator shall:

- (1) make the required payment;
- (2) provide alternative financial assurance as specified in this rule and obtain the commissioner's written approval of the assurance provided; or
- (3) stop accepting waste and begin closure of the facility.

M. An owner or operator or other person authorized to perform post closure care may request reimbursement for post closure expenditures by submitting itemized bills to the commissioner. Within 60 days after receiving bills for post closure activities, the commissioner shall determine whether the post closure expenditures are in accordance with the post closure plan or otherwise justified, and if so, the commissioner shall instruct the trustee to make reimbursement in the amounts the commissioner specifies in writing. If the commissioner does not instruct the trustee to make reimbursement, the commissioner shall provide the owner or operator with a detailed written statement of reasons.

N. The commissioner shall agree to termination of the trust if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or
- (2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 9.

Subp. 3. Surety bond guaranteeing payment into a post closure trust fund. The following are requirements for surety bonds that guarantee payment into a post closure trust fund:

A. An owner or operator may satisfy the requirements of this part by obtaining a surety bond which conforms to the requirements of items A to I, and by submitting the bond to the commissioner. The surety company issuing the bond must be among those listed as acceptable sureties on federal bonds in Circular 570, issued by the United States Department of the Treasury, as published annually in the Federal Register on July 1.

B. The wording of the surety bond must be identical to the wording specified in part 7045.0524, subpart 2.

C. The owner or operator who uses a surety bond to satisfy the requirements of this part, shall also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the commissioner. This standby trust fund must meet the requirements specified in subpart 2, except that: an originally signed duplicate of the trust agreement must be submitted to the commissioner with the surety bond; and until the standby trust fund is funded pursuant to the requirements of this subpart, the requirements specified in subitems (1) to (4) are not required:

- (1) payments into the trust fund as specified in subpart 2;
- (2) updating of Schedule A of the trust agreement to show current post closure cost estimates;
- (3) annual valuations as required by the trust agreement;
- (4) notices of nonpayment as required by the trust agreement.

D. The bond must guarantee that the owner or operator will:

- (1) fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility;
- (2) fund the standby trust fund in an amount equal to the penal sum within 15 days after an order to begin final closure is issued by the commissioner, the agency, or a court of competent jurisdiction; or

(3) provide alternate financial assurance as specified in this part, and obtain the commissioner's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the commissioner of a notice of cancellation of the bond from the surety.

E. Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

F. The penal sum of the bond must be in an amount at least equal to the current post closure cost estimate, except as provided in subpart 7.

G. Whenever the current post closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current post closure cost estimate and submit evidence of such increase to the commissioner, or obtain other financial assurance as specified in this part to cover the increase. Whenever the current post closure cost estimate decreases, the penal sum may be reduced to the amount of the current post closure cost estimate following written approval by the commissioner.

H. Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the commissioner, as evidenced by the return receipts.

I. The owner or operator may cancel the bond if the commissioner has given prior written consent based on his or her receipt of evidence of alternate financial assurance as specified in this part.

Subp. 4. Post closure letter of credit. The following are requirements for post closure letters of credit:

A. An owner or operator may satisfy the requirements of this part by obtaining an irrevocable standby letter of credit which conforms to the requirements of items A to K, and by submitting the letter to the commissioner. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

B. The wording of the letter of credit must be identical to the wording specified in part 7045.0524, subpart 4.

C. An owner or operator who uses a letter of credit to satisfy the requirements of this part shall also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the commissioner will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the commissioner. This standby trust fund must meet the requirements of the trust fund specified in subpart 2 except that: an originally signed duplicate of the trust agreement must be submitted to the commissioner with the letter of credit; and unless the standby trust fund is funded pursuant to the requirements of this subpart, the requirements specified in subitems (1) to (4) are not required:

- (1) payments into the trust fund as specified in subpart 2;
- (2) updating of Schedule A of the trust agreement to show current post closure cost estimates;
- (3) annual valuations as required by the trust agreement;
- (4) notices of nonpayment as required by the trust agreement.

D. The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the identification number, name, and address of the facility, and the amount of funds assured for post closure care of the facility by the letter of credit.

E. The letter of credit must be irrevocable and issued for a period of at least one year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the commissioner by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the commissioner have received the notice, as evidenced by both the return receipts.

F. The letter of credit must be issued in an amount at least equal to the current post closure cost estimate, except as provided in subpart 7.

G. Whenever the current post closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, shall either cause the amount of the credit to be increased so that it at least equals the current post closure cost estimate and submit evidence of such increase to the commissioner, or to obtain other financial assurance as specified in this part to cover the increase. Whenever the current post closure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current post closure cost estimate following written approval by the commissioner.

H. During the period of post closure care, the commissioner may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the commissioner that the amount exceeds the remaining cost of post closure care.

I. Following a determination that the owner or operator has failed to perform post closure care in accordance with the post closure plan and other interim status requirements, the commissioner may draw on the letter of credit.

J. If the owner or operator does not establish alternate financial assurance as specified in this part and obtain written approval of the alternate assurance from the commissioner within 90 days after receipt by both the owner or operator and the commissioner of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the commissioner shall draw on the letter of credit. The commissioner may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of an extension the commissioner shall draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this part and obtain written approval of the assurance from the commissioner.

K. The commissioner shall return the letter of credit to the issuing institution for termination if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or
- (2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 9.

Subp. 5. Post closure insurance. The following requirements apply to post closure insurance:

A. An owner or operator may satisfy the requirements of this part by obtaining post closure insurance which conforms to the requirements of items A to K, and by submitting a certificate of the insurance to the commissioner by July 16, 1984. By July 16, 1984, the owner or operator of a facility which is not required to establish financial assurance for post closure care under Code of Federal Regulations, title 40, part 265, subpart H (1983) but is required to establish financial assurance for post closure care under these parts shall submit to the commissioner by certified mail a letter from an insurer stating that the insurer is considering issuance of post closure insurance conforming to the requirements of items A to K, to the owner or operator. Within 90 days after July 16, 1984, the owner or operator of a facility which is not required to establish financial assurance for post closure care under Code of Federal Regulations, title 40, part 265, subpart H (1983) but is required to establish financial assurance for post closure care under these parts shall submit the certificate of insurance to the commissioner, or establish other financial assurance as specified in this part. The insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

B. The wording of the certificate of insurance must be identical to the wording specified in part 7045.0524, subpart 5.

C. The post closure insurance policy must be issued for a face amount at least equal to the current post closure cost estimate, except as provided in subpart 7. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

D. The post closure insurance policy must guarantee that funds will be available to provide post closure care of the facility whenever the post closure period begins. The policy must also guarantee that once post closure care begins the insurer will be responsible for pay-

ing out funds, up to an amount equal to the face amount of the policy, upon the direction of the commissioner to the party or parties the agency specifies.

E. An owner or operator or other person authorized to perform post closure care may request reimbursement for post closure expenditures by submitting itemized bills to the commissioner. Within 60 days after receiving bills for post closure activities, the commissioner shall determine whether the post closure expenditures are in accordance with the post closure plan or otherwise justified, and if so, he or she shall instruct the insurer to make reimbursement in the amounts the commissioner specifies in writing. If the commissioner does not instruct the insurer to make reimbursement, the commissioner shall provide the owner or operator with a detailed written statement of reasons.

F. The owner or operator shall maintain the policy in full force and effect until the commissioner consents to termination of the policy by the owner or operator as specified in item K.

G. Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. The assignment may be conditional upon consent of the insurer, if the consent is not unreasonably refused.

H. The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the commissioner. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the commissioner, and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration one or more of the events specified in subitems (1) to (5) occurs:

- (1) the agency deems the facility abandoned;
- (2) interim status is terminated or revoked;
- (3) closure is ordered by the commissioner, the agency, or a court of competent jurisdiction;
- (4) the owner or operator is named as debtor in a voluntary or involuntary proceeding under United States Code, title 11, Bankruptcy;
- (5) the premium due is paid.

I. Whenever the current post closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, shall either cause the face amount to be increased to an amount at least equal to the current post closure cost estimate and submit evidence of the increase to the commissioner, or obtain other financial assurance as specified in this part to cover the increase. Whenever the current post closure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current post closure cost estimate following written approval by the commissioner.

J. Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer shall thereafter annually increase the face amount of the policy. The increase must be equivalent to the face amounts of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or the equivalent coupon-issue yield announced by the United States Treasury for 26-week treasury securities.

K. The commissioner shall give written consent to the owner or operator to terminate the insurance policy if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or
- (2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 9.

Subp. 6. Financial test and corporate guarantee for post closure care. The following is the financial test and corporate guarantee for post closure care:

A. An owner or operator may satisfy the requirements of this part by demonstrating that he or she passes a financial test as specified in items A to M. To pass this test the owner or operator shall meet the criteria either of items B or C.

B. The owner or operator shall have:

(1) two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5;

(2) net working capital and tangible net worth each at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable;

(3) tangible net worth of at least \$10,000,000; and

(4) assets in the United States amounting to at least 90 percent of his or her total assets or at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable.

C. The owner or operator shall have:

(1) a current rating for his or her most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's;

(2) tangible net worth at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable;

(3) tangible net worth of at least \$10,000,000; and

(4) assets located in the United States amounting to at least 90 percent of his or her total assets or at least six times the sum of the current closure and post closure cost estimates and the current plugging and abandonment cost estimate for class I underground injection control (UIC) facilities, if applicable.

D. The phrase "current closure and post closure cost estimates" as used in items A to C, refers to the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer, as specified in part 7045.0524, subpart 6. The phrase "current plugging and abandonment cost estimates" as used in items A to C means the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer as specified in Code of Federal Regulations, title 40, section 144.70(f).

E. To demonstrate that he or she meets this test, the owner or operator shall submit the following items to the commissioner:

(1) a letter signed by the owner's or operator's chief financial officer and worded as specified in part 7045.0524, subpart 6;

(2) a copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(3) a special report from the owner's or operator's independent certified public accountant to the owner or operator stating that: he or she has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements from the latest fiscal year with the amounts in the financial statements; and in connection with that procedure, no matters came to his or her attention which caused him or her to believe that the specified data should be adjusted.

F. The owner or operator of a facility which is not required to establish financial assurance for post closure under Code of Federal Regulations, title 40, part 265, subpart H (1983) but is required to establish financial assurance for post closure care under these parts may obtain an extension of the time allowed for submission of the documents specified in item E if the fiscal year of the owner or operator ends during the 90 days prior to July 16, 1984, and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension ends no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief

financial officer shall send, by July 16, 1984, a letter to the commissioner. This letter from the chief financial officer must:

- (1) request the extension;
- (2) certify that the financial officer has grounds to believe that the owner or operator meets the criteria of the financial test;
- (3) specify for each facility to be covered by the test the identification number, name, address, and the current closure and post closure cost estimates to be covered by the test;
- (4) specify the date ending the owner's or operator's latest complete fiscal year before July 16, 1984;
- (5) specify the date, no later than 90 days after the end of the fiscal year, when the financial officer will submit the documents specified in item E; and
- (6) certify that the year-end financial statements of the owner or operator for the fiscal year will be audited by an independent certified public accountant.

G. After the initial submission of items specified in item E, the owner or operator shall send updated information to the commissioner within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in item E.

H. If the owner or operator no longer meets the requirements of item A, he or she shall send notice to the commissioner of intent to establish alternate financial assurance as specified in this part. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator shall provide the alternate financial assurance within 120 days after the end of the fiscal year.

I. The commissioner may, based on a reasonable belief that the owner or operator may no longer meet the requirements of item A, require reports of financial condition at any time from the owner or operator in addition to those specified in item E. If the commissioner finds, on the basis of these reports or other information, that the owner or operator no longer meets the requirements of item A, the owner or operator shall provide alternate financial assurance as specified in this part within 30 days after notification of the finding.

J. The commissioner may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his or her report on examination of the owner's or operator's financial statements required by item E, subitem (2). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The commissioner shall evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in this part within 30 days after notification of the disallowance.

K. During the period of post closure care, the commissioner may approve a decrease in the current post closure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the commissioner that the amount of the cost estimate exceeds the remaining cost of post closure care.

L. The owner or operator is no longer required to submit the items specified in item E if:

- (1) an owner or operator substitutes alternate financial assurance as specified in this part; or
- (2) the agency releases the owner or operator from the requirements of this part in accordance with subpart 9.

M. An owner or operator may meet the requirements of this part by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in items A to K, and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in part 7045.0524, subpart 8. The corporate guarantee must accompany the items sent to the commissioner as specified in item E. The terms of the corporate guarantee must provide that:

- (1) If the owner or operator fails to perform post closure care of a facility covered by the corporate guarantee in accordance with the post closure plan and other interim

status requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in subpart 2 in the name of the owner or operator.

(2) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the commissioner, as evidenced by the return receipts.

(3) If the owner or operator fails to provide alternate financial assurance as specified in this part, and obtain the written approval of the alternate assurance from the commissioner within 90 days after receipt by both the owner or operator and the commissioner of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide the alternate financial assurance in the name of the owner or operator.

Subp. 7. Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this part by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms must be as specified in subparts 2 to 5, respectively, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current post closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he or she may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The commissioner may use any or all of the mechanisms to provide for post closure care of the facility.

Subp. 8. Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this rule to meet the requirements of this part for more than one facility. Evidence of financial assurance submitted to the commissioner, must include a list showing, for each facility, the identification number, name, address, and the amount of funds for post closure care assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post closure care of any of the facilities covered by the mechanism, the commissioner may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

Subp. 9. Release of the owner or operator from the requirements of this part. Within 60 days after receiving certification from the owner or operator and an independent registered professional engineer that the post closure care requirements have been completed for a hazardous waste disposal unit in accordance with the post closure plan, the agency shall, at the request of the owner or operator, notify him or her in writing that he or she is no longer required by this part to maintain financial assurance for post closure care of that unit, unless the agency has reason to believe that post closure care has not been in accordance with the approved post closure plan. The agency shall provide the owner or operator with a detailed written statement of any reason to believe that post closure care has not been in accordance with the approved post closure plan.

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 17 SR 1279*

7045.0618 USE OF A MECHANISM FOR FINANCIAL ASSURANCE OF BOTH CLOSURE AND POST CLOSURE CARE.

An owner or operator may satisfy the requirements for financial assurance for both closure and post closure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both parts 7045.0612 and 7045.0616. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of post closure care.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.0620 LIABILITY REQUIREMENTS.

Subpart 1. **Coverage for sudden accidental occurrences.** An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of these facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain liability coverage for sudden accidental occurrences in the amount of at least \$1,000,000 per occurrence with an annual aggregate of at least \$2,000,000, exclusive of legal defense costs. This liability coverage may be demonstrated in one of three ways, as specified in items A, B, and C:

A. An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in subitems (1) and (2):

(1) Each insurance policy must be amended by attachment of the hazardous waste facility liability endorsement or evidenced by a certificate of liability insurance. The wording of the endorsement must be identical to the wording specified in part 7045.0524, subpart 9. The wording of the certificate of insurance must be identical to the wording specified in part 7045.0524, subpart 10. The owner or operator shall submit a signed duplicate original of the endorsement or the certificate of insurance to the commissioner. If requested by the commissioner, the owner or operator shall provide a signed duplicate original of the insurance policy.

(2) Each insurance policy must be issued by an insurer which is licensed to transact the business of insurance or eligible to provide insurance as an excess or surplus lines insurer in one or more states.

B. An owner or operator may meet the requirements of this part by passing a financial test or using the corporate guarantee for liability coverage as specified in subparts 5 and 6.

C. An owner or operator may demonstrate the required liability coverage through use of the financial test, insurance, the corporate guarantee, a combination of the financial test and insurance, or a combination of the corporate guarantee and insurance as these mechanisms are specified in this part. The amounts of coverage demonstrated must total at least the minimum amounts required by subpart 1.

Subp. 2. **Coverage for nonsudden accidental occurrences.** An owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste, or a group of these facilities, shall demonstrate financial responsibility for bodily damage and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least \$3,000,000 per occurrence with an annual aggregate of at least \$6,000,000, exclusive of legal defense costs. This liability coverage may be demonstrated in one of three ways as specified in items A, B, and C:

A. An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in subitems (1) and (2):

(1) Each insurance policy must be amended by attachment of the hazardous waste facility liability endorsement or evidenced by a certificate of liability insurance. The wording of the endorsement must be identical to the wording specified in part 7045.0524, subpart 9. The wording of the certificate of insurance must be identical to the wording specified in part 7045.0524, subpart 10. The owner or operator shall submit a signed duplicate original of the endorsement or the certificate of insurance to the commissioner. If requested by the commissioner, the owner or operator shall provide a signed duplicate original of the insurance policy.

(2) Each insurance policy must be issued by an insurer which is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

B. An owner or operator may meet the requirements of this part by passing a financial test or using the corporate guarantee for liability coverage as specified in subparts 5 and 6.

C. An owner or operator may demonstrate the required liability coverage through use of the financial test, insurance, the corporate guarantee, a combination of the financial test and insurance, or a combination of the corporate guarantee and insurance as these mechanisms are specified in this part. The amounts of coverage must total at least the minimum amounts required by subpart 1.

D. The required liability coverage for nonsudden accidental occurrences must be demonstrated by the dates specified in subitems (1), (2), (3), and (4). The total sales or revenues of the owner or operator in all lines of business, in the fiscal year preceding July 16, 1984, will determine which of the dates applies. If the owner and operator of a facility are two different parties, or if there is more than one owner or operator, the sales or revenues of the owner or operator with the largest sales or revenues determines the date by which the coverage must be demonstrated. The following dates apply:

(1) for an owner or operator not subject to the requirements of Code of Federal Regulations, title 40, section 265.147 (1983) with sales or revenues totaling \$10,000,000 or more, six months after July 16, 1984;

(2) for an owner or operator not subject to the requirements of Code of Federal Regulations, title 40, section 265.147 (1983) with sales or revenues greater than \$5,000,000 but less than \$10,000,000, 18 months after July 16, 1984.

(3) all other owners or operators not subject to the requirements of Code of Federal Regulations, title 40, section 265.147 (1983) 30 months after July 16, 1984;

(4) for an owner or operator subject to the requirements of Code of Federal Regulations, title 40, section 265.147 (1983) on the date he or she is required to demonstrate coverage under Code of Federal Regulations, title 40, section 265.147 (1983).

E. By the date six months after July 16, 1984, an owner or operator who is within either of the categories in subitem (2) or (3) shall, unless he or she has demonstrated liability coverage for nonsudden accidental occurrences, send a letter to the commissioner, stating the date by which he or she plans to establish the coverage.

Subp. 3. Adjustment of liability requirements. If an owner or operator can demonstrate to the satisfaction of the commissioner that the levels of financial responsibility required by subpart 1 or 2 are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain an adjustment from the commissioner. The request for an adjustment must be submitted in writing to the commissioner. If granted, the adjustment takes the form of an adjusted level of required liability coverage, such level to be based on the commissioner's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The commissioner may require an owner or operator who requests an adjustment to provide technical and engineering information deemed necessary by the commissioner, to determine a level of financial responsibility other than that required by subpart 1 or 2.

If the commissioner determines that the levels of financial responsibility required by subpart 1 or 2 are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the commissioner may adjust the level of financial responsibility required under subpart 1 or 2, as may be necessary to protect human health and the environment. This adjusted level will be based on the commissioner's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the commissioner determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, the commissioner may require that an owner or operator of the facility comply with subpart 2. An owner or operator shall furnish to the commissioner, within a reasonable time, any information which the commissioner requests to determine whether cause exists for adjustments of level or type of coverage.

The commissioner shall process an adjustment of the level of required coverage as if it were a permit modification in accordance with the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050. Notwithstanding any other provision, the commissioner may hold a public information meeting at his or her discretion or whenever the com-

missioner finds, on the basis of requests for a public information meeting, a significant degree of public interest in a tentative decision to adjust the level or type of required coverage.

Subp. 4. Period of coverage. An owner or operator shall continuously provide liability coverage for a facility as required by this part, until certifications of closure of the facility, as specified in part 7045.0596, are received by the commissioner. Within 60 days after receiving such certifications from the owner or operator and an independent registered professional engineer, the commissioner shall notify the owner or operator in writing that he or she is no longer required by this part to maintain liability coverage for that facility, unless the commissioner has reason to believe that closure has not been in accordance with the approved closure plan.

Subp. 5. Financial test for liability coverage. The financial test for liability coverage is as follows:

A. An owner or operator may satisfy the requirements of this part, by demonstrating that he or she passes a financial test as specified in items A to I. To pass this test the owner or operator shall meet the criteria of item B or C:

B. The owner or operator shall have:

- (1) net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test;
- (2) tangible net worth of at least \$10,000,000; and
- (3) assets in the United States amounting to either at least 90 percent of his or her total assets, or at least six times the amount of liability coverage to be demonstrated by this test.

C. The owner or operator shall have:

- (1) a current rating for the most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's;
- (2) tangible net worth at least \$10,000,000;
- (3) tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and
- (4) assets in the United States amounting to either at least 90 percent of total assets, or at least six times the amount of liability coverage to be demonstrated by this test.

D. The phrase "amount of liability coverage" as used in items A to C, refers to the annual aggregate amounts for which coverage is required under subparts 1 and 2.

E. To demonstrate that he or she meets this test, the owner or operator shall submit the following three items to the commissioner:

(1) A letter signed by the owner's or operator's chief financial officer and worded as specified in part 7045.0524, subpart 7. If an owner or operator is using the financial test to demonstrate both assurance for closure or post closure care, as specified by parts 7045.0504, subpart 7; 7045.0508, subpart 7; 7045.0612, subpart 6; and 7045.0616, subpart 6; and liability coverage, he or she shall submit the letter specified in part 7045.0524, subpart 7, to cover both forms of financial responsibility; a separate letter as specified in part 7045.0524, subpart 6, is not required.

(2) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(3) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that he or she has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in the financial statements, and in connection with that procedure, no matters came to his or her attention which caused him or her to believe that the specified data should be adjusted.

F. The owner or operator of a facility which is not required to have liability insurance under Code of Federal Regulations, title 40, section 265.147 (1983) may obtain a one-time extension of the time allowed for submission of the documents specified in item E if the fiscal year of the owner or operator ends during the 90 days prior to July 16, 1984, and if the year-end financial statements for that fiscal year will be audited by an independent certified

public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer shall send, by July 16, 1984, a letter to the commissioner. This letter from the chief financial officer must:

- (1) request the extension;
- (2) certify that he or she has grounds to believe that the owner or operator meets the criteria of the financial test;
- (3) specify for each facility to be covered by the test the identification number, name, address, the amount of liability coverage and, when applicable, current closure and post closure cost estimates to be covered by the test;
- (4) specify the date ending the owner's or operator's last complete fiscal year before July 16, 1984;
- (5) specify the date, no later than 90 days after the end of the fiscal year, when he or she will submit the documents specified in item E; and
- (6) certify that the year-end financial statements of the owner or operator for the fiscal year will be audited by an independent certified public accountant.

G. After the initial submission of items specified in item E, the owner or operator shall send updated information to the commissioner within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in item E.

H. If the owner or operator no longer meets the requirements of item A, he or she shall obtain insurance for the entire amount of required liability coverage as specified in this part. Evidence of insurance must be submitted to the commissioner within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

I. The commissioner may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his or her report on examination of the owner's or operator's financial statements required by item E, subitem (2). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The commissioner shall evaluate other qualifications on an individual basis. The owner or operator shall provide evidence of insurance for the entire amount of required liability coverage as specified in this part within 30 days after notification of disallowance.

Subp. 6. Corporate guarantee for liability coverage. The corporate guarantee for liability coverage is as follows:

A. Subject to item B, an owner or operator may meet the requirements of this part by obtaining a written corporate guarantee. The guarantor must be the parent corporation of the owner or operator. The guarantee must meet the requirements for owners or operators in subpart 5. The wording of the corporate guarantee must be identical to the wording specified in part 7045.0524, subpart 8a. The guarantee must be signed by two corporate officers of the parent corporation. A corporate resolution authorizing the parent corporation to provide the corporate guarantee for the subsidiary must be attached to the guarantee. A certified copy of the corporate guarantee must accompany the items sent to the commissioner as specified in subpart 5, item E. The terms of the corporate guarantee must provide that:

(1) if the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or non-sudden accidental occurrences, or both, as the case may be, arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage; and

(2) the corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the commissioner. This guarantee may not be terminated unless and until the commissioner approves alternate liability coverage complying with this part and/or part 7045.0518.

B. A corporate guarantee may be used to satisfy the requirements of this part only if:

(1) in the case of corporations incorporated in the United States, the attorney general or insurance commissioner of the state in which the guarantor is incorporated and of

each state in which a facility covered by the guarantee is located has submitted a written statement to the commissioner and the United States Environmental Protection Agency that a corporate guarantee executed as described in this part and part 7045.0524, subpart 8a, is a legally valid and enforceable obligation in that state; and

(2) in the case of corporations incorporated outside the United States, the non-United States corporation has identified a registered agent for service of process in each state in which a facility covered by the guarantee is located and in the state in which it has its principal place of business, and the attorney general or insurance commissioner of each state in which a facility covered by the guarantee is located and the state in which the guarantor corporation has its principal place of business, has submitted a written statement to the commissioner and the United States Environmental Protection Agency that a corporate guarantee executed as described in this part and part 7045.0524, subpart 8a, is a legally valid and enforceable obligation in that state.

Statutory Authority: *MS s 116.07*

History: 9 SR 115; 11 SR 2415; L 1987 c 186 s 15; 13 SR 577; 17 SR 1279; 18 SR 614

7045.0622 INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS.

Subpart 1. Notification of bankruptcy. An owner or operator shall notify the commissioner by certified mail of the commencement of a voluntary or involuntary proceeding under United States Code, title 11, Bankruptcy, naming the owner or operator as debtor, within ten days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in parts 7045.0612, subpart 6 and 7045.0616, subpart 6, shall make a notification if he or she is named as debtor, as required under the terms of the corporate guarantee.

Subp. 2. Incapacity of financial institutions. An owner or operator who fulfills the requirements of part 7045.0612, 7045.0616, or 7045.0620 by obtaining a trust fund, surety bond, letter of credit, or insurance policy is without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or the institution issuing the surety bond, letter of credit, or insurance policy to issue the instruments. The owner or operator shall establish other financial assurance or liability coverage within 60 days after such an event.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: 9 SR 115; L 1987 c 186 s 15

7045.0624 WORDING OF INSTRUMENTS.

Instruments used to satisfy the requirements of parts 7045.0608 to 7045.0622, must be worded as specified in part 7045.0524.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: 9 SR 115

7045.0626 USE AND MANAGEMENT OF CONTAINERS.

Subpart 1. Scope. This part applies to owners and operators of hazardous waste facilities that store containers of hazardous waste, except as part 7045.0552 provides otherwise. Under parts 7045.0127, subparts 2 to 4 and 7045.0135, subpart 4, item C, if a hazardous waste is emptied from a container, the residue remaining in the container is not considered a hazardous waste if the container is empty, as defined in part 7045.0127, subparts 2 to 4. In that event, management of the container is exempt from the requirements of this part.

Subp. 2. Condition of containers. Containers used to store hazardous waste must meet the following requirements:

A. be of sturdy leakproof construction, adequate wall thickness, adequate weld, hinge, and seam strength and sufficient strength to withstand side and bottom shock, while filled, without impairment of the ability of the container to fully contain the hazardous waste; and

B. have lids, caps, hinges, or other closure devices of sufficient strength and construction so that when closed they will withstand dropping, overturning, or other shock without impairment of the container's ability to fully contain the hazardous waste.

If a container holding hazardous waste does not meet the requirements of items A and B or if it begins to leak, the owner or operator shall transfer the hazardous waste from this container to a container that does meet the requirements of items A and B, or manage the waste in some other way that complies with the requirements of this part.

Subp. 3. Compatibility of waste with containers. The owner or operator shall use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored and other substances that the container may foreseeably contact, so that the ability of the container to contain the waste is not impaired.

Subp. 4. Management of containers. A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak. Reuse of containers is governed by United States Department of Transportation regulations, including those set forth in Code of Federal Regulations, title 49, section 173.28 (1983).

The owner or operator shall store containers which if exposed to moisture or direct sunlight may create a hazardous condition or adversely affect the container's ability to contain the hazardous waste, in an area with overhead roofing or other covering that does not obstruct the visibility of the labels.

Subp. 5. Inspections. The owner or operator shall inspect hazardous waste containers and areas where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors and shall keep a written record of the dates and findings of these inspections.

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 stored nearby in other containers, piles, open tanks, or surface impoundments must be 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.

Subp. 7. Special requirements for ignitable or reactive waste. Containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line. Nothing in this subpart shall relieve the facility owner or operator from the obligation to comply with any local, state, or federal law governing storage of these wastes.

Subp. 8. Closure. At closure, all hazardous waste and hazardous waste residues must be removed from the storage area. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed. At closure and throughout the operating period, unless the owner or operator can demonstrate that the waste removed from the storage area 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 7045.0205 to 7045.1030.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; 14 SR 2248*

7045.0628 TANK SYSTEMS.

Subpart 1. Scope. This part applies to owners and operators of facilities that use tank systems to treat or store hazardous waste, except as items A and B and part 7045.0552 provide otherwise.

A. Tank systems that are used to store or treat hazardous waste containing no free liquids and that are located inside a building with an impermeable floor are exempt from the requirements of subparts 4 and 5. To demonstrate the absence or presence of free liquids in

the stored or treated waste, EPA Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Publication No. SW-846) must be used.

B. Tank systems, including sumps, as defined in part 7045.0020 that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in subparts 4 and 5.

Subp. 2. Assessment of existing tank system's integrity. The following requirements apply to existing tank systems:

A. For each existing tank system that does not have secondary containment meeting the requirements of subparts 4 and 5, the owner or operator must determine whether the tank system is leaking or is unfit for use. Except as provided in item C, the owner or operator must obtain and keep on file at the facility a written assessment reviewed and certified by an independent, qualified, registered professional engineer that attests to the tank system's integrity. The certification must include the statements in parts 7001.0070 and 7001.0540.

B. This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste to be stored or treated to ensure that it will not collapse, rupture, or fail. This assessment must consider the following:

(1) design standards, if available, according to which the tank and ancillary equipment were constructed;

(2) hazardous characteristics of the waste that has been or will be handled;

(3) existing corrosion protection measures;

(4) documented age of the tank system, if available, otherwise, an estimate of the age; and

(5) results of a leak test, internal inspection, or other tank integrity examination. For nonenterable underground, inground, or onground tanks, this assessment must consist of a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects. For other than nonenterable underground, inground, or onground tanks and for ancillary equipment, this assessment must be either a leak test, as described above, or an internal inspection and/or other tank integrity examination certified by an independent, qualified, registered professional engineer, that addresses cracks, leaks, corrosion, and erosion. The certification must include the statements in parts 7001.0070 and 7001.0540.

C. Owners or operators of tank systems that were required to conduct this assessment by Code of Federal Regulations, title 40, section 265.191(a), must conduct and keep this assessment on file as required by that section. Owners or operators of all other existing tank systems must conduct this assessment by February 8, 1990. Owners or operators of tank systems that store or treat materials that become hazardous wastes must conduct this assessment within 12 months after the date that the waste becomes a hazardous waste.

D. If, as a result of the assessment conducted in accordance with item A, a tank system is found to be leaking or unfit for use, the owner or operator must comply with the requirements of subpart 8.

Subp. 3. Design and installation of new tank systems or components.

A. Owners or operators of new tank systems or components must ensure that the foundation, structural support, seams, connections, and pressure controls, if applicable, are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste to be stored or treated, and corrosion protection so that it will not collapse, rupture, or fail. The owner or operator must obtain a written assessment reviewed and certified by an independent, qualified, registered professional engineer, attesting that the system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. Owners or operators of new tank systems that were required to conduct this assessment by Code of Federal Regulations, title 40, section 265.192(a), must conduct and keep this assessment on file as required by that regulation. Owners and operators of other new tank systems shall conduct this assessment by February 8, 1989, and keep it on file at the facility. The certification must include the statements in parts 7001.0070 and 7001.0540. This assessment must include the following information:

(1) design standards according to which the tank and ancillary equipment is or will be constructed;

(2) hazardous characteristics of the waste to be handled;

(3) for new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system is or will be in contact with the soil or with water, a determination by a corrosion expert of the factors affecting the potential for corrosion, including soil moisture content, soil pH, soil sulfides level, soil resistivity, structure to soil potential, influence of nearby underground metal structures such as piping, stray electric current, and existing corrosion protection measures such as coating and cathodic protection. The determination must also address the type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component. This protection must consist of corrosion resistant materials of construction such as special alloys or fiberglass reinforced plastic; corrosion resistant coating, such as epoxy or fiberglass, with cathodic protection such as impressed current or sacrificial anodes; and electrical isolation devices such as insulating joints or flanges;

(4) for underground tank system components that are likely to be affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage;

(5) design considerations to ensure that tank foundations will maintain the load of a full tank, tank systems will be anchored to prevent flotation or dislodgement where the tank system is placed in a saturated zone, and tank systems will withstand the effects of frost heave; and

(6) any additional information that the commissioner determines is relevant to the tank system design.

B. The owner or operator of a new tank system must ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Before covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or an independent, qualified, registered professional engineer, either of whom is trained and experienced in the proper installation of tank systems, must inspect the system or component for the presence of weld breaks, punctures, scrapes of protective coatings, cracks, corrosion, and other structural damage or inadequate construction or installation. All discrepancies must be remedied before the tank system is covered, enclosed, or placed in use.

C. New tank systems or components and piping that are placed underground and that are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is carefully installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

D. All new tanks and ancillary equipment must be tested for tightness before being covered, enclosed, or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leaks in the system must be performed before the tank system is covered, enclosed, or placed in use.

E. Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.

F. The owner or operator must provide the type and degree of corrosion protection necessary, based on the information provided under item A, subitem (3), to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation.

G. The owner or operator must obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of items B to F to attest that the tank system was properly designed and installed and that repairs under items B and D were performed. The certification must include the statements in parts 7001.0070 and 7001.0540.

Subp. 4. Containment and detection of releases.

A. In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this part must be provided, except as provided in item H:

(1) for new tank systems or components, before being put into service;

(2) for an existing tank system that on August 8, 1988, is less than ten years old, by August 8, 1993;

(3) for an existing tank system that on August 8, 1988, is ten or more years old but less than 15 years old, by the date the tank system is 15 years old or by January 12, 1989, whichever is later;

(4) for an existing tank system that on August 8, 1988, is 15 or more years old, by January 12, 1989;

(5) for an existing tank system for which the age cannot be documented, the tank system must be treated as if it is 15 years old as specified in subitem (4); however, if the owner or operator demonstrates that the age of the tank system does not exceed 15 years, the tank system shall be treated as specified in subitem (2) or (3), as applicable;

(6) for a tank system that stores or treats a material that is not a hazardous waste on August 8, 1988, but which later becomes subject to regulation as a hazardous waste, within two years of the date the material becomes subject to regulation as a hazardous waste; and

(7) for an existing tank system used to store or treat hazardous wastes F020, F021, F022, F023, F026, F027, and F028, listed under part 7045.0135, subpart 2, by January 12, 1989.

B. Secondary containment systems must be:

(1) designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and

(2) capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

C. To meet the requirements of item B, secondary containment systems must be at a minimum:

(1) constructed of or lined with materials that are compatible with the waste to be placed in the tank system and must have sufficient strength and thickness to prevent failure due to pressure gradients, including static head and external hydrological forces; physical contact with the waste to which they are exposed; climatic conditions; the stress of installation; and the stress of daily operation, including stresses from nearby vehicular traffic;

(2) placed on a foundation or base capable of providing support to the secondary containment system and resistance to pressure gradients above and below the system and capable of preventing failure due to settlement, compression, or uplift;

(3) provided with a leak detection system that is designed and operated so that it will detect the failure of either the primary and secondary containment structure or any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the existing detection technology or site conditions will not allow detection of a release within 24 hours; and

(4) sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health or the environment, if removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

D. Unless a petition is granted under part 7045.0075, subpart 7, secondary containment for tanks must include one or more of the following devices:

- (1) a liner external to the tank;
- (2) a vault;
- (3) a double walled tank; or

(4) an equivalent device as approved by the commissioner under part 7045.0075, subpart 6.

E. In addition to the requirements of items B, C, and D, the external liner system of secondary containment systems must be:

(1) designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(2) designed or operated to prevent run on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25 year, 24 hour rainfall event;

(3) free of cracks or gaps; and

(4) designed and installed to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if released from the tank; that is, capable of preventing lateral as well as vertical migration of the waste.

F. In addition to the requirements of items B, C, and D, a vault system must be:

(1) designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(2) designed or operated to prevent run on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run on or infiltration. The additional capacity must be sufficient to contain precipitation from a 25 year, 24 hour rainfall event;

(3) constructed with chemical resistant water stops in place at all joints, if any;

(4) provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;

(5) provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated meets the definition of ignitable waste under part 7045.0131, or reactive waste under part 7045.0131 and may form an ignitable or explosive vapor; and

(6) provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

G. In addition to the requirements of items B, C, and D, double walled tanks must be:

(1) designed as an integral structure, such as an inner tank within an outer shell so that any release from the inner tank is contained by the outer shell;

(2) protected, if constructed of metal, from both corrosion of the primary tank interior and the external surface of the outer shell; and

(3) provided with a built-in, continuous leak detection system capable of detecting a release within 24 hours or at the earliest practicable time, if the owner or operator can demonstrate to the commissioner, and the commissioner concurs, that the existing leak detection technology or site conditions will not allow detection of a release within 24 hours.

H. Ancillary equipment must be provided with full secondary containment, such as trench, jacketing, or double walled piping, that meets the requirements of items B and C, except for:

(1) aboveground piping, exclusive of flanges, joints, valves, and other connections, that are visually inspected for leaks on a daily basis;

(2) welded flanges, welded joints, and welded connections, that are visually inspected for leaks on a daily basis;

(3) sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and

(4) pressurized aboveground piping systems with automatic shutoff devices, such as excess flow check valves, flow metering shutdown devices, and loss of pressure actuated shutoff devices, that are visually inspected for leaks on a daily basis.

Subp. 5. Requirements for tank systems. All tank systems, until such time as secondary containment meeting the requirements of this section is provided, must comply with the following:

A. For nonenterable underground, inground, and onground tanks, a leak test that meets the requirements of subpart 2, item B, subitem (5), must be conducted at least annually.

B. For other than nonenterable underground, inground, and onground tanks and for all ancillary equipment, an annual leak test, as described in item A, or an internal inspection or other tank integrity examination by an independent, qualified, registered professional engineer, that addresses cracks, leaks, corrosion, and erosion must be conducted at least annually. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed.

C. For underground, inground, and onground tanks, a test to detect tank wall thinning and to determine that the minimum tank wall thickness is maintained. This test must be conducted by February 8, 1990, and every two years thereafter until secondary containment meeting the requirements of subparts 4 and 5 is installed.

D. The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with items A to D.

E. If the tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment in items A to D, the owner or operator must comply with the requirements of subpart 8.

Subp. 6. General operating requirements. Treatment or storage of hazardous waste in tanks must comply with the following:

A. Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the secondary containment system to rupture, leak, corrode, or otherwise fail.

B. The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or secondary containment systems. These include:

(1) spill prevention controls such as check valves or dry disconnect couplings;

(2) overflow prevention controls such as level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank; and

(3) maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

C. The owner or operator must comply with subpart 8 if a leak or spill occurs in the tank system.

Subp. 7. Inspections.

A. The owner or operator must inspect, where present, at least once each operating day:

(1) overflow or spill control equipment such as waste feed cutoff systems, bypass systems, and drainage systems to ensure that it is in good working order;

(2) the aboveground portions of the tank system, if any, to detect corrosion or releases of waste;

(3) data gathered from monitoring equipment and leak detection equipment, such as pressure and temperature gauges or monitoring wells, to ensure that the tank system is being operated according to its design; and

(4) the construction materials and the area immediately surrounding the externally accessible portion of the tank system, including secondary containment structures such as dikes, to detect erosion or signs of releases of hazardous waste such as wet spots or dead vegetation.

B. The owner or operator must inspect cathodic protection systems, if present, according to the following schedule, to ensure that they are functioning properly:

(1) The proper operation of the cathodic protection system must be confirmed within six months after initial installation, and annually thereafter.

(2) All sources of impressed current must be inspected and/or tested, as appropriate, at least bimonthly.

C. The owner or operator must document in the operating record of the facility an inspection of those items in items A and B.

Subp. 8. Responses to leaks or spills and disposition of unfit for use tank systems. A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately, and the owner or operator must satisfy the following requirements:

A. The owner or operator must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

B. Removal of waste from tank system or secondary containment system.

(1) If the release was from the tank system, the owner or operator must, within 24 hours after detection of the leak or, if the owner or operator demonstrates that that is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(2) If the release was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

C. The owner or operator must immediately conduct a visual inspection of the release and, based upon that inspection:

(1) prevent further migration of the leak or spill to soils or surface water; and

(2) remove, and properly dispose of, any visible contamination of the soil or surface water.

D. Notifications, reports.

(1) Any release to the environment must be reported to the commissioner within 24 hours of detection.

(2) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the commissioner. The report must address the likely route of migration of the release; characteristics of the surrounding soil, including soil composition, geology, hydrogeology, and climate; and the results of any monitoring or sampling conducted in connection with the release, if available. If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the commissioner as soon as they become available. The report must also address the proximity to downgradient drinking water, surface water, and population areas; and a description of response actions taken or planned.

(3) A leak or spill of hazardous waste that is less than or equal to a quantity of one pound and immediately contained and cleaned up is exempted from the requirements of subitem (2).

E. Provision of secondary containment, repair, or closure.

(1) Unless the owner or operator satisfies the requirements of subitems (2) to (4), the tank system must be closed in accordance with subpart 9.

(2) If the cause of the release was a spill that has not damaged the integrity of the system, the owner or operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

(3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired before returning the tank system to service.

(4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner or operator must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of subparts 4 and 5 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of item F are satisfied. If a component is replaced to comply with the requirements of this subitem, that

component must satisfy the requirements for new tank systems or components in subparts 3 to 5. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection, such as the bottom of an inground or onground tank, the entire component must be provided with secondary containment in accordance with subparts 4 and 5 before being returned to use.

F. Certification of major repairs. If the owner or operator has repaired a tank system in accordance with item E and the repair has been extensive, such as installation of an internal liner or repair of a ruptured primary containment or secondary containment vessel, the tank system must not be returned to service unless the owner or operator has obtained a certification by an independent, qualified, registered professional engineer that the repaired system is capable of handling hazardous wastes without release. This certification must be submitted to the commissioner within seven days after returning the tank system to use and must include the statements in parts 7001.0070 and 7001.0540.

Subp. 9. **Closure and post closure care.** The requirements for closure and post closure care of tank systems are as follows:

A. At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components such as liners, contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste unless it can be demonstrated that they are not a hazardous waste. Metal tanks and tank system components which have been decontaminated in accordance with an approved closure plan prepared in accordance with part 7045.0486, subpart 3, or 7045.0594, subpart 3, must be considered scrap metal for purposes of part 7045.0125, subpart 4, and if recycled, are not subject to parts 7045.0205 to 7045.0685. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet the requirements of parts 7045.0594 to 7045.0624.

B. If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in item A, then the owner or operator must close the tank system and perform post closure care in accordance with the closure and post closure care requirements that apply to landfills in part 7045.0638. In addition, for the purposes of closure, post closure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator must meet the requirements for landfills in parts 7045.0594 to 7045.0624.

C. If an owner or operator has a tank system which does not have secondary containment that meets the requirements of subpart 4, items B to F, and which is not exempt from the secondary containment requirements in accordance with part 7045.0075, subparts 6 and 7, then:

- (1) the closure plan for the tank system must include both a plan for complying with item A and a contingent plan for complying with item B;
- (2) a contingent post closure plan for complying with item B must be prepared and submitted as part of the permit application;
- (3) the cost estimates calculated for closure and post closure care must reflect the costs of complying with the contingent closure plan and the contingent post closure plan, if these costs are greater than the costs of complying with the closure plan prepared for the expected closure under item A;
- (4) financial assurance must be based on the cost estimates in subitem (3); and
- (5) for the purposes of the contingent closure and post closure plans, the tank system is considered to be a landfill, and the contingent plans must meet the closure, post closure, and financial responsibility requirements of parts 7045.0594 to 7045.0624.

Subp. 10. **Special requirements for ignitable or reactive waste.** Ignitable or reactive waste must not be placed in a tank unless:

A. the waste is treated, rendered, or mixed before or immediately after placement in the tank so that the resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under part 7045.0131, subpart 2 or 5, and compliance with part 7045.0562, subpart 2 is maintained; or

B. the waste is stored or treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react; or the tank is used solely for emergencies.

The owner or operator of a facility which treats or stores ignitable or reactive waste in a tank shall comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon, as required in the National Fire Protection Association's buffer zone requirements for tanks, contained in Tables 2-1 through 2-6 of the Flammable and Combustible Code, in the National Fire Codes, 1981 issued by the National Fire Protection Association (Quincy, Massachusetts, 1981).

Subp. 11. Special requirement for incompatible wastes. Incompatible wastes, or incompatible wastes and materials must not be placed in the same tank, unless compliance with part 7045.0562, subpart 2, is maintained.

Hazardous waste must not be placed in a tank system that has not been decontaminated and which previously held an incompatible waste or material, unless compliance with part 7045.0562, subpart 2, is maintained.

Subp. 12. Waste analysis and trial tests. In addition to performing the waste analysis required by part 7045.0564, the owner or operator must, whenever a tank system is to be used to treat chemically or to store a hazardous waste that is substantially different from waste previously treated or stored in that tank system, or treat chemically a hazardous waste with a substantially different process than any previously used in that tank system:

A. conduct waste analyses and trial treatment or storage tests, bench scale or pilot plant scale tests; or

B. obtain written, documented information on similar waste under similar operating conditions to show that the proposed treatment or storage will meet the requirements of subpart 6, item A.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 13 SR 259; 15 SR 1515*

7045.0629 REQUIREMENTS FOR SMALL QUANTITY AND VERY SMALL QUANTITY GENERATORS THAT ACCUMULATE HAZARDOUS WASTE IN TANKS.

Subpart 1. Scope. The requirements of this part apply to small quantity and very small quantity generators that accumulate hazardous waste in tanks, and do not exceed accumulation amounts as provided in part 7045.0292.

Subp. 2. General operating requirements. Generators regulated under this part must comply with the following general operating requirements:

A. Treatment or storage of hazardous waste in tanks must comply with part 7045.0562, subpart 2.

B. Hazardous wastes or treatment reagents must not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode, or otherwise fail.

C. Uncovered tanks must be operated to ensure at least 60 centimeters of free-board, unless the tank is equipped with a containment structure such as a dike or trench, a drainage control system, or a diversion structure such as a standby tank with a capacity that equals or exceeds the volume of the top 60 centimeters of the tank.

D. Where hazardous waste is continuously fed into a tank, the tank must be equipped with a means to stop this inflow such as a waste feed cutoff system or bypass system to a standby tank.

Subp. 3. Inspections. Generators regulated under this part must inspect, where present:

A. discharge control equipment, such as waste feed cutoff systems, bypass systems, and drainage systems, at least once each operating day, to ensure that it is in good working order;

B. data gathered from monitoring equipment such as pressure and temperature gauges, at least once each operating day, to ensure that the tank is being operated according to its design;

C. the level of waste in the tank at least once each operating day to ensure compliance with subpart 2, item C;

D. the construction materials of the tank at least weekly to detect corrosion or leaking of fixtures or seams; and

E. the construction materials of, and the area immediately surrounding, discharge confinement structures such as dikes at least weekly to detect erosion or obvious signs of leakage such as wet spots or dead vegetation.

Subp. 4. Closure. Generators regulated under this part must, upon closure of the facility, remove all hazardous waste from tanks, discharge control equipment, and discharge confinement structures.

Subp. 5. Ignitable and reactive wastes. Generators regulated under this part must comply with the following special requirements for ignitable or reactive waste:

A. Ignitable or reactive waste must not be placed in a tank, unless the waste is treated, rendered, or mixed before or immediately after placement in a tank so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under parts 7045.0131, subpart 2 or 5, and 7045.0562, subpart 2 is complied with, or the waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react, or the tank is used solely for emergencies.

B. The owner or operator of a facility which treats or stores ignitable or reactive waste in covered tanks must comply with the buffer zone requirements for tanks contained in Tables 2-1 to 2-6 of the National Fire Protection Association's Flammable and Combustible Liquids Code, (1977 or 1981).

Subp. 6. Incompatible wastes. Generators regulated under this part must comply with the following special requirements for incompatible wastes:

A. Incompatible wastes, or incompatible wastes and materials, must not be placed in the same tank, unless part 7045.0562, subpart 2 is complied with.

B. Hazardous waste must not be placed in an unwashed tank which previously held an incompatible waste or material unless part 7045.0562, subpart 2 is complied with.

Statutory Authority: *MS s 116.07; 116.37*

History: *13 SR 259; 15 SR 1515; 16 SR 2102*

7045.0630 SURFACE IMPOUNDMENTS.

Subpart 1. Scope. This part applies to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste, except as part 7045.0552 provides otherwise.

Subp. 1a. Design requirements. Design requirements are as follows:

A. The owner or operator of a surface impoundment must install two or more liners and leachate collection systems according to part 7045.0532, subpart 3, items A to H, with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area identified in the Part A permit application, and with respect to waste received beginning May 8, 1985.

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.

Subp. 2. General operating requirements. A surface impoundment must maintain enough freeboard to prevent any overtopping of the dike by overflowing, wave action or a storm. There must be at least 60 centimeters (two feet) of freeboard. Any point source discharge from a surface impoundment to waters of the United States 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. Spills may be subject to the Federal Water Pollution Control Act Amendments of 1972, United States Code, title 33, section 1312, as amended through June 30, 1983.

Subp. 3. **Containment system.** All earthen dikes must have a protective cover, such as grass, shale, or rock, to minimize wind and water erosion and to preserve their structural integrity.

Subp. 4. **Waste analysis and trial tests.** In addition to the waste analyses required by part 7045.0564, whenever a surface impoundment is to be used to chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment or to chemically treat hazardous waste with a substantially different process than any previously used in that impoundment, the owner or operator shall, before treating the different waste or using the different process, conduct waste analyses and trial treatment tests to show that this treatment will comply with part 7045.0562, subpart 2. In the alternative, the owner or operator may obtain written, documented information on similar treatment of similar waste under similar operating conditions to show that this treatment will comply with part 7045.0562, subpart 2. As required by part 7045.0564, the waste analysis plan must include analyses needed to comply with subparts 7 and 8. As required by part 7045.0584, the owner or operator shall place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.

Subp. 5. **Inspections.** The owner or operator shall inspect:

A. the freeboard level at least once each operating day to ensure compliance with subpart 2; and

B. 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.

Subp. 6. **Closure and post closure.** The requirements of closure and post closure are as follows:

A. At closure, the owner or operator may elect to remove from the impoundment or decontaminate any standing liquids, waste and waste residues, contaminated containment system components including liners, if any, underlying and surrounding contaminated soil, and structures and equipment contaminated with waste and leachate.

B. If the owner or operator removes or decontaminates all the impoundment materials described in item A, the impoundment is not further subject to the requirements of parts 7045.0552 to 7045.0642. At closure and throughout the operating period, unless the owner or operator can demonstrate that any waste removed from the surface impoundment is not a hazardous waste, he or she becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 7045.0205 to 7045.0397 and 7045.0552 to 7045.0642.

C. If the owner or operator does not remove or decontaminate all the impoundment materials described in item A, he or she shall close the impoundment and provide post closure care as for a landfill under parts 7045.0594 to 7045.0606 and 7045.0638, subpart 4, including the following:

(1) eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

(2) stabilize remaining wastes to a bearing capacity sufficient to support the final cover; and

(3) cover the surface impoundment with a final cover designed and constructed to provide long term minimization of the migration of liquids through the closed impoundment, function with minimum maintenance, promote drainage and minimize erosion or abrasion of the cover, accommodate settling and subsidence so that the cover's integrity is maintained, and have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

D. In addition to the requirements of parts 7045.0594 to 7045.0606 and 7045.0638, subpart 4, during the post closure 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:

(1) maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of part 7045.0590; and

(3) 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 post closure requirements, according to part 7045.0602, subpart 1.

Subp. 7. Special requirements for ignitable or reactive wastes. Ignitable or reactive waste must not be placed in a surface impoundment unless the waste and the impoundment satisfy all applicable requirements of parts 7045.1300 to 7045.1380, and:

A. the waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under parts 7045.0131, subpart 2 or 5; and 7045.0562, subpart 2 is followed; or

B. the surface impoundment is used solely for emergencies.

Subp. 8. Special requirements for incompatible wastes. Incompatible waste, or incompatible wastes and materials, must not be placed in the same surface impoundment unless part 7045.0562, subpart 2 is followed.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; L 1987 c 186 s 15; 13 SR 577; 15 SR 1877; 16 SR 2239*

7045.0632 WASTE PILES.

Subpart 1. Scope. This part applies to owners and operators of facilities that treat or store hazardous waste in piles, except as part 7045.0552 provides otherwise. Alternatively, a pile of hazardous waste may be managed as a landfill under part 7045.0638.

Subp. 2. Protection from wind. The owner or operator of a pile containing hazardous waste which could be subject to dispersal by wind shall cover or otherwise manage the pile so that wind dispersal is controlled.

Subp. 3. Waste analysis. In addition to the waste analyses required by part 7045.0564, the owner or operator shall analyze a representative sample of waste from each incoming movement before adding the waste to any existing pile, unless:

A. the only wastes the facility receives which are amenable to piling are compatible with each other; or

B. the waste received is compatible with the waste in the pile to which it is to be added.

The analyses conducted must be capable of differentiating between the types of hazardous waste the owner or operator places in piles, so that mixing of incompatible waste does not inadvertently occur. The analysis must include a visual comparison of color and texture. As required by part 7045.0564, the waste analysis plan must include analyses needed to comply with subparts 5 and 6. As required by part 7045.0584, the owner or operator shall place the results of this analysis in the operating record of the facility.

Subp. 4. Containment. If leachate or run-off from a pile is a hazardous waste, all the requirements of item A or B must be met:

A. The pile must be placed on an impermeable base that is compatible with the waste under the conditions of treatment or storage.

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 25-year storm.

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

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

B. The pile must be protected from precipitation and run-on by some other means, and no liquids or wastes containing free liquids may be placed in the pile. If collected leachate or run-off 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.

Subp. 4a. **Design requirements.** The owner or operator of a waste pile is subject to the requirements for liners and leachate collection and removal systems provided in part 7045.0534, subpart 3, with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area identified in Part A permit application, and with respect to waste received beginning May 8, 1985.

Subp. 5. **Special requirements for ignitable or reactive waste.** Ignitable or reactive waste must not be placed in a pile unless the waste and pile satisfy all applicable requirements of parts 7045.1300 to 7045.1380:

A. addition of the waste to an existing pile results in the waste or mixture no longer meeting the definition of ignitable or reactive waste under part 7045.0131, subpart 2 or 5, and the addition complies with part 7045.0562, subpart 2; and

B. the waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

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 stored nearby in other containers, piles, open tanks, or surface impoundments must be 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.

Subp. 7. **Closure and post closure care.** At closure, the owner or operator shall:

A. remove or decontaminate all hazardous waste, hazardous waste residues, contaminated containment system components, such as liners, contaminated subsoils, and structures and equipment contaminated with hazardous waste and leachate, and manage then as hazardous waste, unless the owner or operator can demonstrate that the waste removed is not a hazardous waste; or

B. close the facility and perform post closure care in accordance with the closure and post closure requirements for landfills under part 7045.0638, subpart 4, if, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 15 SR 1877; 16 SR 2239*

7045.0634 LAND TREATMENT.

Subpart 1. **Scope.** This part applies to owners and operators of hazardous waste land treatment facilities, except as part 7045.0552 provides otherwise.

Subp. 2. **General operating requirements.** Hazardous waste must not be placed in or on a land treatment facility unless the waste can be made less hazardous or nonhazardous by biological degradation or chemical reactions occurring in or on the soil.

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

The owner or operator shall design, construct, operate, and maintain a run-off management system capable of collecting and controlling a water volume at least equivalent to a 24-hour, 25-year storm.

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

If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator shall manage the unit to control wind dispersal.

Subp. 3. Waste analysis. In addition to the waste analyses required by part 7045.0564 before placing a hazardous waste in or on a land treatment facility, the owner or operator shall:

A. determine the concentrations in the waste of any substances which equal or exceed the maximum concentrations contained in part 7045.0131, subpart 8, that cause a waste to exhibit the toxicity characteristic;

B. for any waste listed in part 7045.0135, determine the concentrations of any substances which caused the waste to be listed as a hazardous waste; and

C. if food chain crops are grown, determine the concentrations in the waste of each of the following constituents: arsenic, cadmium, lead, and mercury, unless the owner or operator has written, documented data that show that the constituent is not present.

As required by part 7045.0564, the waste analysis plan must include analyses needed to comply with subparts 7 and 8. As required by part 7045.0584, the owner or operator shall place the results from each waste analysis, or the documented information, in the operating record of the facility.

Subp. 4. Unsaturated zone or zone of aeration monitoring. Requirements for unsaturated zone or zone of aeration monitoring are as follows:

A. The owner or operator shall have in writing, and shall implement, an unsaturated zone monitoring plan which is designed to:

(1) detect the vertical migration of hazardous waste and hazardous waste constituents under the active portion of the land treatment facility; and

(2) provide information on the background concentrations of the hazardous waste and hazardous waste constituents in similar but untreated soils nearby. This background monitoring must be conducted before or in conjunction with the monitoring required to detect the vertical migration.

B. The unsaturated zone monitoring plan must include soil monitoring using soil cores, and soil-pore water monitoring using devices such as lysimeters.

C. To comply with item A, subitem (1), the owner or operator shall demonstrate in the unsaturated zone monitoring plan that:

(1) the depth at which soil and soil-pore water samples are to be taken is below the depth to which the waste is incorporated into the soil;

(2) the number of soil and soil-pore water samples to be taken is based on the variability of the hazardous waste constituents as identified in subpart 3, items A and B in the waste and in the soil and the soil types; and

(3) the frequency and timing of soil and soil-pore water sampling is based on the frequency, time, and rate of waste application, proximity to ground water, and soil permeability.

D. The owner or operator shall keep the unsaturated zone monitoring plan, and the rationale used in developing this plan at the facility.

E. The owner or operator shall analyze the soil and soil-pore water samples for the hazardous waste constituents that were found in the waste during the waste analysis under subpart 3, items A and B.

As required by part 7045.0584, all data and information developed by the owner or operator under this part must be placed in the operating record of the facility.

Subp. 5. **Record keeping.** The owner or operator of a land treatment facility shall include hazardous waste application dates and rates in the operating record required in part 7045.0584.

Subp. 6. **Closure and post closure.** Closure and post closure requirements are as follows:

A. In the closure plan under part 7045.0594 and the post closure plan under part 7045.0600, the owner and operator shall address the following objectives and indicate how they will be achieved:

- (1) control of the migration of hazardous waste and hazardous waste constituents from the treated area into the ground water;
- (2) control of the release of contaminated run-off from the facility into surface water;
- (3) control of the release of airborne particulate contaminants caused by wind erosion; and
- (4) compliance with part 7045.0636 concerning the growth of food chain crops.

B. The owner or operator shall consider at least the following factors in addressing the closure and post closure care objectives of item A:

- (1) type and amount of hazardous waste and hazardous waste constituents applied to the land treatment facility;
- (2) the mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;
- (3) site location, topography, and surrounding land use, with respect to the potential effects of pollutant migration including at a minimum the proximity to ground water, surface water, and drinking water sources;
- (4) climate, including amount, frequency, and pH of precipitation;
- (5) geological and soil profiles and surface and subsurface hydrology of the site, and soil characteristics, including cation exchange capacity, total organic carbon, and pH;
- (6) unsaturated zone monitoring information obtained under; and
- (7) type, concentration, and depth of migration of hazardous waste constituents in the soil as compared to their background concentrations.

C. The owner or operator shall consider at least the following methods in addressing the closure and post closure care objectives of item A:

- (1) removal of contaminated soils;
- (2) placement of a final cover, considering the functions of the cover including infiltration control, erosion and run-off control and wind erosion control, and characteristics of the cover, including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover; and
- (3) monitoring of ground water.

D. In addition to the requirements of parts 7045.0594 to 7045.0606, during the closure period, the owner or operator of a land treatment facility shall:

- (1) continue unsaturated zone monitoring in a manner and frequency specified in the closure plan, except that soil pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone;
- (2) maintain the run-on control system required under subpart 2;
- (3) maintain the run-off management system required under subpart 2; and
- (4) control wind dispersal of particulate matter which may be subject to wind dispersal.

E. For the purpose of complying with part 7045.0596, subpart 4, when closure is completed the owner or operator may submit to the commissioner certification both by the owner or operator and by an independent qualified soil scientist, in lieu of an independent registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

F. In addition to the requirements of part 7045.0602, during the post closure care period, the owner or operator of a land treatment facility shall:

- (1) continue soil-core monitoring by collecting and analyzing samples in a manner and frequency specified in the post closure plan;
- (2) restrict access to the facility as appropriate for its post closure use;
- (3) assure that growth of food chain crops complies with part 7045.0636; and
- (4) control wind dispersal of hazardous waste.

Subp. 7. **Special requirements for ignitable or reactive waste.** Ignitable or reactive wastes must not be land treated, unless the waste and treatment zone meet all applicable requirements of parts 7045.1300 to 7045.1380, and the waste is immediately incorporated into the soil so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under parts 7045.0131, subpart 2 or 5; and 7045.0562, subpart 2 is complied with.

Subp. 8. **Special requirements for incompatible wastes.** Incompatible wastes, or incompatible wastes and materials, must not be placed in the same land treatment area, unless part 7045.0562, subpart 2, is complied with.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; L 1987 c 186 s 15; 15 SR 1878; 16 SR 2239*

7045.0636 ADDITIONAL REQUIREMENTS FOR LAND TREATMENT FACILITIES GROWING FOOD CHAIN CROPS.

Subpart 1. **Notification.** An owner or operator of a hazardous waste land treatment facility on which food chain crops are being grown, or have been grown, and will be grown in the future, shall notify the commissioner within 60 days after July 16, 1984. The growth of food chain crops at a facility which has never before been used for this purpose constitutes a significant change under the permitting procedures. Owners or operators of these land treatment facilities who propose to grow food chain crops after July 16, 1984, shall comply with the applicable permitting procedures.

Subp. 2. **Acceptability of the land treatment facility.** Food chain crops must not be grown on the treated area of a hazardous waste land treatment facility unless the owner or operator can demonstrate, based on field testing, that any arsenic, lead, mercury, or other constituents identified under part 7045.0634, subpart 3, items B and C:

A. will not be transferred to the food portion of the crop by plant uptake or direct contact, and will not otherwise be ingested by food chain animals; or

B. will not occur in greater concentrations in the crops grown on the land treatment facility than in the same crops grown on untreated soils under similar conditions in the same region.

The information necessary to make this demonstration must be kept at the facility and must be based on tests for the specific waste and application rates being used at the facility and must include descriptions of crop and soil characteristics, sample selection criteria, sample size determination, analytical methods, and statistical procedures.

Subp. 3. **Cadmium limitations; human food crops.** Food chain crops must not be grown on a land treatment facility receiving waste that contains cadmium unless:

A. the pH of the waste and soil mixture is 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of two milligrams per kilogram (dry weight) or less;

B. the annual application of cadmium from waste does not exceed 0.5 kilograms per hectare on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption and for other food chain crops, the annual cadmium application rate does not exceed the levels specified in the first table in item C; and

C. the cumulative application of cadmium from waste does not exceed the levels specified in the second table in this item.

Annual Cadmium Application Rates

Time Period	Annual Cadmium application rate (kilograms per hectare)
Present to June 30, 1984	2.0
July 1, 1984 to Dec. 31, 1986	1.25
Beginning Jan. 1, 1987	0.5

Maximum Cadmium Cumulative Application (kilograms per hectare)

Soil cation exchange capacity (meq/100g)	Background soil pH less than 6.5	Background soil pH greater than 6.5	Background soil pH less than 6.5 and waste /soil mixture pH greater than 6.5
Less than 5	5	5	5
5-15	5	10	10
Greater than 15	5	20	20

Subp. 4. **Cadmium limitations; animal feed crops.** Notwithstanding the provisions of subpart 3, food chain crops may be grown on a land treatment facility receiving waste that contains cadmium if:

- A. the only food chain crop produced is animal feed;
- B. the pH of the waste and soil mixture is 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level is maintained whenever food chain crops are grown;
- C. there is a facility operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans and the facility operating plan describes the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain which may result from alternative land uses; and
- D. future property owners are notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food chain crops must not be grown except in compliance with items A to C.

As required by part 7045.0584, if an owner or operator grows food chain crops on a land treatment facility, he or she shall place the information developed in this part in the operating record of the facility.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15; 17 SR 1279*

7045.0638 LANDFILLS.

Subpart 1. **Scope.** This part applies to owners and operators of facilities that dispose of hazardous waste in landfills, except as part 7045.0552 provides otherwise. A waste pile used as a disposal facility is a landfill and is governed by this part.

Subp. 1a. **Design requirements.** Design requirements are as follows:

A. The owner or operator of a landfill must install two or more liners and leachate collection systems according to part 7045.0538, subpart 3, items A to K, with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area identified in the part A permit application, with respect to waste received beginning May 8, 1985.

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.

Subp. 2. **General operating requirements.** 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.

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.

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.

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. 3. **Surveying and record keeping.** The owner or operator of a landfill shall maintain the following items in the operating record required in part 7045.0584:

A. a map detailing the exact location and dimensions, including depth, of each cell with respect to permanently surveyed bench marks; and

B. the contents of each cell and the approximate location of each hazardous waste type within each cell.

Subp. 4. **Closure and post closure.** Closure and post closure requirements are as follows:

A. At final closure of the landfill or upon closure of any landfill cell, the owner or operator shall cover the landfill or landfill cell with a final cover designed and constructed to:

(1) provide long-term minimization of migration of liquids through the closed landfill;

(2) function with minimum maintenance;

(3) promote drainage and minimize erosion or abrasion of the cover;

(4) accommodate settling and subsidence so that the cover's integrity is maintained; and

(5) have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

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

(1) maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effect of settling, subsidence, erosion, or other events;

(2) maintain and monitor the ground water monitoring system and comply with all other applicable requirements of parts 7045.0590 and 7045.0592;

(3) prevent run-on and run-off from eroding or otherwise damaging the final cover; and

(4) protect and maintain surveyed bench marks used in complying with part 7045.0638, subpart 3.

Subp. 5. **Special requirements for ignitable or reactive waste.** Special requirements for ignitable or reactive waste are as follows:

A. Except as provided in item B, and subparts 7 and 9, ignitable or reactive waste must not be placed in a landfill unless the waste and landfill meet all applicable requirements of parts 7045.1300 to 7045.1380, and the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under part 7045.0131, subpart 2 or 5, and compliance with part 7045.0562, subpart 2, is maintained.

B. Except for prohibited wastes which remain subject to treatment standards in parts 7045.1350 to 7045.1360, ignitable wastes in containers may be landfilled without

meeting the requirements of item A if the wastes are disposed so that they are protected from any material or conditions which may cause them to ignite. Ignitable wastes must be disposed in nonleaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes; must be covered daily with soil or other noncombustible material to minimize the potential for ignition of the wastes; and must not be disposed in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the wastes.

Subp. 6. Special requirements for incompatible wastes. Incompatible wastes, or incompatible wastes and materials must not be placed in the same landfill cell unless part 7045.0562, subpart 2, is complied with.

Subp. 7. Special requirements for liquid waste. Bulk or noncontainerized liquid waste or waste containing free liquids, whether or not absorbents have been added, must not be placed in a landfill.

A. A container holding liquid waste or waste containing free liquids must not be placed in a landfill, unless:

(1) all free standing liquid has been removed by decanting, or other methods; has been mixed with absorbent or solidified so that free standing liquid is no longer observed; or has been otherwise eliminated;

(2) the container is a laboratory pack as defined in subpart 9 and is disposed of in accordance with subpart 9;

(3) the container is designed to hold liquids or free liquids for a use other than storage, such as a battery or capacitor; or

(4) the container is very small, such as an ampule.

B. The presence or absence of free liquids in containerized or bulk waste must be demonstrated using the Paint Filter Liquids Test, Method 9095 as described in Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, publication number SW 846.

Subp. 8. Special requirements for containers. Unless they are very small, such as an ampule, containers must be either:

A. at least 90 percent full when placed in the landfill; or

B. crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

Subp. 9. Special requirements for disposal of laboratory packs. Small containers of hazardous waste in overpacked drums, or laboratory packs, may be placed in a landfill if the requirements of items A to F are met:

A. Hazardous waste must be packaged in nonleaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the waste held therein. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the United States Department of Transportation hazardous materials regulations under Code of Federal Regulations, title 49, parts 173, 178, and 179 (1983), if those regulations specify a particular inside container for the waste.

B. The inside containers must be overpacked in an open head metal shipping container as specified in United States Department of Transportation regulations under Code of Federal Regulations, title 49, parts 178 and 179 (1983), of no more than 416 liter (110 gallon) capacity, and surrounded by a sufficient quantity of absorbent material to completely absorb all of the liquid contents of the inside containers. The metal outer container must be full after packing with inside containers and absorbent material.

C. The absorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers in accordance with part 7045.0562, subpart 2.

D. Incompatible wastes, as defined in part 7045.0020, must not be placed in the same outside container.

E. Reactive waste, other than cyanide- or sulfide-bearing waste as defined in part 7045.0131, subpart 5, item E, must be treated or rendered nonreactive prior to packaging in accordance with items A to D. Cyanide- and sulfide-bearing reactive waste may be packaged in accordance with items A to D without first being treated or rendered nonreactive.

F. The disposal complies with parts 7045.1300 to 7045.1380. Persons who incinerate lab packs according to part 7045.1360 may use fiber drums in place of metal outer containers. The fiber drums must meet the United States Department of Transportation specifications in Code of Federal Regulation, title 49, section 173.12, and be overpacked according to item B.

Statutory Authority: *MS s 116.07; 116.37*

History: *9 SR 115; 10 SR 1688; 11 SR 1832; 15 SR 1877; 16 SR 2239*

7045.0640 THERMAL TREATMENT FACILITIES.

Subpart 1. **Scope.** This part applies to owners and operators of facilities that thermally treat hazardous waste, except as part 7045.0552 provides otherwise.

The following facility owners or operators are considered to thermally treat hazardous waste: owners or operators of hazardous waste incinerators as defined in part 7045.0020; and owners or operators who burn hazardous wastes in boilers or in industrial furnaces in order to destroy the wastes.

Owners and operators of thermal treatment facilities that thermally treat hazardous waste are exempt from all the requirements of this part except subpart 5, if the owner or operator has documented, in writing, that the waste would not reasonably be expected to contain constituents listed in part 7045.0141, and the documentation is kept at the facility, and the waste to be treated is:

A. listed as a hazardous waste in part 7045.0135 only because it is ignitable, or corrosive, or both;

B. listed as a hazardous waste in part 7045.0135 only because it is reactive for characteristics other than those listed in part 7045.0131, subpart 5, items D and E, and will not be treated when other hazardous wastes are present in the combustion zone;

C. a hazardous waste only because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous wastes under part 7045.0131; or

D. a hazardous waste only because it possesses any of the reactivity characteristics described by part 7045.0131, subpart 5, items A, B, C, F, G, and H, and will not be treated when other hazardous wastes are present in the combustion zone.

Subp. 2. **Waste analysis.** In addition to the waste analysis required by part 7045.0564, the owner or operator shall sufficiently analyze any waste which he or she has not previously treated in the thermal treatment process to enable him or her to establish steady state or other appropriate operating conditions for a noncontinuous process, including waste and auxiliary fuel feed and air flow and to determine the type of pollutants which might be emitted. The analysis must determine:

A. heating value of the waste;

B. halogen content and sulfur content in the waste; and

C. concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present. As required by part 7045.0584, the owner or operator shall place the results from each waste analysis, or the documented information, in the operating record of the facility.

Subp. 3. **General operating requirements.** Before adding hazardous waste, the owner or operator shall bring the thermal treatment process to steady state conditions of operation, including steady state operating temperature and air flow, using auxiliary fuel or other means, unless the process is a noncontinuous thermal treatment process which requires a complete thermal cycle to treat a discrete quantity of hazardous waste. For incinerators, this requirement applies during start-up and shutdown.

Subp. 4. **Monitoring and inspections.** The owner or operator shall conduct the following monitoring and inspections when thermally treating hazardous waste:

A. Existing instruments which relate to temperature, combustion, and emission control, if an emission control device is present, must be monitored at least every 15 minutes. Appropriate corrections to maintain steady state or other appropriate thermal treatment conditions must be made immediately either automatically or by the operator. Instruments

which relate to temperature, combustion, and emission control would normally include those measuring waste feed, auxiliary fuel feed, air flow, treatment process temperature, scrubber flow, scrubber pH, and relevant process flow and level controls.

B. The stack plume, where present, must be observed visually at least hourly for normal appearance, including color and opacity. The operator must immediately make indicated operating corrections necessary to return visible emissions to their normal appearance.

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

Subp. 5. **Closure.** At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues, including, but not limited to, ash, scrubber waters, and scrubber sludges, from the thermal treatment process or equipment. At closure, as throughout the operating period, unless the owner or operator can demonstrate that any waste removed from the thermal treatment process, or equipment 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 7045.0205 to 7045.1030.

Subp. 6. **Open burning; waste explosives.** Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate, and bulk military propellants which cannot safely be disposed of through other modes of treatment. Detonation is an explosion in which chemical transformation passes through all material faster than the speed of sound, 0.33 kilometers per second at sea level. Owners or operators choosing to open burn or detonate waste explosives shall do so in accordance with the distance limitations of the following table and in a manner that does not threaten human health or the environment.

Property Line Separation

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others
0 to 100	204 meters (670 feet)
101 to 1,000	380 meters (1,250 feet)
1,001 to 10,000	530 meters (1,730 feet)
10,001 to 30,000	690 meters (2,260 feet)

Statutory Authority: *MS s 116.07 subds 4,4b*

History: 9 SR 115; 10 SR 1688

7045.0642 CHEMICAL, PHYSICAL, AND BIOLOGICAL TREATMENT FACILITIES.

Subpart 1. **Scope.** This part applies to owners and operators of facilities which treat hazardous waste by chemical, physical, or biological methods in other than tanks, surface impoundments, and land treatment facilities, except as part 7045.0552 provides otherwise. Chemical, physical, and biological treatment of hazardous waste in tanks, surface impoundments, and land treatment facilities must be conducted in accordance with parts 7045.0628, 7045.0630, and 7045.0634, respectively.

Subp. 2. **General operating requirements.** Chemical, physical, or biological treatment of hazardous waste must comply with part 7045.0562, subpart 2.

Hazardous wastes or treatment reagents must not be placed in the treatment process or equipment if they could cause the treatment process or equipment to rupture, leak, corrode, or otherwise fail before the end of its intended life.

Where hazardous waste is continuously fed into a treatment process or equipment, the process or equipment must be equipped with a means to stop this inflow including such items as a waste feed cutoff system or bypass system to a standby containment device.

Subp. 3. **Waste analysis and trial tests.** Whenever a hazardous waste which is substantially different from waste previously treated in a treatment process or equipment at the facil-

ity is to be treated in a treatment process or equipment at the facility or a process which is substantially different than any process previously used at the facility is to be used to chemically treat hazardous waste at the facility, the owner or operator shall comply with the requirements of item A or B before treating the different waste or using the different process or equipment:

A. conduct waste analyses and trial treatment tests; and

B. obtain written, documented information on similar treatment of similar waste under similar operating conditions to show that this proposed treatment will meet all applicable requirements of subpart 2.

As required by part 7045.0564, the waste analysis plan must include analyses needed to comply with subparts 6 and 7. As required by part 7045.0584, the owner or operator shall place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.

Subp. 4. Inspections. The owner or operator of a treatment facility shall inspect, where present:

A. discharge control and safety equipment at least once each operating day, to ensure that it is in good working order;

B. data gathered from monitoring equipment at least once each operating day, to ensure that the treatment process or equipment is being operated according to its design;

C. the construction materials of the treatment process or equipment, at least weekly, to detect corrosion or leaking of fixtures or seams; and

D. the construction materials of, and the area immediately surrounding, discharge confinement structures at least weekly, to detect erosion or obvious signs of leakage. As required by part 7045.0556, subpart 5, the owner or operator shall remedy any deterioration or malfunction this person finds.

Subp. 5. Closure. At closure, all hazardous waste and hazardous waste residues must be removed from treatment processes or equipment, discharge control equipment, and discharge confinement structures. At closure, as throughout the operating period, unless the owner or operator can demonstrate that any waste removed from the treatment process or equipment 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 7045.0205 to 7045.1030.

Subp. 6. Special requirements for ignitable or reactive waste. Ignitable or reactive waste must not be placed in a treatment process or equipment unless the requirements of item A or B are met:

A. The waste is treated, rendered, or mixed before or immediately after placement in the treatment process or equipment so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under parts 7045.0131, subpart 2 or 5; and 7045.0562, subpart 2 is complied with; or

B. the waste is treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react.

Subp. 7. Special requirements for incompatible wastes. Incompatible wastes, or incompatible wastes and materials must not be placed in the same treatment process or equipment unless part 7045.0562, subpart 2 is complied with.

Hazardous waste must not be placed in unwashed treatment equipment which previously held an incompatible waste or material unless part 7045.0562, subpart 2 is complied with.

Statutory Authority: *MS s 116.07 subs 4,4b*

History: *9 SR 115; 17 SR 1279*

7045.0647 FEDERAL AIR EMISSION STANDARDS FOR PROCESS VENTS AT INTERIM STATUS FACILITIES.

Subpart 1. Federal regulation adopted. If the applicant proposes to treat, store, or dispose of hazardous waste in an interim status facility that uses process vents as defined in Code of Federal Regulations, title 40, section 264.1031, as amended, the applicant must comply with the air emission standards for process vents in Code of Federal Regulations, title 40, subpart AA, sections 265.1030 to 265.1049, as amended.

Subp. 2. **Exceptions to adopted federal regulation.** Exceptions to the federal regulation adopted in subpart 1 are as follows:

A. references in the adopted regulation to other federal regulations also refer to the corresponding Minnesota rules; and

B. references in the adopted regulation to "regional administrator" mean "agency commissioner."

Statutory Authority: *MS s 116.07*

History: *16 SR 2321*

7045.0648 FEDERAL AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS AT INTERIM STATUS FACILITIES.

Subpart 1. **Federal regulation adopted.** If the applicant proposes to treat, store, or dispose of hazardous waste in an interim status facility that uses equipment as defined in Code of Federal Regulations, title 40, section 264.1031, as amended, the applicant must comply with the air emission standards for equipment leaks in Code of Federal Regulations, title 40, subpart BB, sections 265.1050 to 265.1079, as amended.

Subp. 2. **Exceptions to adopted federal regulation.** Exceptions to the federal regulation adopted in subpart 1 are as follows:

A. references in the adopted regulation to other federal regulations also refer to the corresponding Minnesota rules; and

B. references in the adopted regulation to "regional administrator" mean "agency commissioner."

Statutory Authority: *MS s 116.07*

History: *16 SR 2321*

7045.0650 [Repealed, 8 SR 2276]

MANAGEMENT OF SPECIFIC HAZARDOUS WASTES AND SPECIFIC TYPES OF HAZARDOUS WASTE MANAGEMENT FACILITIES

7045.0652 FACILITIES GOVERNED BY FACILITY STANDARDS.

Subpart 1. **General requirements.** Parts 7045.0652 and 7045.0655 apply in lieu of parts 7045.0450 to 7045.0642 to the owner or operator of the following types of units or facilities:

A. An elementary neutralization unit, if the unit does not receive hazardous waste from generators other than the owner or operator of the unit. For units which are transport vehicles, vessels, or containers used to transport the waste after neutralization, this neutralization must occur in these units while they remain stationary and before transport of the neutralized waste begins;

B. A pretreatment unit, if the unit does not receive hazardous waste from generators other than the owner or operator of the unit;

C. A wastewater treatment unit, if the unit does not receive hazardous waste from generators other than the owner or operator of the unit; and

D. That portion of a combustion waste facility which is used to manage hazardous wastes produced in conjunction with the combustion of fossil fuels provided that the wastes:

(1) are generated on-site;

(2) traditionally have been and actually are mixed with and codisposed or co-treated with fly ash, bottom ash, boiler slag, or flue gas emission control wastes from coal combustion; and

(3) are necessarily associated with the production of energy, such as boiler cleaning solutions, boiler blowdown, demineralizer regenerant, pyrites, and cooling tower blowdown.

Subp. 2. **Exemptions.** Parts 7045.0652 and 7045.0655 do not apply to the owner or operator of the following types of units:

A. an elementary neutralization unit, pretreatment unit, wastewater treatment unit, or combustion waste facility, which treats hazardous waste, if the treatment meets the criteria of part 7045.0125; or

B. an elementary neutralization unit, pretreatment unit, wastewater treatment unit, or combustion waste facility for which the commissioner has terminated eligibility for a permit-by-rule.

Statutory Authority: *MS s 116.07 subs 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.0655 GENERAL FACILITY STANDARDS.

Subpart 1. Identification number. The owner or operator shall not treat or store a hazardous waste in an elementary neutralization unit, pretreatment unit, wastewater treatment unit, or combustion waste facility without having received an identification number. An owner or operator who has not received an identification number may obtain one using agency forms.

Subp. 2. Security. The owner or operator shall prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock into or onto the elementary neutralization unit, pretreatment unit, wastewater treatment unit, or combustion waste facility unless:

A. physical contact with the waste contained in the unit or facility will not injure unknowing or unauthorized persons or livestock which may enter the unit or facility; and

B. disturbance of the waste or equipment by the unknowing or unauthorized entry of persons or livestock into or onto the unit or facility will not cause a violation of the requirements of parts 7045.0652 and 7045.0655.

Subp. 3. Inspection requirements. Inspection requirements are as follows:

A. The owner or operator shall inspect the elementary neutralization unit, pretreatment unit, wastewater treatment unit, or combustion waste facility for malfunctions and deterioration, operator errors, and discharges which may be causing or may lead to unauthorized release of hazardous waste to the environment or a threat to human health. The owner or operator shall conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

B. The owner or operator shall develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment, such as tank walls and pumps, that are important to preventing environmental or human health hazards. The owner or operator shall keep this schedule at the facility. The schedule must identify the types of problems, such as malfunctions, or deterioration, which are to be looked for during the inspection, such as inoperative pump, leaking fitting, and heavy corrosion.

C. The frequency of inspection may vary for the items on the schedule. It should be based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if any deterioration or malfunction or operator error goes undetected between inspections.

D. The owner or operator shall remedy any deterioration or malfunction of equipment or structures detected in an inspection. This must be done on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

E. The owner or operator shall record inspections in an inspection log and shall keep these records for at least three years from the date of inspection. These records must include the date and time of each inspection, the name of the inspector, a recording of the observations made, and the date and nature of any repairs or other remedial actions taken as a result of inspection observations.

Subp. 4. Operating requirements. Operating requirements are as follows:

A. The owner or operator of an elementary neutralization unit, pretreatment unit, wastewater treatment unit, or combustion waste facility shall ensure that the treatment process conducted in the unit or facility does not:

(1) generate extreme heat or pressure, fire or explosion, or violent reaction unless the process is permitted to handle these types of reactions;

(2) produce uncontrolled toxic mists, fumes, or gases in sufficient quantities to threaten human health;

(3) produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion;

(4) damage the structural integrity of the tank or equipment containing the waste; or

(5) through like means threaten human health or the environment.

B. Hazardous wastes or treatment reagents must not be placed in an elementary neutralization unit, pretreatment unit, wastewater treatment unit, or combustion waste facility if they could cause the unit or facility or any of its equipment to rupture, abnormally corrode, or otherwise fail before the end of its intended life.

C. An elementary neutralization unit, pretreatment unit, or wastewater treatment unit must be constructed of sturdy leakproof material and must be designed, constructed, and operated so as to prevent hazardous waste from being spilled or leaked into or on any land or water during the operating life of the unit.

Subp. 5. **Manifest system, record keeping, and reporting.** The owner or operator of an elementary neutralization unit, pretreatment unit, or wastewater treatment unit shall comply with the following requirements with respect to hazardous wastes received from off-site sources: part 7045.0474, Manifest system; part 7045.0476, Manifest discrepancies; part 7045.0478, subparts 2 and 3, items A to C, Operating record; and part 7045.0482, subparts 2 and 3, Required reports.

Within 15 days after any spill or leakage of hazardous waste from an elementary neutralization unit, pretreatment unit, wastewater treatment unit, or combustion waste facility, the owner or operator of the unit or facility shall submit a written report to the commissioner which contains the following information:

A. name, address, and telephone number of the owner or operator;

B. name, address, and telephone number of the facility;

C. date, time, and nature of the incident;

D. name and quantity of material involved;

E. the extent of injuries, if any;

F. an assessment of actual or potential hazards to human health or the environment, where this is applicable; and

G. estimated quantity and disposition of recovered material that resulted from the incident.

Subp. 6. **Closure.** At closure, the owner or operator of an elementary neutralization unit, pretreatment unit, or wastewater treatment unit shall remove all hazardous waste and hazardous waste residues from the unit.

At closure, the owner or operator of a combustion waste facility shall analyze the waste present in the facility according to parts 7045.0100 to 7045.0143 and shall submit the waste analysis results and proposed closure methods to the commissioner. Based on the waste analysis and proposed closure methods, the agency shall determine which closure standards from parts 7045.0450 to 7045.0544, if any, apply to the facility.

Subp. 7. **Treated wastes.** Treated waste generated by an elementary neutralization unit, pretreatment unit, or wastewater treatment unit is subject to regulation under parts 7045.0100 to 7045.0320.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; L 1987 c 186 s 15; 16 SR 2102; 17 SR 1279*

7045.0660 [Repealed, 8 SR 2276]

7045.0665 USE CONSTITUTING DISPOSAL.

Subpart 1. **Scope.** Items A and B apply to hazardous wastes that are used in a manner constituting disposal.

A. For the purposes of this part, use constituting disposal means the application or placement of recyclable wastes in or on the land without mixing with other substances or after mixing or combining with any other substances.

B. Hazardous wastes are not used in a manner constituting disposal if:

- (1) they are a product produced for the general public's use;
- (2) they contain recyclable hazardous wastes; and if the recyclable hazardous wastes have undergone a chemical reaction in the course of producing the products so as to become inseparable by physical means; and
- (3) the products meet the applicable treatment standards in parts 7045.1350 to 7045.1360 or applicable prohibition levels in part 7045.1330 or RCRA section 3004(d) where no treatment standards have been established, for each recyclable material that they contain.

Commercial fertilizers that are produced for the general public's use that contain recyclable materials also are not presently subject to regulation provided they meet the same treatment standards or prohibition levels for each recyclable material that they contain. However, zinc-containing fertilizers using hazardous waste K061 that are produced for the general public's use are not presently subject to regulation.

Subp. 1a. Land application prohibition.

A. The following materials may not be placed in mixed municipal solid waste or applied as a dust suppressant or used for road treatment:

- (1) waste oil;
- (2) used oil;
- (3) hazardous waste; and
- (4) a mixture of hazardous waste and other material, waste oil, or used oil.

B. A person may not otherwise place used or waste oil in or on the land, unless approved by the commissioner. The application of used or waste oil in or on the land shall only be approved in the case of an accidental spill.

Subp. 2. Standards applicable to generators of wastes used in a manner that constitutes disposal. Generators of wastes that are used in a manner that constitutes disposal are subject to the requirements of parts 7045.0205 to 7045.0320.

Subp. 3. Standards applicable to transporters of wastes used in a manner that constitutes disposal. Transporters of wastes that are used in a manner that constitutes disposal are subject to the requirements of parts 7045.0351 to 7045.0397.

Subp. 4. Standards applicable to facilities managing wastes that are to be used in a manner that constitutes disposal. Facilities managing wastes in a manner that constitutes disposal are subject to the following requirements:

A. owners or operators of facilities that store recyclable wastes that are to be used in a manner that constitutes disposal, but who are not the ultimate users of the wastes are subject to all applicable provisions of parts 7023.9000 to 7023.9050, 7045.0450 to 7045.0534, 7045.0544, 7045.0552 to 7045.0632, and chapter 7001; and

B. owners or operators of facilities that use recyclable wastes that are to be used in a manner that constitutes disposal are subject to all applicable provisions of parts 7023.9000 to 7023.9050, 7045.0450 to 7045.0538, 7045.0544, 7045.0552 to 7045.0638, and chapter 7001.

Statutory Authority: *MS s 115.03; 116.07; 116.37*

History: *10 SR 1688; 13 SR 2761; 14 SR 1718; 16 SR 2102; 16 SR 2239; 18 SR 614*

7045.0670 [Repealed, 8 SR 2276]

7045.0675 RECYCLABLE HAZARDOUS WASTE USED FOR PRECIOUS METAL RECOVERY.

Subpart 1. Scope. This part applies to recyclable hazardous waste that is reclaimed to recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, or any combination of these.

Subp. 2. Requirements for generators. Generators of recyclable hazardous waste regulated under this part are subject to the requirements of parts 7045.0205 to 7045.0320.

Subp. 3. Requirements for transporters. Transporters of recyclable hazardous waste regulated under this part are subject to the requirements of parts 7045.0351 to 7045.0397.

Subp. 4. Requirements for persons who store. Persons who store recyclable hazardous waste that is regulated under this part are subject to the following requirements:

A. If the hazardous waste is not being accumulated speculatively as defined in part 7045.0020, the following apply:

(1) parts 7045.0556, subpart 2, 7045.0580, and 7045.0582;

(2) the generator and facility owner or operator must keep records showing: the volume of the hazardous wastes stored at the beginning of the calendar year; the amount of the hazardous wastes generated or received during the calendar year; and the amount of hazardous wastes remaining at the end of the calendar year.

B. If the hazardous waste is being accumulated speculatively as defined in part 7045.0020, the recyclable hazardous waste is subject to all applicable requirements of parts 7023.9000 to 7023.9050, 7045.0205 to 7045.0642, and chapter 7001.

Statutory Authority: *MS s 116.07*

History: *10 SR 1688; 16 SR 2102; 18 SR 614*

7045.0680 [Repealed, 8 SR 2276]

7045.0685 SPENT LEAD-ACID BATTERIES BEING RECLAIMED.

Subpart 1. **Scope.** The requirements of this part apply to persons who generate, transport, collect, store, or reclaim spent lead-acid batteries that are recyclable. Except as provided in subpart 2, persons who generate, transport, or collect spent batteries, or who store spent batteries but do not reclaim them, are not subject to regulation under parts 7023.9000 to 7023.9050, 7045.0205 to 7045.0685, and chapter 7001 for the generation, transportation, and storage of spent batteries. For the purpose of this part, indoor storage is storage within a permanently constructed building consisting of at least a roof and three walls permanently affixed to an impermeable floor placed on the ground.

Subp. 2. **Standards for storage of spent batteries.** Storage of spent batteries by persons who do not reclaim them is subject to the following requirements:

A. Storage of batteries indoors shall be on an impermeable curbed surface and provisions shall be made to recontainerize leaking or broken batteries, with regular inspection to assure the integrity of the stored batteries.

B. Storage of spent batteries in a manner other than by indoor storage as defined in subpart 1 shall be subject to the following requirements:

(1) If the storage does not meet the criteria of speculative accumulation as described in part 7045.0020, the storage is subject to the following requirements: storage shall be on an impermeable curbed surface and provisions shall be made to recontainerize leaking or broken batteries, with regular inspection to assure the integrity of the stored batteries; and the requirements of part 7045.0526, subparts 2 to 6, and 9.

(2) If the storage of spent batteries meets the criteria of speculative accumulation as defined in part 7045.0020, the storage is subject to the following requirements: parts 7045.0452 to 7045.0456; 7045.0460 to 7045.0470; 7045.0478 to 7045.0534; 7045.0544; 7045.0552 to 7045.0562; 7045.0566 to 7045.0578; 7045.0584 to 7045.0632; and the permitting requirements of chapter 7001 and parts 7023.9000 to 7023.9050 for hazardous waste storage facilities.

Subp. 3. **Standards for owners or operators of facilities that store spent batteries before reclaiming them.** The owners or operators of facilities that store batteries before reclaiming them are subject to regulation under parts 7045.0452 to 7045.0456; 7045.0460 to 7045.0470; 7045.0478 to 7045.0534; 7045.0544; 7045.0552 to 7045.0562; 7045.0566 to 7045.0578; 7045.0584 to 7045.0632; and the permitting requirements of chapter 7001 for hazardous waste storage facilities.

Statutory Authority: *MS s 116.07*

History: *10 SR 1688; 16 SR 2102; 18 SR 614*

7045.0686 SPECIAL REQUIREMENTS FOR MANAGEMENT OF SPENT OR WASTE HOUSEHOLD BATTERIES.

Subpart 1. **Scope.** The requirements of this part apply to operators who collect, store, transport, or reclaim spent or waste household batteries as a part of a household battery management program.

A. "Household battery management program" means:

(1) a program established to accept or collect spent or waste household batteries;

(2) a program established by a resource recovery facility to segregate spent or waste household batteries from household waste; or

(3) a program established by a solid waste disposal facility to segregate spent or waste household batteries from household waste during processing activities.

B. Operators who collect, transport, or store spent or waste household batteries which are sent for recycling but who do not reclaim them are subject to regulation under subparts 2 and 3, but are not otherwise subject to regulation under parts 7023.9000 to 7023.9050, 7045.0205 to 7045.1380, and chapter 7001 for such collection, transportation, and storage.

C. Operators who collect, transport, or store spent or waste household batteries which are not recycled are subject to regulation under subpart 3 and part 7045.0310.

D. Operators who collect, transport, store, and also reclaim spent or waste household batteries are subject to regulation under subparts 2 to 4.

Subp. 2. Notification. An operator who intends to establish or operate all or part of a household battery management program shall ensure that the information required in items A to K is submitted to the commissioner at least 30 days before initiating the household battery management program. If household batteries are speculatively accumulated as defined in part 7045.0020, a permit is required under chapter 7001 and parts 7023.9000 to 7023.9050 instead of this notification.

The notification shall provide a complete description of the program including, as applicable:

A. the name, address, and telephone number of the operators establishing the program;

B. the location of all household battery collection sites;

C. the duration and operating hours of the program;

D. the intended program service area;

E. the manner in which household batteries will be collected, stored, and disposed of or recycled;

F. the amount of time the operator intends to store household batteries at individual collection sites;

G. a description of the containers used to collect and store household batteries;

H. the name and address of all facilities which will dispose of or recycle the household batteries;

I. a description of how the operator will manage cracked or leaking household batteries;

J. a description of how the operator will clean up spills resulting from leaking household batteries; and

K. any other information necessary to describe all aspects of the program.

Operators who submit a notification and subsequently change any aspect of the program as described in the notification must submit, within 30 days of making the change, an amended notification to the commissioner fully describing the program changes.

Subp. 3. Standards for storage. Spent or waste household batteries must be stored according to items A to C.

A. Storage of spent or waste household batteries shall be in vented, corrosion resistant containers.

B. Storage of containers of spent or waste household batteries shall be subject to the requirements of part 7045.0526, subparts 2 to 6 and 9.

C. If the storage of spent or waste batteries meets the criteria of speculative accumulation as defined in part 7045.0020, the storage is also subject to the following requirements: parts 7045.0452 to 7045.0456; 7045.0460 to 7045.0470; 7045.0478 to 7045.0534; 7045.0544; 7045.0552 to 7045.0562; 7045.0566 to 7045.0578; 7045.0584 to 7045.0632; and the permitting requirements of chapter 7001 and parts 7023.9000 to 7023.9050 for hazardous waste storage facilities.

Subp. 4. **Standards for operators of facilities that store spent or waste household batteries before reclaiming.** The operators of facilities that store batteries before reclaiming them are subject to regulation under parts 7045.0452 to 7045.0456; 7045.0460 to 7045.0470; 7045.0478 to 7045.0534; 7045.0544; 7045.0552 to 7045.0562; 7045.0566 to 7045.0578; 7045.0584 to 7045.0632; and the permitting requirements of chapter 7001 and parts 7023.9000 to 7023.9050 for hazardous waste storage facilities.

Statutory Authority: *MS s 116.07*

History: *15 SR 1877; 18 SR 614*

7045.0690 [Repealed, 8 SR 2276]

7045.0692 HAZARDOUS WASTE BURNED FOR ENERGY RECOVERY.

Subpart 1. **Scope.** This part applies to hazardous wastes that are burned for energy recovery in a boiler or industrial furnace that is not regulated by the thermal treatment standards in part 7045.0542 or 7045.0640, except:

A. Gaseous emissions recovered from hazardous waste management activities when the gas is burned for energy recovery.

B. Used oil that exhibits a characteristic of hazardous waste as identified in part 7045.0131, provided that it has not been intentionally mixed with a characteristic hazardous waste, and is regulated as a used oil fuel in part 7045.0695.

C. Hazardous wastes that are exempt from regulation under part 7045.0125, subparts 3a and 4, items D to J.

D. Mixtures of used oil and waste that is hazardous solely for the characteristic of ignitability in part 7045.0131, subpart 2, provided the waste is generated by a person who in a calendar month generates no more than 100 kilograms of hazardous waste. This mixture is regulated as provided in part 7045.0102, subpart 3. If the waste is generated by a person who in a calendar month generates more than 100 kilograms of hazardous waste, part 7045.0102, subpart 3, item A, applies.

E. Used oil being burned for energy recovery as regulated in part 7045.0695.

Subp. 2. **Prohibitions.**

A. A person may market hazardous waste fuel only:

(1) to persons who have notified the Environmental Protection Agency of their hazardous waste fuel activities and have an EPA identification number; and

(2) if the fuel is to be burned, to persons who burn the fuel in boilers or industrial furnaces identified in item B.

B. Hazardous waste fuel may be burned for energy recovery only in industrial furnaces as defined in part 7045.0020, or boilers as defined in part 7045.0020, or as provided in part 7045.0075, subpart 4, that meet one of the following criteria:

(1) industrial boilers located on the site of an establishment engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes; or

(2) utility boilers used to produce electric power, steam, or heated or cooled air or other gases or fluids for sale.

C. Hazardous waste or a fuel that contains a hazardous waste may not be burned in a cement kiln unless the kiln fully complies with the thermal treatment standards of part 7045.0542.

Subp. 3. **Standards applicable to generators of hazardous waste fuel.** Generators of hazardous waste that is used as a fuel or used to produce a fuel are subject to parts 7045.0205 to 7045.0320. Generators who market hazardous waste fuel to a burner are also subject to subpart 5. Generators who are burners are also subject to subpart 6.

Subp. 4. **Standards applicable to transporters of hazardous waste fuel.** Transporters of hazardous waste fuel and hazardous waste that is used to produce a fuel are subject to parts 7045.0351 to 7045.0397.

Subp. 5. **Standards applicable to marketers of hazardous waste fuel.** Marketers are subject to the requirements in items A to F.

A. A marketer of hazardous waste that is used as a fuel or used to produce a fuel must notify the Environmental Protection Agency to identify hazardous waste fuel activities. Even if a marketer has previously notified the Environmental Protection Agency of hazardous waste management activities other than hazardous waste fuel activities, a marketer must renotify specifically to identify hazardous waste fuel activities.

B. A marketer must comply with the prohibitions in subpart 2, item A.

C. If a marketer is a generator, or becomes a generator by initiating a shipment of hazardous waste fuel, the marketer must comply with parts 7045.0205 to 7045.0320. If the marketer operates a facility, the marketer must comply with parts 7045.0450 to 7045.0534. If the marketer is operating a facility under interim status, the marketer must comply with parts 7045.0552 to 7045.0632. If the marketer stores hazardous waste, the marketer must comply with the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050 for storage of hazardous waste.

D. Before a marketer initiates the first shipment of hazardous waste fuel to a burner or another marketer, a one-time written and signed notice from the burner or marketer must be obtained certifying that:

(1) the burner or marketer has notified the Environmental Protection Agency and identified the waste-as-fuel activities; and

(2) if the recipient is a burner, the burner will burn the hazardous waste fuel only in an industrial furnace or boiler identified in subpart 2, item B.

E. Before a marketer accepts the first shipment of hazardous waste fuel from another marketer, the receiving marketer must provide the other marketer with a one-time written and signed notice certifying that the receiving marketer has notified the Environmental Protection Agency and identified the receiving marketer's hazardous waste fuel activities.

F. In addition to the applicable record keeping requirements of parts 7045.0205 to 7045.0320, 7045.0450 to 7045.0534, and 7045.0552 to 7045.0632, a marketer must keep a copy of each certification notice received or sent for three years from the date the marketer last engaged in a hazardous waste fuel marketing transaction with the person who sent or received the certification notice.

Subp. 6. Standards applicable to burners of hazardous waste fuel. Owners and operators of industrial furnaces and boilers identified in subpart 2, item B, that burn hazardous fuel are subject to the requirements in items A to F.

A. A burner must notify the Environmental Protection Agency of hazardous waste fuel activities and obtain an EPA identification number. Even if a burner has previously notified the Environmental Protection Agency of the burner's hazardous waste management activities and obtained an EPA identification number, the burner must renotify the Environmental Protection Agency to identify the burner's hazardous waste fuel activities.

B. Before a burner accepts the first shipment of hazardous waste fuel from a marketer, the burner must provide the marketer with a one-time written and signed notice certifying that:

(1) the burner has notified the Environmental Protection Agency and identified the burner's waste-as-fuel activities; and

(2) the burner will burn the fuel only in a boiler or furnace identified in subpart 2, item B.

C. In addition to the applicable record keeping requirements of parts 7045.0478 to 7045.0482 and 7045.0584 to 7045.0588, a burner must keep a copy of each certification notice that the burner sends to a marketer for three years from the date the burner last receives hazardous waste fuel from that marketer.

D. Generators who accumulate hazardous waste fuel before burning on site within the accumulation time period allowed in part 7045.0292 must comply with that part. Small quantity generators who accumulate hazardous waste fuel before burning on site within the accumulation time period allowed in part 7045.0292 must comply with that part. Burning by the generator of a hazardous waste that is a sludge or is or contains a waste listed in part 7045.0135 for reasons other than ignitability or is or contains a waste that is toxic under part 7045.0131, subpart 6, is subject to the additional requirements of item E, subitem (2).

E. Generators who accumulate waste for longer than the time periods in item D, and burners who receive waste from off-site and store it, must comply with the following requirements:

(1) the agency's permitting procedures in chapter 7001 and parts 7023.9000 to 7023.9050 for hazardous waste storage facilities, parts 7045.0205 to 7045.0536, 7045.0544, 7045.0552 to 7045.0632, 7045.1000 to 7045.1030, and 7045.1300 to 7045.1380; and

(2) if the hazardous waste to be burned is a sludge or is or contains a waste listed in part 7045.0135 for reasons other than ignitability, or is or contains a waste that is toxic under part 7045.0131, subpart 6, then parts 7045.0542, excluding subparts 4, item C, and 7, item A, subitem (2); and 7045.0640 apply.

F. A burner must abide by Minnesota and federal air quality regulations, including obtaining a permit if necessary. Compliance with this part does not release a burner from any obligation to comply with local air quality ordinances or codes.

Statutory Authority: *MS s 115.03; 116.07*

History: *14 SR 1718; 16 SR 2102; 18 SR 614*

7045.0695 USED OIL BURNED FOR ENERGY RECOVERY.

Subpart 1. **Scope.** The requirements of this part apply to used oil that is burned for energy recovery in a boiler or industrial furnace that is not regulated under part 7045.0542 or 7045.0640. Burning used oil as a fuel is prohibited except as provided in this part. Used oil burned for energy recovery is subject to regulation under this part rather than as hazardous waste fuel under part 7045.0692, even if it exhibits a characteristic of hazardous waste identified in part 7045.0131, provided that it has not been intentionally mixed with a characteristic hazardous waste. Used oil intentionally mixed with a characteristic hazardous waste as identified in part 7045.0131 is regulated as specified in part 7045.0102, subpart 3.

A. The requirements of this part do not apply to subitems (1) and (2), which are regulated as specified.

(1) Used oil that has been intentionally mixed with a hazardous waste listed in part 7045.0135 is regulated under part 7045.0692 if it is to be burned for energy recovery.

(2) Used oil containing more than 1,000 parts per million of total halogens is presumed to have been mixed with a halogenated hazardous waste listed in part 7045.0135 and is a hazardous waste. It is subject to the requirements of part 7045.0692 if it is to be burned for energy recovery. This presumption may be rebutted by a demonstration that the used oil does not contain hazardous waste.

B. Used oil burned for energy recovery, and any fuel produced from used oil by processing, blending, or other treatment, is subject to regulation as off-specification used oil fuel if it exceeds any of the allowable levels of the constituents and properties in subitem (1). On-specification used oil fuel as defined in part 7045.0020, subpart 60a, is subject only to the analysis and record keeping requirements under subpart 3, item B, subitems (1) and (8).

(1) Used oil exceeding any of the following allowable levels, for the constituent or property listed, is subject to full regulation under this part when burned for energy recovery:

Constituent/property	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
Flash Point	100 degrees Fahrenheit minimum
Total Halogens	4,000 parts per million maximum

(2) The specifications in subitem (1) do not apply to used oil fuel mixed with a listed hazardous waste identified in part 7045.0135. Such wastes are regulated under part 7045.0692.

(3) If the presumption of mixing is not successfully rebutted, used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebut-

table presumption provided in item A, subitem (2). This used oil is subject to part 7045.0692 rather than this part when burned for energy recovery. If the presumption of mixing is successfully rebutted and the oil is on-specification used oil, it is subject only to the reduced requirements identified in subpart 3, item B, subitems (1) and (8).

Subp. 2. Standards applicable to generators of used oil to be burned for energy recovery. Except as provided in items A and B, generators of used oil are not subject to this subpart.

A. Generators who market used oil directly to a burner are subject to subpart 3.

B. Generators who burn used oil are subject to subpart 4.

Subp. 3. Standards applicable to marketers of used oil to be burned for energy recovery.

A. The following persons are not marketers:

(1) Used oil generators, and collectors who transport used oil received only from generators, unless the generator or collector markets the used oil directly to a person who burns it for energy recovery. Generators and collectors who market to incidental burners are not marketers subject to this subpart.

(2) Persons who market only on-specification used oil fuel and who are not the first person to claim the used oil meets the specifications of subpart 1, item B.

B. Marketers are subject to the following requirements:

(1) Used oil fuel is subject to regulation as off-specification used oil fuel under this part unless the marketer obtains analyses or other information documenting that the used oil is on-specification used oil fuel.

(2) A person may market off-specification used oil for energy recovery only:

(a) to burners or other marketers who have notified the Environmental Protection Agency of their used oil management activities stating the location and general description of those activities, and who have an EPA identification number; and

(b) to burners who burn the used oil in an industrial furnace or boiler identified in subpart 4, item A, subitems (1) and (2).

(3) Even if a marketer has previously notified the Environmental Protection Agency of the marketer's hazardous waste management activities and obtained an EPA identification number, the marketer must renotify the Environmental Protection Agency to identify the marketer's used oil management activities.

(4) When a marketer initiates a shipment of off-specification used oil fuel, the marketer must prepare and send the receiving facility an invoice containing the following information:

(a) a unique invoice number;

(b) the marketer's own EPA identification number and the EPA identification number of the receiving facility;

(c) the names and addresses of the shipping and receiving facilities;

(d) the quantity of off-specification used oil fuel to be delivered;

(e) the dates of shipment or delivery; and

(f) the following statement: "This used oil is subject to EPA regulation under Code of Federal Regulations, title 40, section 266."

(5) Used oil that meets the definition of combustible liquid or flammable liquid is subject to the United States Department of Transportation hazardous materials regulations in Code of Federal Regulations, title 49, sections 100 to 177.

(6) Before a marketer initiates the first shipment of off-specification used oil fuel to a burner or other marketer, the marketer must obtain a one-time written and signed notice from the burner or marketer certifying that:

(a) the burner or marketer has notified the Environmental Protection Agency stating the location and general description of the marketer's used oil management activities; and

(b) if the recipient is a burner, the burner will burn the off-specification used oil fuel only in an industrial furnace or boiler identified in subpart 4, item A, subitems (1) and (2).

(7) Before a marketer accepts the first shipment of off-specification used oil fuel from another marketer subject to the requirements of this part, the first marketer must provide the other marketer with a one-time written and signed notice certifying that the first marketer has notified the Environmental Protection Agency of the first marketer's used oil management activities.

(8) A marketer who first claims under item B, subitem (1), that used oil fuel meets the specifications must keep copies of analysis, or other information used to make the determination, for three years from the date of analysis. That marketer must also record in an operating log and keep for three years the information in units (a) to (d) on each shipment of on-specification used oil fuel. On-specification used oil fuel is not subject to further regulation, unless it is subsequently mixed with hazardous waste or unless it is mixed with used oil so that it no longer meets the specifications:

(a) the name and address of the facility receiving the shipment;

(b) the quantity of used oil fuel delivered;

(c) the date of shipment and delivery; and

(d) a cross-reference to the record of used oil analysis or other information used to make the determination that the oil meets the specifications required under this subitem.

(9) A marketer who receives or initiates an invoice under the requirements of this subpart must keep a copy of each invoice for three years from the date the invoice is received or prepared. In addition, a marketer must keep a copy of each certification notice that the marketer received or sent for three years from the date that the marketer last engaged in an off-specification used oil fuel marketing transaction with the person who sent or received the certification notice.

Subp. 4. Standards applicable to burners of used oil burned for energy recovery.

Owners and operators of devices that burn used oil fuel are subject to the requirements in items A to G.

A. Off-specification used oil fuel may be burned for energy recovery only in industrial furnaces defined in part 7045.0020, or in boilers as defined in part 7045.0020, or as provided in part 7045.0075, subpart 4, that meet the following criteria:

(1) industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes;

(2) utility boilers used to produce electric power, steam, or heated or cooled air or other gases or fluids for sale; or

(3) used oil-fired space heaters provided that:

(a) the heater burns only used oil that the owner or operator generates or used oil received from do-it-yourself oil changers who generate used oil as household waste;

(b) the heater is designed to have a maximum capacity of not more than 0.5 million Btu per hour; and

(c) the combustion gases from the heater are vented to the out-of-doors.

B. Burners of off-specification used oil fuel and burners of on-specification used oil fuel who are the first to claim that the oil meets the specifications provided in subpart 1, item B, must notify the Environmental Protection Agency stating the location and general description of used oil management activities. Burners who meet the following criteria are not required to notify the Environmental Protection Agency:

(1) burners of on-specification used oil fuel who receive the oil from a marketer who has previously notified the Environmental Protection Agency;

(2) owners and operators of used oil-fired space heaters that burn used oil fuel under item A, subitem (3); and

(3) burners who burn on-specification used oil that they generate.

C. Before a burner accepts the first shipment of off-specification used oil fuel from a marketer, the burner must provide the marketer with a one-time written and signed notice certifying that:

(1) the burner has notified the Environmental Protection Agency stating the location and general description of the burner's used oil management activities; and

(2) the burner will burn the used oil only in an industrial furnace or boiler identified in item A, subitems (1) and (2).

D. A person who burns used oil fuel that has been generated on-site is subject to regulation under this subpart unless that person obtains analysis or other information documenting that the oil is on-specification used oil.

E. Burners who process, blend, or otherwise manage off-specification used oil to meet the specifications provided under subpart 1, item B, must obtain analyses or other information documenting that the oil is on-specification used oil.

F. A burner must retain a copy of the invoice given from a marketer for three years from the date the invoice is received. Burners must also keep for three years copies of all analyses of used oil fuel as may be required by items D and E. In addition, the burner must keep a copy of each certification notice that the burner sends to a marketer for three years from the date the burner last received off-specification used oil fuel from that marketer.

G. Burners must abide by Minnesota and federal air quality regulations, including obtaining a permit if necessary. Compliance with this part does not release a burner from any obligation to comply with local air quality ordinances or codes.

Statutory Authority: *MS s 115.03; 116.07*

History: *14 SR 1718*

7045.0700 [Repealed, 8 SR 2276]

7045.0710 [Repealed, 8 SR 2276]

7045.0720 [Repealed, 8 SR 2276]

7045.0730 [Repealed, 8 SR 2276; 9 SR 115]

7045.0750 [Repealed, 8 SR 2276]

7045.0760 [Repealed, 8 SR 2276]

7045.0770 [Repealed, 8 SR 2276]

7045.0780 [Repealed, 8 SR 2276]

7045.0850 [Repealed, 9 SR 115]

7045.0860 [Repealed, 9 SR 115]

7045.0870 [Repealed, 9 SR 115]

7045.0880 [Repealed, 9 SR 115]

7045.0890 [Repealed, 9 SR 115]

7045.0900 [Repealed, 9 SR 115]

7045.0910 [Repealed, 9 SR 115]

7045.0920 [Repealed, 9 SR 115]

7045.0930 [Repealed, 9 SR 115]

COUNTY REGULATION OF HAZARDOUS WASTE MANAGEMENT

7045.1000 PURPOSE; APPLICABILITY.

Parts 7045.1000 to 7045.1030 establish procedures for the agency's overview of county hazardous waste programs. Part 7045.1010, subpart 1 applies to counties which seek agency approval of a hazardous waste ordinance. All other portions of parts 7045.1005 to 7045.1030 apply to counties having a hazardous waste ordinance approved by the agency.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115*

7045.1005 OVERVIEW.

The commissioner shall overview actions taken by counties under hazardous waste programs approved by the agency. This overview shall consist of the review, approval, denial, suspension, modification, and reversal of county actions. County actions include adoption or amendment of regulations and ordinances, and the issuance, denial, suspension, modification, imposition of conditions upon, or revocation of county hazardous waste permits or licenses.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

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 set forth in this chapter.

Subp. 2. Procedures. The commissioner may suspend a previously approved county ordinance or relevant portion thereof if that ordinance has been modified and is determined by the commissioner to be inconsistent with the state hazardous waste rules. Upon suspension by the commissioner, the matter must be placed on the agenda of the next month's regularly scheduled meeting of the agency board. The agency shall notify the county in writing of its decision to approve, suspend, modify, or deny the ordinance.

Subp. 3. Revisions. A county having a hazardous waste ordinance approved in writing by the agency, shall revise the county ordinance within 120 days of any agency revision to this chapter. The county revision must embody and be consistent with the agency's revisions to this chapter, and must be submitted to the agency for its review and approval according to the procedure in subpart 1.

Statutory Authority: *MS s 116.07 subds 4,4b*

History: *9 SR 115; L 1987 c 186 s 15*

7045.1020 EFFECT OF AGENCY APPROVAL OF COUNTY ORDINANCE.

If a county has adopted a hazardous waste ordinance that is approved in writing by the agency:

A. each generator who produces a hazardous waste within the county must obtain a generator license and must submit reports to the county as required by the county ordinance in lieu of submission to the agency unless specifically requested in writing by the commissioner to submit a copy of the license application or license renewal report to the commissioner;

B. each collection program operator who operates a collection program under part 7045.0310 or 7045.0320 within the county must obtain a program license and must submit reports to the county as required by the county ordinance in lieu of submission to the agency unless specifically requested in writing by the commissioner to submit a copy of the license or license renewal report to the commissioner; and

C. all persons shall comply with all other requirements of this chapter, the agency's permitting procedures, and all requirements of the county ordinance.

Statutory Authority: *MS s 116.07*

History: *9 SR 115; L 1987 c 186 s 15; 16 SR 2102*

7045.1030 COUNTY ACTIONS.

Subpart 1. Notice. A county with a hazardous waste ordinance approved in writing by the agency shall submit to the agency a written notification of all hazardous waste licenses or permits approved by the county during the previous month. The notification shall be sub-

mitted to the agency by the fifteenth day of each month. Upon the request of the commissioner, the county shall provide the agency with a copy of all the information that it considered in reaching its decision.

Subp. 2. Decision of commissioner. The commissioner shall within 15 days of receiving the notification, advise the county in writing of the decision to approve, suspend, or request additional information on the licenses or permits. The commissioner may suspend any hazardous waste license or permit approved and issued by the county. Upon suspension, the procedure described in part 7045.1010, subpart 2 must be followed.

Subp. 3. Reporting. A county shall submit to the commissioner, upon request, a copy of any information submitted under parts 7045.0225 to 7045.0250 (generator licenses), 7045.0310, and 7045.0320 (collection programs), manifest, exception report, or other document that has been submitted to the county in lieu of submission to the agency pursuant to part 7045.1020. A county shall submit to the commissioner, upon request but not to exceed semiannually, summary data based on the documents cited in this subpart.

Subp. 4. [Repealed, 16 SR 2102]

Statutory Authority: *MS s 116.07*

History: *9 SR 115; L 1987 c 186 s 15; 16 SR 2102*

- 7045.1110 [Repealed, 9 SR 115]
- 7045.1120 [Repealed, 9 SR 115]
- 7045.1130 [Repealed, 9 SR 115]
- 7045.1140 [Repealed, 9 SR 115]
- 7045.1150 [Repealed, 9 SR 115]
- 7045.1160 [Repealed, 9 SR 115]
- 7045.1170 [Repealed, 9 SR 115]
- 7045.1180 [Repealed, 9 SR 115]
- 7045.1190 [Repealed, 9 SR 115]
- 7045.1200 [Repealed, 9 SR 115]
- 7045.1210 [Repealed, 9 SR 115]
- 7045.1220 [Repealed, 9 SR 115]
- 7045.1230 [Repealed, 9 SR 115]
- 7045.1240 [Repealed, 10 SR 1688]
- 7045.1250 [Repealed, 10 SR 1688]
- 7045.1260 [Repealed, 10 SR 1688]

LAND DISPOSAL RESTRICTIONS

7045.1300 LAND DISPOSAL RESTRICTIONS; APPLICABILITY AND EXEMPTIONS.

Subpart 1. Applicability. This part identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be land disposed.

Except as specifically provided in subpart 2 or parts 7045.0100 to 7045.0143, the requirements of this part apply to persons who generate or transport hazardous waste and owners and operators of hazardous waste treatment, storage, and disposal facilities. For purposes of this part, a certification statement that complies with Code of Federal Regulations, title 40, part 268, also complies with the certification statement requirements under this part.

Subp. 2. Exemptions for restricted wastes. Restricted wastes may continue to be land disposed under the following conditions:

A. if an extension has been granted from the effective date of a prohibition under part 7045.0075, subpart 8, with respect to those wastes covered by the extension; and

B. if an exemption has been granted from a prohibition as a result of a petition under part 7045.0075, subpart 9, with respect to those wastes and units covered by the petition.

Subp. 3. **Other exemptions.** The following hazardous wastes are not subject to parts 7045.1300 to 7045.1380:

A. waste generated by small quantity generators of less than 100 kilograms of non-acute hazardous waste per month, or less than one kilogram of acute hazardous waste per month, as defined in part 7045.0206;

B. waste pesticides that a farmer disposes of according to part 7045.0213; and

C. waste identified or listed as hazardous after November 8, 1984, for which no land disposal prohibitions or treatment standards have been adopted.

Subp. 4. **Waivers.** The requirements of this part shall not affect the availability of a waiver under section 121(d)(4) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

Statutory Authority: *MS s 116.07; 116.37*

History: *13 SR 1238; 16 SR 2102; 16 SR 2239*

7045.1305 DILUTION PROHIBITED AS A SUBSTITUTE FOR TREATMENT.

A. Except as provided in item B, no generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with parts 7045.1350 to 7045.1360, to circumvent the effective date or otherwise avoid a prohibition in parts 7045.1320 to 7045.1330, or to circumvent a land disposal prohibition imposed by RCRA section 3004.

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.

Statutory Authority: *MS s 116.07; 116.37*

History: *13 SR 1238; 16 SR 2239*

7045.1309 SPECIAL RULES REGARDING WASTES THAT EXHIBIT A CHARACTERISTIC.

Subpart 1. **Applicable treatment standards.** The initial generator of a solid waste must determine each EPA hazardous waste number applicable to the waste to determine the applicable treatment standards under parts 7045.1350 to 7045.1360. For purposes of parts 7045.1300 to 7045.1380, the waste will carry the waste code for any applicable listing under part 7045.0135 and also one or more waste codes under part 7045.0131 where the waste exhibits a characteristic, except when the treatment standard for the waste code listed in part 7045.0135 operates in lieu of the standard for the waste code under part 7045.0131 as provided in subpart 2.

Subp. 2. **Conditions of meeting treatment standards.** When a prohibited waste is listed under part 7045.0135 and exhibits a characteristic under part 7045.0131, the treatment standard for the waste code listed in part 7045.0135 will operate in lieu of the standard for the waste code under part 7045.0131, provided that the treatment standard for the waste includes a treatment standard for the constituent that causes the waste to exhibit the characteristic. Otherwise, the waste must meet the treatment standards for all applicable listed and characteristic waste codes.

Subp. 3. **Land disposal.** In addition to any applicable standards determined from the initial point of generation, no prohibited waste that exhibits a characteristic under part 7045.0131 may be land disposed unless the waste complies with the treatment standards under parts 7045.1350 to 7045.1360.

Subp. 4. **Waste analysis.**

A. Wastes that exhibit a characteristic under part 7045.0131 are also subject to the requirements of part 7045.1315, except that when the waste is no longer hazardous, for each shipment of the wastes to a solid waste facility under chapter 7035, the initial generator or the treatment facility need not send a notification as required in part 7045.1315 to the facility. In those circumstances, a notification and certification must be sent to the commissioner.

B. The notification must include the following information:

(1) the name and address of the solid waste facility receiving the waste shipment under chapter 7035;

(2) a description of the waste as initially generated, including the applicable EPA hazardous waste numbers, the applicable wastewater or nonwastewater category as defined in part 7045.0020, and the subdivisions made within a waste code based on waste specific criteria; and

(3) the treatment standards applicable to the waste at the initial point of generation.

C. The certification must be signed by an authorized representative, and must use the following statement:

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly and complies with the performance levels in parts 7045.1350 to 7045.1360 and all applicable prohibitions in part 7045.1330 or RCRA section 3004(d) without impermissible dilution of the prohibited waste. 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: *16 SR 2239*

7045.1310 TREATMENT SURFACE IMPOUNDMENT EXEMPTION.

Subpart 1. **Conditions.** Wastes that are otherwise prohibited from land disposal under parts 7045.1300 to 7045.1380 may be treated in a surface impoundment or series of impoundments if:

A. treatment of the wastes occurs in the impoundments;

B. the following conditions are met:

(1) For wastes with treatment standards in parts 7045.1350 to 7045.1360 or prohibition levels in parts 7045.1320 to 7045.1350 or RCRA section 3004(d), the residues from treatment are analyzed, as specified in part 7045.1315 or 7045.1330 to determine if they meet the applicable treatment standards, or, where no treatment standards have been established for the waste, the applicable prohibition levels. The sampling method, specified in the waste analysis plan under part 7045.0458 or 7045.0564 must be designed so the representative samples of the sludge and the supernatant are tested separately rather than mixed to form homogeneous samples.

(2) The following treatment residues, including any liquid waste, must be removed at least annually: residues that do not meet the treatment standards adopted under parts 7045.1350 to 7045.1360; residues that do not meet the prohibition levels adopted under parts 7045.1320 to 7045.1350, or imposed by statute where no treatment standards have been established; residues that are from the treatment of wastes prohibited from land disposal under parts 7045.1320 to 7045.1350 where no treatment standards have been established and no prohibition levels apply; or residues from managing listed wastes that are not delisted under part 7045.0075, subpart 2. However, residues that are the subject of a valid certification under Code of Federal Regulations, title 40, section 268.8, made no later than one year after placement of the wastes in an impoundment are not required to be removed annually. If the volume of liquid flowing through the impoundment or series of impoundments annually is greater than the volume of the impoundment or impoundments, the flow-through constitutes removal of the supernatant for the purpose of this requirement.

(3) Treatment residues may not be placed in any other surface impoundment for subsequent management unless the residues are the subject of a valid certification under

Code of Federal Regulations, title 40, section 268.8, that allows disposal in surface impoundments meeting the requirements of Code of Federal Regulations, title 40, section 268.8.

(4) The procedures and schedule for the sampling of impoundment contents, the analysis of test data, and the annual removal of residues that do not meet the treatment standards, or, prohibition levels where no treatment standards have been established, or that are from the treatment of wastes prohibited from land disposal under parts 7045.1320 to 7045.1350 where no treatment standards have been established and no prohibition levels apply, must be specified in the facility's waste analysis plan as required under parts 7045.0458 and 7045.0564;

C. the impoundment meets the design requirements of Code of Federal Regulations, title 40, section 264.221(c) or 265.221(a), and complies with applicable groundwater monitoring requirements of part 7045.0484 or 7045.0590;

D. the owner or operator submits to the commissioner a written certification that the requirements of item C have been met and a copy of the waste analysis plan required under item B. The certification must be signed by an authorized representative, and must use the following statement:

"I certify under penalty of law that the requirements of part 7045.1310, subpart 1, item C, have been met for all surface impoundments being used to treat restricted wastes. I believe that the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Subp. 2. **Prohibition of evaporation.** Evaporation of hazardous constituents as the principal means of treatment is not considered to be treatment for purposes of an exemption under this part.

Statutory Authority: *MS s 116.07; 116.37*

History: *13 SR 1238; 16 SR 2239*

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.

A. If a generator is managing a restricted waste and the waste does not meet the applicable treatment standards or exceeds the applicable prohibition levels in part 7045.1330 or RCRA section 3004(d), with each shipment of waste the generator must notify the treatment or storage facility in writing of the appropriate treatment standards in parts 7045.1350 to 7045.1360 and any applicable prohibition levels in part 7045.1330 or RCRA section 3004(d). The notice must include the following information:

(1) EPA Hazardous Waste Number;

(2) the corresponding treatment standards for wastes F001–F005, F039, and wastes prohibited under part 7045.1330 or RCRA section 3004(d). Treatment standards for all other restricted wastes must either be included, or be referenced by including on the notification the applicable wastewater or nonwastewater category as defined in part 7045.0020, the applicable subdivisions made within a waste code based on waste specific criteria, and Code of Federal Regulations sections and paragraphs where the applicable treatment standard appears. Where the applicable treatment standards are expressed as specified technologies in part 7045.1360, the applicable five-letter treatment code in part 7045.1360 also must be listed on the notification;

(3) the manifest number associated with the shipment of waste; and

(4) waste analysis data, where available.

B. If a generator is managing a restricted waste and determines that the waste can be land disposed without further treatment, with each shipment of waste the generator must

submit, to the treatment, storage, or land disposal facility, a notice and a certification stating that the waste meets the applicable treatment standards in parts 7045.1350 to 7045.1360 and the applicable prohibitions in part 7045.1330 or RCRA section 3004(d).

(1) The notice must include the following information:

(a) EPA Hazardous Waste Number;

(b) the corresponding treatment standards for wastes F001–F005, F039, and wastes prohibited under part 7045.1330 or RCRA section 3004(d). Treatment standards for all other restricted wastes must either be included, or be referenced by including on the notification the applicable wastewater or nonwastewater category as defined in part 7045.0020, the applicable subdivisions made within a waste code based on waste specific criteria, and Code of Federal Regulations sections and paragraphs where the applicable treatment standard appears. Where the applicable treatment standards are expressed as specified technologies in part 7045.1360, the applicable five–letter treatment code in part 7045.1360 also must be listed on the notification;

(c) the manifest number associated with the shipment of waste; and

(d) waste analysis data, where available.

(2) The certification must be signed by an authorized representative and must state the following:

“I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards in parts 7045.1350 to 7045.1360 and all applicable prohibitions in part 7045.1330 or RCRA section 3004(d). I believe that the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.”

C. If a generator’s waste is subject to an exemption from a prohibition on the type of land disposal method used for the waste, including, but not limited to, a case–by–case extension under part 7045.0075, subpart 8, an exemption under part 7045.0075, subpart 9, or a nationwide capacity variance under Code of Federal Regulations, title 40, part 268, subpart C, with each shipment of wastes, the generator must submit a notice to the facility receiving the waste, stating that the waste is not prohibited from land disposal. The notice must include the following information:

(1) the EPA Hazardous Waste Number;

(2) the corresponding treatment standards for wastes F001–F005, F039, and wastes prohibited in part 7045.1330 or RCRA section 3004(d). Treatment standards for all other restricted wastes must either be included, or be referenced by including on the notification the applicable wastewater or nonwastewater category as defined in part 7045.0020, the applicable subdivisions made within a waste code based on waste specific criteria, and Code of Federal Regulations sections and paragraphs where the applicable treatment standard appears. Where the applicable treatment standards are expressed as specified technologies in part 7045.1360, the applicable five–letter treatment code in part 7045.1360 also must be listed on the notification;

(3) the manifest number associated with the shipment of waste;

(4) waste analysis data, where available; and

(5) the date the waste is subject to the prohibitions.

D. If a generator is managing a prohibited waste in tanks or containers under part 7045.0292, and is treating the waste in tanks or containers to meet applicable treatment standards under parts 7045.1350 to 7045.1360, the generator must develop and follow a written waste analysis plan that describes the procedures the generator will carry out to comply with the treatment standards. The plan must be kept on–site in the generator’s records, and the following requirements must be met:

(1) the waste analysis plan must be based on a detailed chemical and physical analysis of a representative sample of the prohibited wastes being treated, and contain all information necessary to treat the wastes according to parts 7045.1300 to 7045.1380, including the selected testing frequency;

(2) the plans must be filed with the commissioner at least 30 days before treatment activity, with delivery verified; and

(3) wastes shipped off-site must comply with the notification requirements of subpart 1.

E. If a generator determines that a waste is restricted based solely on the generator's knowledge of the waste, all supporting data used to make this determination must be retained on-site in the generator's files. If a generator determines that a waste is restricted based on testing the waste or an extract developed using the test method described in Code of Federal Regulations, title 40, part 261, Appendix II, all waste analysis data must be retained on-site in the generator's files.

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 in the facility's file.

G. Generators must retain on-site a copy of all notices, certifications, demonstrations, waste analysis data, and other documentation produced under this part for at least five years from the date that the waste that is the subject of the documentation was last sent to on-site or off-site treatment, storage, or disposal. The five-year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the commissioner. The requirements of this item apply to solid wastes even when the hazardous characteristic is removed before disposal or when the waste is excluded from the definition of hazardous or solid waste or exempted from hazardous waste regulation, subsequent to the point of generation.

H. If a generator is managing a lab pack that contains wastes identified under part 7045.1380 and wishes to use the alternative treatment standard under part 7045.1360, with each shipment of waste, the generator must submit a notice to the treatment facility according to this subpart. The generator must also submit the following certification, which must be signed by an authorized representative:

"I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack contains only the wastes specified in Code of Federal Regulations, title 40, part 268, Appendix IV, or solid wastes not subject to regulation under Code of Federal Regulations, title 40, part 261. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

I. If a generator is managing a lab pack that contains organic wastes and wishes to use the alternate treatment standards in part 7045.1360, with each shipment of waste, the generator must submit a notice to the treatment facility according to this subpart. The generator also must submit the following certification, which must be signed by an authorized representative:

"I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste and that the lab pack contains only organic waste specified in Code of Federal Regulations, title 40, part 268, Appendix V, or solid wastes not subject to regulation under Code of Federal Regulations, title 40, part 261. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

J. Small quantity generators with tolling agreements must comply with the applicable notification and certification requirements of this subpart for the initial shipment of the waste subject to the agreement. The generators must retain on-site a copy of the notification and certification, together with the tolling agreement, for at least three years after termination or expiration of the agreement. The three-year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the commissioner.

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.

A. For wastes with treatment standards expressed as concentrations in the waste extract in part 7045.1355, the owner or operator of the treatment facility must test the treatment residues or an extract of the residues developed using the test method described in Code of Federal Regulations, title 40, part 261, Appendix II, to assure that the treatment residues or extract meet the applicable treatment standards.

B. For wastes prohibited under part 7045.1330 or RCRA section 3004(d) which are not subject to any treatment standards under parts 7045.1350 to 7045.1360, the owner or operator of the treatment facility must test the treatment residues according to the generator testing requirements in part 7045.1330 to assure that the treatment residues comply with the applicable prohibitions.

C. For wastes with treatment standards expressed as concentrations in the waste under part 7045.1358, the owner or operator of the treatment facility must test the treatment residues, not an extract of the residues, to assure that the treatment residues meet the applicable treatment standards.

D. A notice must be sent with each waste shipment to the land disposal facility that includes the following information:

(1) the EPA Hazardous Waste Number;

(2) the corresponding treatment standards for wastes F001–F005, F039, and wastes prohibited under part 7045.1330 or RCRA section 3004(d). Treatment standards for all other restricted wastes must either be included, or be referenced by including on the notification the applicable wastewater or nonwastewater category as defined in part 7045.0020, the applicable subdivisions made within a waste code based on waste specific criteria, and Code of Federal Regulations sections and paragraphs where the applicable treatment standard appears. Where the applicable treatment standards are expressed as specified technologies in part 7045.1360, the applicable five–letter treatment code in part 7045.1360 also must be listed on the notification;

(3) the manifest number associated with the shipment of waste; and

(4) waste analysis data, where available.

E. The treatment facility must submit a certification with each shipment of waste or treatment residue of a restricted waste to the land disposal facility stating that the waste or treatment residue has been treated in compliance with the applicable performance standards in parts 7045.1350 to 7045.1360 and the applicable prohibitions in part 7045.1330 or RCRA section 3004(d).

(1) For wastes with treatment standards expressed as concentrations in the waste extract or in the waste, under part 7045.1355 or 7045.1358, or for wastes prohibited under part 7045.1330 or RCRA section 3004(d) that are not subject to any treatment standards under parts 7045.1350 to 7045.1360, the certification must be signed by an authorized representative and must state the following:

“I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operations of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly and complies with the performance levels in parts 7045.1350 to 7045.1360 and all applicable prohibitions in part 7045.1330 or RCRA section 3004(d) without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.”

(2) For wastes with treatment standards expressed as technologies in part 7045.1360, the certification must be signed by an authorized representative and must state the following:

“I certify under penalty of law that the waste has been treated according to part 7045.1360. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.”

(3) For wastes with treatment standards expressed as concentrations in the waste under part 7045.1358, if compliance with the treatment standards in parts 7045.1350 to 7045.1360 is based in whole or in part on the analytical detection limit alternative specified in part 7045.1358, the certification must be signed by an authorized representative and must state the following:

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by incineration in units operated according to Code of Federal Regulations, title 40, part 264, subpart O, or part 265, subpart O, or by combustion in fuel substitution units operating according to applicable technical requirements, and I have been unable to detect the nonwastewater organic constituents despite having used my best good faith efforts to analyze for the constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

F. If the waste or treatment residue will be further managed at a different treatment or storage facility, the treatment, storage, or disposal facility sending the waste or treatment residue off-site must comply with the notice and certification requirements applicable to generators under this part.

G. When the wastes are recyclable materials used in a manner constituting disposal subject to part 7045.0665, subpart 1, item C, 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.

Subp. 3. Facility requirements. Except when the owner or operator is disposing of waste that is a recyclable material used in a manner constituting disposal under part 7045.0665, subpart 1, the owner or operator of a land disposal facility disposing any waste subject to restrictions under parts 7045.1300 to 7045.1380 must:

A. have copies of the notice and certifications specified in subpart 1 or 2 and the certification specified in Code of Federal Regulations, title 40, section 268.8, if applicable; and

B. test the waste, or an extract of the waste or treatment residue developed using the test method in Code of Federal Regulations, title 40, part 261, Appendix II, or using any methods required by generators under part 7045.1330, to assure that the wastes or treatment residues are in compliance with the applicable treatment standards in parts 7045.1350 to 7045.1360 and all applicable prohibitions in part 7045.1330 or RCRA section 3004(d). The testing must be performed according to the frequency specified in the facility's waste analysis plan as required in part 7045.0458 or 7045.0564.

Statutory Authority: *MS s 116.07; 116.37*

History: *13 SR 1238; 16 SR 2239*

7045.1320 WASTE SPECIFIC PROHIBITIONS; SOLVENT WASTES.

Subpart 1. Applicability. Effective November 8, 1986, the spent solvent wastes specified in part 7045.0135 as Hazardous Waste Nos. F001, F002, F003, F004, and F005 are prohibited from land disposal unless one or more of the following conditions apply:

A. the generator of the solvent waste is a small quantity generator;

B. the solvent waste is generated from any response action taken under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), or any corrective action taken under the Resource Conservation and Recovery Act (RCRA), except where the waste is contaminated soil or debris;

C. the initial generator's solvent waste is a solvent-water mixture, solvent-containing sludge or solid, or solvent-contaminated soil (non-CERCLA or RCRA corrective

action) containing less than one percent total F001–F005 solvent constituents listed in part 7045.1355, subpart 3; or

D. the solvent waste is a residue from treating a waste described in items A to C; or the solvent waste is a residue from treating a waste not described in items A to C, provided the residue belongs to a different treatability group than the waste as initially generated and wastes belonging to the treatability group are described in item C.

Subp. 2. Effective date. Effective November 8, 1988, the F001–F005 solvent wastes listed in subpart 1, items A to D, are prohibited from land disposal. Effective November 8, 1990, the F001–F005 solvent wastes that are contaminated soil and debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or a corrective action required under RCRA, subtitle C, and the residues from treating these wastes are prohibited from land disposal. Between November 8, 1988, and November 8, 1990, these wastes may be disposed of in a landfill or surface impoundment only if the unit is in compliance with the requirements of part 7045.0532.

Subp. 3. Exceptions. The requirements of subparts 1 and 2 do not apply if:

A. the wastes meet the standards of parts 7045.1350 to 7045.1360;

B. persons have been granted an exemption from a prohibition pursuant to a petition under part 7045.0075, with respect to those wastes and units covered by the petition; or

C. persons have been granted an extension to the effective date of a prohibition under part 7045.0075, subpart 6, with respect to those wastes and units covered by the extension.

Statutory Authority: *MS s 116.07; 116.37*

History: *13 SR 1238; 16 SR 2239*

7045.1325 WASTE SPECIFIC PROHIBITION; DIOXIN–CONTAINING WASTES.

Subpart 1. Applicability. Effective November 8, 1988, the dioxin–containing wastes specified in part 7045.0135 as Hazardous Waste Nos. F020, F021, F022, F023, F026, F027, and F028 are prohibited from land disposal.

Subp. 2. Exceptions. The requirements of subpart 1 do not apply if:

A. the wastes meet the standards of parts 7045.1350 to 7045.1360;

B. persons have been granted an exemption from a prohibition under part 7045.0075, subpart 9, with respect to those wastes or units covered by the petition;

C. persons have been granted an extension to the effective date of a prohibition under part 7045.0075, subpart 8, with respect to those wastes covered by the extension; or

D. the F020–F023 and F026–F028 dioxin–containing wastes are contaminated soil and debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, or a corrective action taken under RCRA, subtitle C.

Subp. 3. Effective date. Effective November 8, 1990, the F020–F023 and F026–F028 dioxin–containing wastes in subpart 2, item D, are prohibited from land disposal. Between November 8, 1988, and November 8, 1990, wastes included in subpart 2, item A, may be disposed of in a landfill or surface impoundment only if the unit is in compliance with the requirements of part 7045.0532 and all other applicable requirements of parts 7045.0450 to 7045.0642.

Statutory Authority: *MS s 116.07; 116.37*

History: *13 SR 1238; 16 SR 2239*

7045.1330 WASTE SPECIFIC PROHIBITIONS; CALIFORNIA LIST WASTES.

Subpart 1. Application. Effective July 8, 1987, the following hazardous wastes are prohibited from land disposal:

A. liquid hazardous wastes having a pH less than or equal to two;

B. liquid hazardous wastes containing polychlorinated biphenyls (PCB's) at concentrations greater than or equal to 50 ppm;

C. liquid hazardous wastes that are primarily water and contain halogenated organic compounds (HOC's) in total concentration greater than or equal to 1,000 mg/l and less than 10,000 mg/l HOC's;

D. liquid hazardous wastes that contain HOC's in total concentration greater than or equal to 1,000 mg/l and are not prohibited under item C; and

E. nonliquid hazardous wastes containing HOC's in total concentration greater than or equal to 1,000 mg/kg and are not wastes described in subpart 2, items A and B.

Subp. 2. **Exceptions.** The requirements of subpart 1, items A to E, do not apply until:

A. July 8, 1989, where the wastes are contaminated soil or debris not resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or a corrective action taken under RCRA, subtitle C. Between July 8, 1987, and July 8, 1989, the wastes may be disposed of in a landfill or surface impoundment only if the disposal is in compliance with the requirements of part 7045.0532.

B. November 8, 1990, where the wastes are contaminated soil or debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or a corrective action taken under RCRA, subtitle C. Between November 8, 1988, and November 8, 1990, the wastes may be disposed of in a landfill or surface impoundment only if the unit is in compliance with the requirements of part 7045.0532.

C. Between July 8, 1987, and November 8, 1988, the wastes included in subpart 1, items D and E, may be disposed of in a landfill or surface impoundment only if the unit is in compliance with the requirements of part 7045.0532.

D. The requirements of subparts 1 and 2, items A and B, do not apply if:

(1) an exemption has been granted from a prohibition as a result of a petition under part 7045.0075, subpart 9, with respect to those wastes and units covered by the petition;

(2) an extension to the effective date of a prohibition under part 7045.0075, subpart 8, has been granted with respect to those wastes covered by the extension; or

(3) the wastes meet the applicable standards in parts 7045.1350 to 7045.1360 or, where treatment standards are not specified, the wastes are in compliance with the applicable prohibitions in this part or RCRA section 3004(d).

E. The prohibitions and effective dates in subpart 1, items C to E, and subpart 2, items A and B, do not apply where the waste is subject to an effective date and prohibition under parts 7045.1320 to 7045.1330 for a specified HOC, such as a hazardous waste chlorinated solvent.

Subp. 3. **Waste analysis.** The following provisions apply to waste analysis:

A. To determine whether or not a waste is a liquid under subparts 1 and 2, item B, and under RCRA section 3004(d), the Paint Filter Liquids Test must be used, method 9095, as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW 846.

B. Except as otherwise provided in this item, the waste analysis and record keeping requirements of part 7045.1315 are applicable to wastes prohibited under this part or RCRA section 3004(d).

(1) The initial generator of a liquid hazardous waste must test the waste, not an extract or filtrate, in accordance with the procedures in part 7045.0131, subpart 4, item A, or use knowledge of the waste, to determine if the waste has a pH less than or equal to two. If the liquid waste has a pH less than or equal to two, it is restricted from land disposal and all requirements of parts 7045.1300 to 7045.1380 are applicable, except as otherwise provided in this part.

(2) The initial generator of either a liquid hazardous waste containing polychlorinated biphenyls (PCB's) or a liquid or nonliquid hazardous waste containing halogenated organic compounds (HOC's) must test the waste, not an extract or filtrate, or use knowledge of the waste, to determine whether the concentration levels in the waste equal or exceed the prohibition levels in this part. If the concentration of PCB's or HOC's in the waste is greater

than or equal to the prohibition levels in this part, the waste is restricted from land disposal and all requirements of parts 7045.1300 to 7045.1380 are applicable, except as otherwise provided in this part.

Statutory Authority: *MS s 116.07; 116.37*

History: *13 SR 1238; 16 SR 2239*

7045.1333 WASTE SPECIFIC PROHIBITIONS; FIRST ONE-THIRD OF REGULATED WASTES.

Subpart 1. Application. The hazardous wastes in items A to D are prohibited from land disposal.

A. Effective August 8, 1988, the wastes specified as EPA Hazardous Waste Nos. F006 (nonwastewater) in part 7045.0135; K001 and K004 wastes specified in part 7045.1358, subpart 1; K008 wastes specified in part 7045.1358, subpart 1; K016, K018, K019, K020 and K021 wastes specified in part 7045.1358, subpart 1; K022 (nonwastewater), K024, and K025 nonwastewaters specified in part 7045.1358, subpart 1; K030, K036 (nonwastewater), K037, K044, K045, nonexplosive K046 (nonwastewater), K047, K060 (nonwastewater), K061 (nonwastewaters containing less than 15 percent zinc), K062, non CaSO₄ K069 (nonwastewaters), K086 (solvent washes), K087, K099, and K100 nonwastewaters specified in part 7045.1358, subpart 1; K101 (wastewater), K101 (nonwastewater, low arsenic subcategory less than one percent total arsenic), K102 (wastewater), K102 (nonwastewater, low arsenic subcategory less than one percent total arsenic), K103, and K104 are prohibited from land disposal.

B. Effective August 8, 1988, and continuing until August 7, 1990, K061 wastes containing 15 percent zinc or greater are prohibited from land disposal under the treatment standards specified in part 7045.1355 applicable to K061 wastes that contain less than 15 percent zinc.

C. Effective August 8, 1990, the waste specified in part 7045.0135, subpart 3, as EPA Hazardous Waste No. K071 is prohibited from land disposal.

D. Effective August 8, 1990, the wastes specified in Code of Federal Regulations, title 40, section 268.10, having a treatment standard in parts 7045.1350 to 7045.1360 based on incineration that are contaminated soil and debris are prohibited from land disposal.

Subp. 2. Exceptions to subpart 1. Items A and B are exceptions from the prohibitions in subpart 1.

A. Between November 8, 1988, and August 8, 1990, wastes included in subpart 1, items C and D may be disposed of in a landfill or surface impoundment only if the unit is in compliance with the requirements of part 7045.0532.

B. The requirements of this subpart and subpart 1 do not apply if:

- (1) the wastes meet the applicable standards in part 7045.1355;
- (2) persons have been granted an exemption to an effective date of a prohibition under part 7045.0075, subpart 7, with respect to those wastes and units covered by the petition; or
- (3) persons have been granted an extension to an effective date of a prohibition under part 7045.0075, subpart 6, with respect to those wastes covered by the extension.

Subp. 3. Applicability between August 8, 1988, and May 8, 1990. Between August 8, 1988, and May 8, 1990, the wastes specified in Code of Federal Regulations, title 40, section 268.10, for which treatment standards under part 7045.1355 have not been adopted, including wastes that are subject to the statutory prohibitions of RCRA section 3004(d) or codified prohibitions under part 7045.0135, subpart 3, but not including wastes subject to a treatment standard under part 7045.1360, are prohibited from disposal in a landfill or surface impoundment unless a demonstration and certification have been submitted.

Subp. 4. Waste analysis. To determine whether a hazardous waste listed in Code of Federal Regulations, title 40, section 268.10, exceeds the applicable treatment standards in parts 7045.1355 and 7045.1358, the initial generator must test a representative sample of the waste extract or the entire waste depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable subpart D levels, the

waste is prohibited from land disposal and all requirements of parts 7045.1300 to 7045.1380 are applicable, except as otherwise specified.

Statutory Authority: *MS s 116.07; 116.37*

History: *16 SR 2239*

7045.1334 WASTE SPECIFIC PROHIBITION; SECOND ONE-THIRD OF REGULATED WASTES.

Subpart 1. **Application.** The wastes in items A to E are prohibited from land disposal.

A. Effective June 8, 1989, the wastes specified in part 7045.0135 as EPA Hazardous Waste Nos. F010; F024; K005; K007; K009 (nonwastewaters); K010; K023; K027; K028; K029 (nonwastewaters); K036 (wastewaters); K038; K039; K040; K043; K093; K094; K095 (nonwastewaters); K096 (nonwastewaters); K113; K114; K115; K116; P013; P021; P029; P030; P039; P040; P041; P043; P044; P062; P063; P071; P074; P085; P089; P094; P097; P098; P099; P104; P106; P109; P111; P121; U028; U058; U069; U087; U088; U102; U107; U221; U223; and U235 are prohibited from land disposal.

B. Effective June 8, 1989, the wastes specified in part 7045.0135 as EPA Hazardous Waste Nos. K009 (wastewaters); K011 (nonwastewaters); K013 (nonwastewaters); and K014 (nonwastewaters) are prohibited from land disposal.

C. Effective July 8, 1989, the wastes specified in part 7045.0135 as EPA Hazardous Waste Nos. F006—cyanide (nonwastewater); F008; F009; F011 (wastewaters); and F012 (wastewaters) are prohibited from land disposal.

D. Effective July 8, 1989, the waste specified in Code of Federal Regulations, title 40, section 261.31, as EPA Hazardous Waste No. F007 is prohibited from land disposal.

E. Effective July 8, 1989 through December 8, 1989, F011 (nonwastewaters) and F012 (nonwastewaters) are prohibited from land disposal pursuant to the treatment standards in parts 7045.1355 and 7045.1358 applicable to EPA Hazardous Waste Nos. F007, F008, and F009 nonwastewaters. Effective December 8, 1989, F011 (nonwastewaters) and F012 (nonwastewaters) are prohibited from land disposal pursuant to the treatment standards in parts 7045.1355 and 7045.1358 applicable to F011 (nonwastewaters) and F012 (nonwastewaters).

Subp. 2. **Exceptions.** Items A to D are exceptions from the prohibitions in subpart 1.

A. Effective June 8, 1991, the wastes specified in this part, having a treatment standard in parts 7045.1350 to 7045.1360 based on incineration, that are contaminated soil and debris are prohibited from land disposal.

B. Between June 8, 1989, and June 8, 1991, (for EPA Hazardous Waste Nos. F007, F008, F009, F011, and F012 between June 8, 1989, and July 8, 1989) wastes included in item A and subpart 1, item C, may be disposed of in a landfill or surface impoundment only if the unit is in compliance with the technical requirements of part 7045.0532.

C. The requirements of item A and subpart 1, items A to C, do not apply if:

- (1) the wastes meet the applicable standards in parts 7045.1350 to 7045.1360;
- (2) an exemption has been granted from a prohibition as a result of a petition under part 7045.0075, subpart 7, with respect to wastes and units covered by the petition; or
- (3) an extension to the effective date of a prohibition under part 7045.0075, subpart 7, has been granted with respect to wastes covered by the extension.

D. Between June 8, 1989, and May 8, 1990, the wastes specified in Code of Federal Regulations, title 40, section 268.11, for which treatment standards under parts 7045.1350 to 7045.1360 are not applicable, including California list wastes subject to the statutory prohibitions of RCRA section 3004(d) or codified prohibitions under part 7045.0135, subpart 3, are prohibited from disposal in a landfill or surface impoundment unless the wastes are the subject of a valid demonstration and certification under Code of Federal Regulations, title 40, section 268.8.

Subp. 3. **Waste analysis.** To determine whether a hazardous waste listed in Code of Federal Regulations, title 40, sections 268.10 to 268.12, exceeds the applicable treatment standards specified in parts 7045.1355 and 7045.1358, the initial generator must test a representative sample of the waste extract or the entire waste, depending on whether the treatment

standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable levels specified in parts 7045.1350 to 7045.1360, the waste is prohibited from land disposal and all requirements of parts 7045.1300 to 7045.1380 are applicable, except as otherwise specified.

Statutory Authority: *MS s 116.07; 116.37*

History: *16 SR 2239*

7045.1335 WASTE SPECIFIC PROHIBITIONS; THIRD ONE-THIRD OF REGULATED WASTES.

Subpart 1. Applicability as of August 8, 1990. Effective August 8, 1990, the following wastes are prohibited from land disposal:

A. wastes specified in part 7045.1325 as EPA Hazardous Waste Nos. F002 (1,1,2-trichloroethane); F005 (benzene); F005 (2-ethoxy ethanol); F005 (2-nitropropane); F006 (wastewaters); F019; F025; and F039 (wastewaters);

B. wastes specified in part 7045.1330 as EPA Hazardous Waste Nos. K002; K003; K004 (wastewaters); K005 (wastewaters); K006; K008 (wastewaters); K011 (wastewaters); K013 (wastewaters); K014 (wastewaters); K015 (nonwastewaters); K017; K021 (wastewaters); K022 (wastewaters); K025 (wastewaters); K026; K029 (wastewaters); K031 (wastewaters); K032; K033; K034; K035; K041; K042; K046 (wastewaters, reactive nonwastewaters); K048 (wastewaters); K049 (wastewaters); K050 (wastewaters); K051 (wastewaters); K052 (wastewaters); K060 (wastewaters); K061 (wastewaters and high zinc subcategory > 15 percent zinc); K069 (wastewaters, calcium sulfate nonwastewaters); K073; K083; K084 (wastewaters); K085; K095 (wastewaters); K096 (wastewaters); K097; K098; K100 (wastewaters); K101 (wastewaters); K102 (wastewaters); K105; and K106 (wastewaters);

C. wastes specified in part 7045.1333, subpart 2, as EPA Hazardous Waste Nos. P001; P002; P003; P004; P005; P006; P007; P008; P009; P010 (wastewaters); P011 (wastewaters); P012 (wastewaters); P014; P015; P016; P017; P018; P020; P022; P023; P024; P026; P027; P028; P031; P033; P034; P036 (wastewaters); P037; P038 (wastewaters); P042; P045; P046; P047; P048; P049; P050; P051; P054; P056; P057; P058; P059; P060; P064; P065 (wastewaters); P066; P067; P068; P069; P070; P072; P073; P075; P076; P077; P078; P081; P082; P084; P088; P092 (wastewaters); P093; P095; P096; P101; P102; P103; P105; P108; P110; P112; P113; P114; P115; P116; P118; P119; P120; P122; and P123;

D. wastes specified in part 7045.1333, subpart 3, as EPA Hazardous Waste Nos. 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; 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; U059; U060; U061; U062; U063; U064; U066; U067; U068; U070; U071; U072; U073; U074; U075; U076; U077; U078; U079; U080; U081; U082; U083; U084; U085; U086; U089; U090; U091; U092; U093; U094; U095; U096; U097; U098; U099; U101; U103; U105; U106; 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 (wastewaters); U137; U138; U140; U141; U142; U143; U144; U145; U146; U147; U148; U149; U150; U151 (wastewaters); 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; 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; U222; U225; U226; U227; U228; U234; U236; U237; U238; U239; U240; U243; U244; U246; U247; U248; and U249; and

E. the following wastes identified as hazardous based on a characteristic alone: D001; D002; D003; D004 (wastewaters); D005; D006; D007; D008 (except for lead materials stored before secondary smelting); D009 (wastewaters); D010; D011; D012; D013; D014; D015; D016; and D017.

Subp. 2. **Applicability as of November 8, 1990.** Effective November 8, 1990, the wastes specified in part 7045.1330 as EPA Hazardous Waste Nos. K048 (nonwastewaters); K049 (nonwastewaters); K050 (nonwastewaters); K051 (nonwastewaters); and K052 (nonwastewaters) are prohibited from land disposal.

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

A. waste specified in part 7045.1325 as EPA Hazardous Waste No. F039 (nonwastewaters);

B. wastes specified in part 7045.1330 as EPA Hazardous Waste Nos. K031 (nonwastewaters); K084 (nonwastewaters); K101 (nonwastewaters); K102 (nonwastewaters); and K106 (nonwastewaters);

C. wastes specified in part 7045.1333, subpart 2, as EPA Hazardous Waste Nos. P010 (nonwastewaters); P011 (nonwastewaters); P012 (nonwastewaters); P036 (nonwastewaters); P038 (nonwastewaters); P065 (nonwastewaters); P087; and P092 (nonwastewaters);

D. wastes specified in part 7045.1333, subpart 3, as EPA Hazardous Waste Nos. U136 (nonwastewaters); and U151 (nonwastewaters); and

E. the following wastes identified as hazardous based on a characteristic alone: D004 (nonwastewaters); D008 (lead materials stored before secondary smelting), and 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.

Subp. 4. **Mixed radioactive/hazardous wastes.** Effective May 8, 1992, hazardous wastes listed in Code of Federal Regulations, title 40, sections 268.10, 268.11, and 268.12, that are mixed radioactive/hazardous wastes, and soil or debris contaminated with the hazardous wastes, are prohibited from land disposal.

Subp. 5. **Contaminated soil or debris.** Effective May 8, 1992, the wastes specified in this part having a treatment standard in parts 7045.1350 to 7045.1360 based on incineration, mercury retorting, vitrification, acid leaching followed by chemical precipitation, or thermal recovery of metals, and which are contaminated soil or debris, are prohibited from land disposal.

Subp. 6. **Exceptions between May 8, 1990, and August 8, 1990.** Between May 8, 1990, and August 8, 1990, the wastes in subpart 1 may be disposed of in a landfill or surface impoundment only if the unit is in compliance with the requirements of part 7045.0532.

Subp. 7. **Exceptions between May 8, 1990, and November 8, 1990.** Between May 8, 1990, and November 8, 1990, the wastes in subpart 2 may be disposed of in a landfill or surface impoundment only if the unit is in compliance with the requirements of part 7045.0532.

Subp. 8. **Exceptions between May 8, 1990, and May 8, 1992.** Between May 8, 1990, and May 8, 1992, the wastes in subparts 3 to 5 may be disposed of in a landfill or surface impoundment only if the unit is in compliance with the requirements of part 7045.0532.

Subp. 9. **General exceptions.** The requirements of subparts 1 to 5 do not apply if:

A. the wastes meet the applicable standards in parts 7045.1350 to 7045.1360;

B. persons have been granted an exemption from a prohibition pursuant to a petition under part 7045.0075, subpart 9, with respect to wastes and units covered by the petition;

C. the wastes meet the applicable alternate standards established pursuant to a petition granted under Code of Federal Regulations, title 40, section 268.44; and

D. persons have been granted an extension to the effective date of a prohibition under part 7045.0075, subpart 8, with respect to wastes covered by the extension.

Subp. 10. **Waste analysis.** To determine whether a hazardous waste listed in Code of Federal Regulations, title 40, sections 268.10, 268.11, and 268.12, exceeds the applicable treatment standards in parts 7045.1355 and 7045.1358, the initial generator must test a representative sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable

levels listed in parts 7045.1350 to 7045.1360, the waste is prohibited from land disposal and all requirements of parts 7045.1300 to 7045.1380 are applicable, except as otherwise specified.

Statutory Authority: *MS s 116.07; 116.37*

History: *16 SR 2239*

7045.1339 EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LAND DISPOSAL RESTRICTIONS.

The comprehensive list of effective dates of surface disposed wastes regulated in the land disposal restrictions is found in Code of Federal Regulations, title 40, section 268, Appendix VII, Tables 1 and 2. This table does not include mixed radioactive wastes which are receiving a national capacity variance until May 8, 1992, for all applicable treatment technologies.

Statutory Authority: *MS s 116.07; 116.37*

History: *16 SR 2239*

7045.1350 TREATMENT STANDARDS.

Subpart 1. Concentration standard for waste extract. A restricted waste identified in part 7045.1355 may be land disposed only if an extract of the waste or of the treatment residue of the waste developed using the test method in Code of Federal Regulations, title 40, part 261, Appendix II, does not exceed the value shown in Code of Federal Regulations, title 40, part 268.41, Table CCWE, for any hazardous constituent listed for that waste, with the following exceptions: D004; D008; K031; K084; K101; K102; P010; P011; P012; P036; P038; and U136. These wastes may be land disposed only if an extract of the waste or of the treatment residue of the waste developed using either the test method in Code of Federal Regulations, title 40, part 261, Appendix II, or the test method in Code of Federal Regulations, title 40, part 268, Appendix I, does not exceed the concentrations shown in Code of Federal Regulations, title 40, part 268.41, Table CCWE, for any hazardous constituent listed for that waste.

Subp. 2. Technology standard. A restricted waste for which a treatment technology is specified under part 7045.1360 may be land disposed after it is treated using that technology or an equivalent treatment method approved under the procedures in part 7045.0075, subpart 10.

Subp. 3. Concentration standard for waste or treatment residue. Except as otherwise specified in part 7045.1358, a restricted waste identified in part 7045.1358 may be land disposed only if the constituent concentrations in the waste or treatment residue of the waste do not exceed the value shown in Code of Federal Regulations, title 40, part 268.43, Table CCW, for any hazardous constituents listed for that waste.

Statutory Authority: *MS s 116.07; 116.37*

History: *13 SR 1238; 16 SR 2239*

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, P038, and U136. Table CCWE also identifies the restricted EPA Hazardous Waste Nos. D004, D008, K031, K084, K101, K102, P010, P011, P012, P036, P038, 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.

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.

Subp. 3. Constituent concentrations in waste extract. Constituents in waste extracts are listed with the applicable concentration limits in Code of Federal Regulations, title 40, part 268.41, Table CCWE.

Statutory Authority: *MS s 116.07; 116.37*

History: *13 SR 1238; 16 SR 2239*

7045.1358 TREATMENT STANDARDS EXPRESSED AS WASTE CONCENTRATIONS.

Subpart 1. Applicability. Subpart 3 identifies the restricted wastes and the concentrations of their associated hazardous constituents that may not be exceeded by the waste or treatment residual, not an extract of the waste or residual, for the allowable land disposal of the waste or residual. Compliance with these concentrations is required based on grab samples, unless otherwise noted in subpart 3. Limits are expressed in milligrams per kilogram (mg/kg) for nonwastewaters and in milligrams per liter (mg/l) for wastewaters.

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.

Subp. 3. Constituent concentrations in wastes. Constituent concentrations in wastes are listed with the applicable concentration limits in Code of Federal Regulations, title 40, section 268.43, Table CCW.

Subp. 4. No land disposal. The nonwastewater forms of the following wastes generated by the processes described in the waste listing description applies only to wastes generated and disposed after the dates shown, if a date is shown, and not generated in the course of treating wastewater forms of these wastes based on no generation, except as noted, are prohibited from land disposal:

- A. K004, after August 17, 1988;
- B. K005, after June 8, 1989;
- C. K007, after June 8, 1989;
- D. K008, after August 17, 1988;
- E. K015, after May 8, 1990, based on no ash;
- F. K021, after August 17, 1988;
- G. K025, after August 17, 1988;
- H. K036, after August 17, 1988;
- I. K044, based on reactivity;
- J. K045, based on reactivity;
- K. K047, based on reactivity;
- L. K060, after August 17, 1988;
- M. K061 – high zinc subcategory, greater than or equal to 15 percent total zinc, after August 17, 1990, based on recycling, effective August 8, 1990;
- N. K069 – noncalcium sulfate subcategory, after August 17, 1988, based on recycling;
- O. K083 – no ash subcategory, less than 0.01 percent total ash, after May 8, 1990, based on no ash; and
- P. K100, after August 17, 1988.

Subp. 5. Demonstrating compliance with treatment standards for organic constituents. Notwithstanding the prohibitions in subpart 1, treatment and disposal facilities may demonstrate, and certify under part 7045.1315, subpart 2, item E, compliance with the treatment standards for organic constituents specified by a footnote in Code of Federal Regulations, title 40, section 268.43, Table CCW, provided the following conditions are satisfied:

A. the treatment standards for the organic constituents were established based on incineration in units operated according to the technical requirements of part 7045.0542 or 7045.0640, or based on combustion in fuel substitution units operating in accordance with applicable technical requirements;

B. the treatment or disposal facility has used the methods referenced in item A to treat the organic constituents; and

C. the treatment or disposal facility has been unable to detect the organic constituents despite using its best good faith efforts as defined by applicable guidance or standards. Until the guidance or standards are developed, the treatment or disposal facility may demonstrate such good faith efforts by achieving detection limits for the regulated organic constituents that do not exceed an order of magnitude of the treatment standards specified in this part.

Statutory Authority: *MS s 116.07; 116.37*

History: *16 SR 2239*

7045.1360 TREATMENT STANDARDS EXPRESSED AS SPECIFIED TECHNOLOGIES.

Subpart 1. Applicability. The wastes in items A and B and subparts 4 and 5 must be treated using the technology or technologies specified in items A to C and subpart 3.

A. Liquid hazardous wastes containing polychlorinated biphenyls (PCB's) at concentrations greater than or equal to 50 ppm but less than 500 ppm must be incinerated in accordance with the technical requirements of Code of Federal Regulations, title 40, section 761.70, or burned in high efficiency boilers in accordance with the technical requirements of Code of Federal Regulations, title 40, section 761.60. Liquid hazardous wastes containing polychlorinated biphenyls (PCB's) at concentrations greater than or equal to 500 ppm must be incinerated in accordance with the technical requirements of Code of Federal Regulations, title 40, section 761.70. Thermal treatment under this section must also be in compliance with applicable regulations in chapter 7045.

B. Nonliquid hazardous wastes containing halogenated organic compounds (HOC's) in total concentration greater than or equal to 1,000 mg/kg and liquid HOC-containing wastes that are prohibited under part 7045.1330, subpart 1, item D, must be incinerated in accordance with the requirements of part 7045.0542 or 7045.0640. These treatment standards do not apply if the waste is subject to a treatment standard in parts 7045.1350 to 7045.1360 for a specific HOC.

C. A mixture consisting of wastewater, the discharge of which is subject to regulation under either section 307(b) or 402 of the Clean Water Act, and de minimis losses of materials from manufacturing operations in which these materials are used as raw materials or are produced as products in the manufacturing process, and that meet the criteria of the D001 ignitable liquids containing greater than ten percent total organic constituents (TOC) subcategory, is subject to the DEACT treatment standard described in subpart 3. For purposes of this item, de minimis losses include those from normal material handling operations such as spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves, or other devices used to transfer materials; minor leaks from process equipment, storage tanks, or containers; leaks from well-maintained pump packings and seals; sample purgings; and relief device discharges.

Subp. 2. Alternative technology. A person may submit an application to the commissioner demonstrating that an alternative treatment method can achieve a measure of performance equivalent to that achievable by methods specified in subpart 1. The applicant must submit information demonstrating that the alternative treatment method complies with federal, state, and local requirements and is protective of human health and the environment. On the basis of all available information, the commissioner may approve the use of the alternative treatment method if the commissioner finds that the alternative treatment method provides a measure of performance equivalent to that achieved by methods specified in subpart 1. An approval must be stated in writing and contain provisions and conditions the commissioner considers appropriate. The person to whom the approval is issued must comply with all limitations contained in the determination.

Subp. 3. **Technology codes and description of technology-based standards.** The items in this subpart list the five-letter technology codes for use in notifications and the description of each technology-based standard.

When a combination of these technologies, called a treatment train, is specified as a single treatment standard, the order of application is specified in subpart 4 by indicating the five-letter technology code that must be applied first, then the designation "fb," which is an abbreviation for "followed by," then the five-letter technology code for the technology that must be applied next, and so on.

When more than one technology or treatment train are specified as alternative treatment standards, the five-letter technology codes or the treatment trains are separated by a semicolon (;) with the last technology preceded by the word "OR." This indicates that any one of these BDAT technologies or treatment trains can be used for compliance with the standard.

A. **ADGAS:** venting of compressed gases into an absorbing or reacting media (i.e., solid or liquid). Venting can be accomplished through physical release using valves/piping; physical penetration of the container; or penetration through detonation.

B. **AMLGM:** amalgamation of liquid, elemental mercury contaminated with radioactive materials using inorganic reagents such as copper, zinc, nickel, gold, and sulfur that result in a nonliquid, semisolid amalgam and thereby reducing potential emissions of elemental mercury vapors to the air.

C. **BIODG:** biodegradation of organics or nonmetallic inorganics (i.e., degradable inorganics that contain the elements of phosphorus, nitrogen, and sulfur) in units operated under either aerobic or anaerobic conditions so that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., total organic carbon can often be used as an indicator parameter for the biodegradation of many organic constituents that cannot be directly analyzed in wastewater residues).

D. **CARBN:** carbon adsorption (granulated or powdered) of nonmetallic inorganics, organometallics, and/or organic constituents, operated so that a surrogate compound or indicator parameter has not undergone breakthrough (e.g., total organic carbon can often be used as an indicator parameter for the adsorption of many organic constituents that cannot be directly analyzed in wastewater residues). Breakthrough occurs when the carbon has become saturated with the constituent (or indicator parameter) and substantial change in adsorption rate associated with that constituent occurs.

E. **CHOXD:** chemical or electrolytic oxidation using the following oxidation reagents (or waste reagents) or combinations of reagents:

- (1) hypochlorite (e.g., bleach);
- (2) chlorine;
- (3) chlorine dioxide;
- (4) ozone or ultraviolet light assisted ozone;
- (5) peroxides;
- (6) persulfates;
- (7) perchlorates;
- (8) permanganates; and/or

(9) other oxidizing reagents of equivalent efficiency, performed in units operated so that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., total organic carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues). Chemical oxidation specifically includes what is commonly referred to as alkaline chlorination.

F. **CHRED:** chemical reduction using the following reducing reagents (or waste reagents) or combinations of reagents:

- (1) sulfur dioxide;
- (2) sodium, potassium, or alkali salts of sulfites, bisulfites, metabisulfites, and polyethylene glycols (e.g., NaPEG and KPEG);
- (3) sodium hydrosulfide;
- (4) ferrous salts; and/or

(5) other reducing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., total organic halogens can often be used as an indicator parameter for the reduction of many halogenated organic constituents that cannot be directly analyzed in wastewater residues). Chemical reduction is commonly used for the reduction of hexavalent chromium to the trivalent state.

G. DEACT: deactivation to remove the hazardous characteristics of a waste due to its ignitability, corrosivity, and/or reactivity.

H. FSUBS: fuel substitution in units operated according to applicable technical operating requirements.

I. HLVT: vitrification of high level mixed radioactive wastes in units in compliance with all applicable radioactive protection requirements under control of the Nuclear Regulatory Commission.

J. IMERC: incineration of wastes containing organics and mercury in units operated according to the technical operating requirements of parts 7045.0542 and 7045.0640. All wastewater and nonwastewater residues derived from this process must comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., high or low mercury subcategories).

K. INCIN: incineration units operated according to the technical operating requirements of parts 7045.0542 and 7045.0640.

L. LLEXT: liquid-liquid extraction (often referred to as solvent extraction) of organics from liquid wastes into an immiscible solvent for which the hazardous constituents have a greater solvent affinity, resulting in an extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and a raffinate (extracted liquid waste) proportionately low in organics that must undergo further treatment as specified in the standard.

M. MACRO: macroencapsulation with surface coating materials such as polymeric organics (e.g., resins and plastics) or with a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media. Macroencapsulation specifically does not include any material that would be classified as a tank or container according to part 7045.0020.

N. NEUTR: neutralization with the following reagents (or waste reagents) or combinations of reagents:

- (1) acids;
- (2) bases; or
- (3) water (including wastewaters) resulting in a pH greater than two but less than 12.5 as measured in the aqueous residuals.

O. NLDBR: no land disposal based on recycling.

P. PRECP: chemical precipitation of metals and other inorganics as insoluble precipitates of oxides, hydroxides, carbonates, sulfides, sulfates, chlorides, fluorides, or phosphates. The following reagents (or waste reagents) are typically used alone or in combination:

- (1) lime (i.e., containing oxides and/or hydroxides of calcium and/or magnesium);
- (2) caustic (i.e., sodium and/or potassium hydroxides);
- (3) soda ash (i.e., sodium carbonate);
- (4) sodium sulfide;
- (5) ferric sulfate or ferric chloride;
- (6) alum; or
- (7) sodium sulfate.

Additional flocculating, coagulation, or similar reagents/processes that enhance sludge dewatering characteristics are not precluded from use.

Q. RBERY: thermal recovery of beryllium.

R. RCGAS: recovery/reuse of compressed gases including techniques such as reprocessing of the gases for reuse/resale; filtering/adsorption of impurities; remixing for direct reuse of resale; and use of the gas as a fuel source.

S. RCORR: recovery of acids or bases using one or more of the following recovery technologies:

- (1) distillation (i.e., thermal concentration);
- (2) ion exchange;
- (3) resin or solid adsorption;
- (4) reverse osmosis; and/or
- (5) incineration for the recovery of acid.

Note: this does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the recovery technologies in subitems (1) to (5).

T. RLEAD: thermal recovery of lead in secondary lead smelters.

U. RMERC: retorting or roasting in a thermal processing unit capable of volatilizing mercury and subsequently condensing the volatilized mercury for recovery. The retorting or roasting unit or facility must be subject to one or more of the following:

(1) a National Emissions Standard for Hazardous Air Pollutants (NESHAP) for mercury;

(2) a Best Available Control Technology (BACT) or a Lowest Achievable Emission Rate (LAER) standard for mercury imposed pursuant to a Prevention of Significant Deterioration (PSD) permit; or

(3) a state permit that establishes emission limitations for mercury within meaning of section 302 of the Clean Air Act. All wastewater and nonwastewater residues derived from this process must comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., high or low mercury subcategories).

V. RMETL: recovery of metals or inorganics using one or more of the following direct physical/removal technologies:

- (1) ion exchange;
- (2) resin or solid (i.e., zeolites) adsorption;
- (3) reverse osmosis;
- (4) chelation/solvent extraction;
- (5) freeze crystallization;
- (6) ultrafiltration; and/or
- (7) simple precipitation (i.e., crystallization).

NOTE: This does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the recovery technologies in subitems (1) to (7).

W. RORGS: recovery of organics using one or more of the following technologies:

- (1) distillation;
- (2) thin film evaporation;
- (3) steam stripping;
- (4) carbon adsorption;
- (5) critical fluid extraction;
- (6) liquid-liquid extraction;
- (7) precipitation/crystallization (including freeze crystallization); or
- (8) chemical phase separation techniques (i.e., addition of acids, bases, demulsifiers, or similar chemicals).

NOTE: This does not preclude the use of other physical phase separation techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the recovery technologies in subitems (1) to (8).

X. RTHRM: thermal recovery of metals or inorganics from nonwastewaters in units defined in part 7045.0020, under the definition of industrial furnaces.

Y. RZINC: resmelting for the purpose of recovery of zinc high temperature metal recovery units.

Z. STABL: stabilization with the following reagents (or waste reagents) or combinations of reagents:

(1) portland cement; or

(2) lime/pozzolans (e.g., fly fish and cement kiln dust).

NOTE: This does not preclude the addition of reagents (e.g., iron salts, silicates, and clays) designed to enhance the set/cure time and/or compressive strength, or to overall reduce the leachability of the metal or inorganic.

AA. SSTRP: steam stripping of organics from liquid wastes using direct application of steam to the wastes operated so that liquid and vapor flow rates and temperature and pressure ranges have been optimized, monitored, and maintained. These operating parameters are dependent on the design parameters of the unit, such as the number of separation stages and the internal column design, thus resulting in a condensed extract high in organics that must undergo incineration, reuse as a fuel, or other recovery/reuse and an extracted wastewater that must undergo further treatment as specified in the standard.

BB. WETOX: wet air oxidation performed in units operated so that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., total organic carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues).

CC. WTRRX: controlled reaction with water for highly reactive inorganic or organic chemicals with precautionary controls for protection of workers from potential violent reactions and precautionary controls for potential emissions of toxic/ignitable levels of gases released during the reaction.

Subp. 4. Technology-based standards by RCRA waste code. Governed by technology-based standards listed in Code of Federal Regulations, title 40, part 268.42, Table 2.

Subp. 5. Technology-based standards for specific radioactive hazardous mixed waste. Governed by standards listed in Code of Federal Regulations, title 40, part 268.42, Table 3.

Subp. 6. Application for alternative treatment methods. A person may submit an application to the commissioner demonstrating that an alternative treatment method can achieve a measure of performance equivalent to that achievable by methods specified in subparts 1, 7, and 8. The applicant must submit information demonstrating that the applicant's treatment method complies with federal, state, and local requirements and is protective of human health and the environment. On the basis of all available information, the commissioner may approve the use of an alternative treatment method. The approval must be stated in writing and contain provisions and conditions the commissioner considers appropriate. The person to whom the approval is issued must comply with all limitations contained in the determination.

Subp. 7. Exceptions for lab packs. As an alternative to the otherwise applicable treatment standards under parts 7045.1350 to 7045.1360, lab packs are eligible for land disposal, provided the following requirements are met:

A. the lab packs comply with parts 7045.0538 and 7045.0638;

B. all hazardous wastes contained in the lab packs are specified in subpart 9 or 10;

C. the lab packs are incinerated according to part 7045.0542 or 7045.0640; and

D. any incinerator residues from lab packs containing D004, D005, D006, D007, D008, D010, and D011 are treated in compliance with the applicable treatment standards specified for the wastes in parts 7045.1350 to 7045.1360.

Subp. 8. Exceptions for radioactive hazardous mixed wastes. Radioactive hazardous mixed wastes with treatment standards specified in subpart 5 are not subject to any treatment standards specified in subpart 4 or part 7045.1355 or 7045.1358. Radioactive hazardous mixed wastes not subject to treatment standards in subpart 1 remain subject to all applicable treatment standards specified in subpart 4 and parts 7045.1355 and 7045.1358.

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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; U139; 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; U139; 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.

Statutory Authority: *MS s 116.07; 116.37*

History: *13 SR 1238; 16 SR 2239*

7045.1380 PROHIBITIONS ON STORAGE OF RESTRICTED WASTES.

Subpart 1. Applicability. Except as provided in this part, the storage of hazardous wastes restricted from land disposal under parts 7045.1320 to 7045.1330 or RCRA section 3004 is prohibited, unless the following conditions are met:

A. A generator stores the wastes in tanks or containers on-site solely for the purpose of the accumulation of quantities of hazardous waste necessary to facilitate proper recovery, treatment, or disposal and the generator complies with part 7045.0292. A generator who is in existence on the effective date of a restriction under part 7045.0075, subparts 8, 9, and 10, and parts 7045.1300 to 7045.1380 and who must store hazardous wastes for longer than 90 days becomes an owner or operator of a storage facility and must obtain an RCRA permit. The facility may qualify for interim status on compliance with the rules governing interim status under parts 7001.0650 and 7045.0552.

B. An owner or operator of a hazardous waste treatment, storage, or disposal facility stores wastes in tanks or containers solely for the purpose of the accumulation of the quantities of hazardous waste necessary to facilitate proper recovery, treatment, or disposal if (1) each container is clearly marked to identify its contents and the date each period of accumulation begins and (2) each tank is clearly marked with a description of its contents, the quantity of hazardous waste received, and the date each period of accumulation begins. The information for each tank may be recorded and maintained in the operating record at the facility. Regardless of whether the tank is marked, the owner or operator must comply with the operating record requirements in part 7045.0478 or 7045.0584.

C. A transporter stores manifested shipments of the wastes at a transfer facility for ten days or less.

Subp. 2. Storage at facility. An owner or operator of a treatment, storage, or disposal facility may store wastes for up to one year unless the agency can demonstrate that the storage was not solely for the purpose of accumulation of quantities of hazardous waste necessary to facilitate proper recovery, treatment, or disposal.

Subp. 3. Extensions to storage period. An owner or operator of a treatment, storage, or disposal facility may store wastes beyond one year; however, the owner or operator bears the burden of proving that the storage was solely for the purpose of accumulation of quantities of hazardous waste necessary to facilitate proper recovery, treatment, or disposal.

Subp. 4. Exemptions. If a generator's waste is exempt from a prohibition on the type of land disposal used for the waste, because of an approved case-by-case extension under part

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7045.0075, subpart 6, an approved petition under part 7045.0075, subparts 8 and 9, or a national capacity variance under parts 7045.1320 to 7045.1330, the prohibition in subpart 1 does not apply during the period of the exemption.

Subp. 5. Treated waste. The prohibition in subpart 1 does not apply to hazardous wastes that meet the treatment standards in parts 7045.1355 to 7045.1360, or, if treatment standards are not specified, wastes that are in compliance with the applicable prohibitions in part 7045.1330 or RCRA section 3004.

Subp. 6. PCB storage. Liquid hazardous wastes containing polychlorinated biphenyls (PCB's) at concentrations greater than or equal to 50 ppm must be stored at a facility that meets the requirements of Code of Federal Regulations, title 40, section 761.65(b) and must be removed from storage and treated or disposed as required by this part within one year of the date when the wastes are first placed into storage. Subpart 3 does not apply to PCB wastes prohibited under part 7045.1330.

Statutory Authority: *MS s 116.07; 116.37*

History: *13 SR 1238; 16 SR 2239*