CHAPTER 7045
MINNESOTA POLLUTION CONTROL AGENCY
SOLID AND HAZARDOUS WASTE DIVISION
HAZARDOUS WASTE

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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.

[For text of subp 2, see M.R 1987]

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.

[For text of subps 3 and 4, see M.R. 1987]

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.

[For text of subps 5 to 9a, see M R. 1987]

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

[For text of subp 10, see M.R. 1987]

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

[For text of subps 11 to 13, see M.R. 1987]

Subp. 13a. **Corrosion expert.** "Corrosion expert" means a person who, by reason of his 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.

[For text of subps 14 to 21, see M.R. 1987]

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.

[For text of subps 22 and 23, see M.R. 1987]

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.

[For text of subp 24, see M.R. 1987]

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.

[For text of subps 25 to 36, see M.R. 1987]

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.

[For text of subps 37 to 43a, see M.R. 1987]

Subp. 43b. **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.

[For text of subps 44 and 45, see M.R. 1987]

Subp. 45a. **Installation inspector.** "Installation inspector" means a person who, by reason of his 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.

[For text of subps 46 to 51, see M.R. 1987]

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.

[For text of subps 52 to 55, see M.R. 1987]

Subp. 55a. **Marketer.** "Marketer" means a person who, for the purpose of burning for energy recovery, processes, blends, or distributes waste oil, used oil, or hazardous waste. "Marketer" includes a generator who processes, distributes, or blends such fuel directly to a person who burns it.

[For text of subps 56 to 59, see M.R. 1987]

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

[For text of subps 60 to 64, see M.R. 1987]

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.

[For text of subps 66 to 72, see M.R. 1987]

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.

[For text of subp 73, see M.R. 1987]

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

[For text of subps 74 to 87, see M.R. 1987]

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.

[For text of subps 88 to 90, see M.R. 1987]

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

[For text of subps 91 to 93, see M.R. 1987]

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

[For text of subps 94 to 98, see M.R. 1987]

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.

[For text of subps 99 to 102, see M.R. 1987]

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

[For text of subps 103 to 108, see M.R. 1987]

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 116.07 subd 4*

History: *11 SR 1832; 11 SR 2415; L 1987 c 186 s 15; 12 SR 1660; 13 SR 259*

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 7045.0141, 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 7045.0141, 7045.0450 to 7045.0544, or 7045.0552 to 7045.0642 in terms of its sensitivity, accuracy, precision, and reproducibility. Each petition must include:

[For text of subpart 1, items A to G, see M.R. 1987]

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 m 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.

[For text of subp 2, items B and C, see M.R. 1987]

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.

[For text of subp 2, item G, see M.R. 1987]

H. After receiving a petition for an exclusion, the agency or the commissioner may request any additional information which it may reasonably require to evaluate the petition. An exclusion will only apply to the waste generated at the individual facility covered by the demonstration and will not apply to waste from any other facility. The agency may exclude only part of the waste for which the demonstration is submitted when it has reason to believe that variability of the waste justifies a partial exclusion.

[For text of subps 3 and 4, see M.R. 1987]

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 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 recyling 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:

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

(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:

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

(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 notificat-

ion 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 meetmg 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 meetmg. 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.

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832; 11 SR 1950; L 1987 c 186 s 15; 13 SR 259*

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*

7045.0102 MIXTURES OF HAZARDOUS AND NONHAZARDOUS WASTES.

Except as provided in parts 7045.0125, subpart 10 and 7045.0665, subpart 5, mixtures of hazardous and nonhazardous wastes are as follows:

[For text of items A to G, see M R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832*

7045.0120 EXEMPT WASTES.

The following wastes may be stored, labeled, transported, treated, processed, and disposed of without complying with the requirements of this chapter:

A. normal refuse from households including garbage, trash, and sanitary wastes in septic tanks. Households include single and multiple residences, hotels, and motels;

[For text of items B to P, see M.R. 1987]

Q. 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.

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832; 13 SR 259*

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

[For text of subps 1 to 3, see M.R. 1987]

Subp. 4. **Management of specific hazardous wastes.** Management of the following wastes when recycled, is not subject to regulation under parts 7045.0205 to 7045.0685: industrial ethyl alcohol that is reclaimed, except as provided in subpart 12; used batteries or used battery cells returned to a battery manufacturer for regeneration; and scrap metal.

[For text of subps 5 to 9, see M.R. 1987]

Subp. 10. **Hazardous waste which is beneficially used by burning.** Hazardous waste that is transported or stored before a beneficial use by burning is subject to regulation under the following:

[For text of subp 10, items A and B, see M.R. 1987]

C. A cement kiln that burns hazardous waste is subject to the following requirements:

(1) No fuel that contains any hazardous waste may be burned in any cement kiln unless the kiln fully complies with the thermal treatment standards of part 7045.0542.

(2) This requirement does not apply to petroleum refinery hazardous wastes containing oil that are converted into petroleum coke at the same facility at which the wastes were generated unless the resulting coke product would exhibit one or more of the characteristics of hazardous waste in part 7045.0131.

D. No person who produces, distributes, or markets any fuel that contains a hazardous waste may distribute or market the fuel if the invoice or bill of sale fails:

(1) to bear the following statement: "WARNING: THIS FUEL CONTAINS HAZARDOUS WASTE"; and

(2) to list the hazardous waste contained therein. The statement must be located in a conspicuous place on every invoice or bill of sale and must appear in conspicuous and legible type in contrast by typography, layout, or color with other printed matter on the invoice or bill of sale.

Subp. 11. **Hazardous wastes from petroleum refining.** The following hazardous wastes that are produced from petroleum refining are not subject to the labeling requirements of subpart 10, item D.

A. Fuels produced from petroleum refining hazardous waste containing oil if:

(1) the materials are generated and reinserted on-site into the refining process;

(2) the contaminants are removed; and

(3) refining waste containing oil is converted along with normal process streams into petroleum derived fuel products at a facility at which crude oil is refined into petroleum products and which is classified as a number SIC 2911 facility under the Office of Management and Budget Standard Industrial Classification Manual.

B. Fuels produced from oily materials resulting from normal petroleum refining production and transportation practices; if

(1) contaminants are removed; and

(2) the oily materials are converted along with normal process streams into petroleum derived fuel products at a facility at which crude oil is refined into petroleum products and which is classified as a number SIC 2911 facility under the Office of Management and Budget Standard Industrial Classification Manual.

C. Hazardous wastes containing oil which are converted into petroleum coke at the same facility at which the wastes were generated, unless the resulting coke product would exceed one or more of the characteristics of hazardous waste in part 7045.0131.

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 116.07 subd 4*

History: *11 SR 1832; 12 SR 1660*

7045.0135 LISTS OF HAZARDOUS WASTES.

[For text of subpart 1, see M.R. 1987]

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 U.

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: (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, wastes, includmg but not limited to, distillation residues, heavy ends, tars, and reactor cleanout wastes from the production of chlorinated aliphatic hydrocarbons, having carbon content from one to five, utilizing free radical catalyzed processes. This does not include light ends, spent filters and filter aids, spent dessicants, wastewater, wastewater treatment sludges, and spent catalysts: (T);

S. 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);

T. 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); and

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

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/aniline 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); and

(39) K136, still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene: (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 cyclo-pentadiene in the production of chlordane: (T);

(4) K034, filter solids from the filtration of hexachlorocyclopentadiene 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 diethylphosphorodithioic 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 ethylenebisdithiocarbamic acid and its salts: (T);

(18) K124, reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts: (C,T);

(19) K125, filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts: (T); and

(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).

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-trinitrotoluene (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 plants that produce iron or steel: (C,T).

I. 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).

J. 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).

K. 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).

L. 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; when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment; or when, in lieu of their original 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.

[For text of subp 4, items A to D, see M.R. 1987]

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) and are subject to the small quantity exclusion defined in part 7045.0219, subpart 1, items B and C. 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 and hazard codes are listed in subitems (1) to (17).

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

(a) P023, Acetaldehyde, chloro-;

(b) P002, Acetamide, N-(aminothioxomethyl)-;

(c) P057, Acetamide, 2-fluoro-;

(d) P058, Acetic acid, fluoro-, sodium salt;

(e) P066, Acetimidic acid, N-[(methylcarbamoyl)oxy] thio-, methyl ester;

(f) P001, 3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts when present at concentrations greater than 0.3 percent;

(g) P002, 1-Acetyl-2-thiourea;

(h) P003, Acrolein;

(i) P070, Aldicarb;

(j) P004, Aldrin;

(k) P005, Allyl alcohol;

(l) P006, Aluminum phosphide: (R,T);

(m) P007, 5-(Aminomethyl)-3-isoxazolol;

(n) P008, 4-Aminopyridine;
(o) P009, Ammonium picrate: (R);
(p) P119, Ammonium vanadate;
(q) P010, Arsenic acid;
(r) P012, Arsenic (III) oxide;
(s) P011, Arsenic (V) oxide;
(t) P011, Arsenic pentoxide;
(u) P012, Arsenic trioxide;
(v) P038, Arsine, diethyl-; and
(w) P054, Aziridine.

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

(a) P013, Barium cyanide;
(b) P024, Benzenamine, 4-chloro-;
(c) P077, Benzenamine, 4-nitro-;
(d) P028, Benzene, (chloromethyl)-;
(e) P042, 1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-;
(f) P014, Benzenethiol;
(g) P028, Benzyl chloride;
(h) P015, Beryllium dust;
(i) P016, Bis(chloromethyl) ether;
(j) P017, Bromoacetone; and
(k) P018, Brucine.

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

(a) P021, Calcium cyanide;
(b) P123, Camphene, octachloro-;
(c) P103, Carbamimidoselenoic acid;
(d) P022, Carbon bisulfide;
(e) P022, Carbon disulfide;
(f) P095, Carbonyl chloride;
(g) P033, Chlorine cyanide;
(h) P023, Chloroacetaldehyde;
(i) P024, p-Chloroaniline;
(j) P026, 1-(o-Chlorophenyl)thiourea;
(k) P027, 3-Chloropropionitrile;
(l) P029, Copper cyanides;
(m) P030, Cyanides (soluble cyanide salts), not elsewhere specified;
(n) P031, Cyanogen; and
(o) P033, Cyanogen chloride.

(4) Hazardous wastes from commercial chemical products beginning with the letter D:

(a) P036, Dichlorophenylarsine;
(b) P037, Dieldrin;
(c) P038, Diethylarsine;
(d) P039, O,O-Diethyl S-[2-(ethylthio)ethyl] phosphorodithioate;
(e) P041, Diethyl-p-nitrophenyl phosphate;

(f) P040, O,O-Diethyl O-pyrazinyl phosphorothioate;

(g) P043, Diisopropyl fluorophosphate;

(h) P044, Dimethoate;

(i) P045, 3,3-Dimethyl-1-(methylthio)-2-butanone,O-[(methylamino)carbonyl] oxime;

(j) P071, O,O-Dimethyl O-p-nitrophenyl phosphorothioate;

(k) P082, Dimethylnitrosamine;

(l) P046, alpha, alpha-Dimethylphenethylamine;

(m) P047, 4,6-Dinitro-o-cresol and salts;

(n) P034, 4,6-Dinitro-o-cyclohexylphenol;

(o) P048, 2,4-Dinitrophenol;

(p) P020, Dinoseb;

(q) P085, Diphosphoramide, octamethyl-;

(r) P039, Disulfoton;

(s) P049, 2,4-Dithiobiuret; and

(t) P109, Dithiopyrophosphoric acid, tetraethyl ester.

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

(a) P050, Endosulfan;

(b) P088, Endothall;

(c) P051, Endrin;

(d) P042, Epinephrine;

(e) P046, Ethanamine, 1,1-dimethyl-2-phenyl-;

(f) P084, Ethenamine, N-methyl-N-nitroso-;

(g) P101, Ethyl cyanide; and

(h) P054, Ethylenimine.

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

(a) P097, Famphur;

(b) P056, Fluorine;

(c) P057, Fluoroacetamide;

(d) P058, Fluoroacetic acid, sodium salt; and

(e) P065, Fulminic acid, mercury(II) salt: (R,T).

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

(a) P059, Heptachlor;

(b) P051, 1,2,3,4,10,10-Hexachloro-6,7-epoxy- 1,4,4a,5,6,7,8,8a-octahydro-endo,endo- 1,4:5,8-dimethanonaphthalene;

(c) P037, 1,2,3,4,10,10-Hexachloro-6,7-epoxy- 1,4,4a,5,6,7,8,8a-octahydro-endo,exo- 1,4:5,8-dimethanonaphthalene;

(d) P060, 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,endo-dimethanonaphthalene;

(e) P004, 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,exo-dimethanonaphthalene;

(f) P060, Hexachlorohexahydro-endo,endo-dimethanonaphthalene;

(g) P062, Hexaethyl tetraphosphate;

(h) P116, Hydrazinecarbothioamide;

(i) P068, Hydrazine, methyl-;

(j) P063, Hydrocyanic acid;

(k) P063, Hydrogen cyanide; and

(l) P096, Hydrogen phosphide.

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

(a) P064, Isocyanic acid, methyl ester; and

(b) P007, 3(2H)-Isoxazolone, 5-(aminomethyl)-.

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

(a) P092, Mercury, (acetato-O)phenyl-;

(b) P065, Mercury fulminate: (R,T);

(c) P016, Methane, oxybis(chloro)-;

(d) P112, Methane, tetranitro-: (R);

(e) P118, Methanethiol, trichloro-;

(f) P059, 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-hep-tachloro-3a,4,7,7a-tetrahydro-;

(g) P066, Methomyl;

(h) P067, 2-Methylaziridine;

(i) P068, Methyl hydrazine;

(j) P064, Methyl isocyanate;

(k) P069, 2-Methyllactonitrile; and

(l) P071, Methyl parathion.

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

(a) P072, alpha-Naphthylthiourea;

(b) P073, Nickel carbonyl;

(c) P074, Nickel cyanide;

(d) P074, Nickel(II) cyanide;

(e) P073, Nickel tetracarbonyl;

(f) P075, Nicotine and salts;

(g) P076, Nitric oxide;

(h) P077, p-Nitroaniline;

(i) P078, Nitrogen dioxide;

(j) P076, Nitrogen(II) oxide;

(k) P078, Nitrogen(IV) oxide;

(l) P081, Nitroglycerin: (R);

(m) P082, N-Nitrosodimethylamine;

(n) P084, N-Nitrosomethylvinylamine; and

(o) P050, 5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro, cyclic sulfite.

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

(a) P085, Octamethylpyrophosphoramide;

(b) P087, Osmium oxide;

(c) P087, Osmium tetroxide; and

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

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

(a) P089, Parathion;

(b) P034, Phenol, 2-cyclohexyl-4,6-dinitro-;
(c) P048, Phenol, 2,4-dinitro-;
(d) P047, Phenol, 2,4-dinitro-6-methyl-, and salts;
(e) P020, Phenol, 2,4-dinitro-6-(1-methylpropyl)-;
(f) P009, Phenol, 2,4,6-trinitro-, ammonium salt: (R);
(g) P036, Phenyl dichloroarsine;
(h) P092, Phenylmercuric acetate;
(i) P093, N-Phenylthiourea;
(j) P094, Phorate;
(k) P095, Phosgene;
(l) P096, Phosphine;
(m) P041, Phosphoric acid, diethyl p-nitrophenyl ester;
(n) P044, Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl]ester;
(o) P043, Phosphorofluoridic acid, bis(1-methylethyl) ester;
(p) P094, Phosphorothioic acid, O,O-diethyl S-(ethylthio)methyl ester;
(q) P089, Phosphorothioic acid, O,O-diethyl O-(p-nitrophenyl) ester;
(r) P040, Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester;
(s) P097, Phosphorothioic acid, O,O-dimethyl O-[p-((dimethylamino)-sulfonyl)phenyl]ester;
(t) P110, Plumbane, tetraethyl-;
(u) P098, Potassium cyanide;
(v) P099, Potassium silver cyanide;
(w) P070, Propanal, 2-methyl-2-(methylthio)-, O- [(methylamino)carbonyl]oxime;
(x) P101, Propanenitrile;
(y) P027, Propanenitrile, 3-chloro-;
(z) P069, Propanenitrile, 2-hydroxy-2-methyl-;
(aa) P081, 1,2,3-Propanetriol, trinitrate-: (R);
(bb) P017, 2-Propanone, 1-bromo-;
(cc) P102, Propargyl alcohol;
(dd) P003, 2-Propenal;
(ee) P005, 2-Propen-1-ol;
(ff) P067, 1,2-Propylenimine;
(gg) P102, 2-Propyn-1-ol;
(hh) P008, 4-Pyridinamine;
(ii) P075, Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts; and
(jj) P111, Pyrophosphoric acid, tetraethyl ester.

(13) Hazardous wastes from commercial chemical products beginning with the letter S:
(a) P103, Selenourea;
(b) P104, Silver cyanide;
(c) P105, Sodium azide;
(d) P106, Sodium cyanide;
(e) P107, Strontium sulfide;
(f) P108, Strychnidin-10-one, and salts;

(g) P018, Strychnidin-10-one, 2,3-dimethoxy-;
(h) P108, Strychnine and salts; and
(i) P115, Sulfuric acid, thallium(I) salt.

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

(a) P109, Tetraethyldithiopyrophosphate;
(b) P110, Tetraethyl lead;
(c) P111, Tetraethylpyrophosphate;
(d) P112, Tetranitromethane: (R);
(e) P062, Tetraphosphoric acid, hexaethyl ester;
(f) P113, Thallic oxide;
(g) P113, Thallium(III) oxide;
(h) P114, Thallium(I) selenide;
(i) P115, Thallium(I) sulfate;
(j) P045, Thiofanox;
(k) P049, Thioimidodicarbonic diamide;
(l) P014, Thiophenol;
(m) P116, Thiosemicarbazide;
(n) P026, Thiourea, (2-chlorophenyl)-;
(o) P072, Thiourea, 1-naphthalenyl-;
(p) P093, Thiourea, phenyl-;
(q) P123, Toxaphene; and
(r) P118, Trichloromethanethiol.

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

(a) P119, Vanadic acid, ammonium salt;
(b) P120, Vanadium pentoxide; and
(c) P120, Vanadium(V) oxide.

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

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

(a) P121, Zinc cyanide; and
(b) P122, Zinc phosphide when present at concentrations greater than 10 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 and are subject to the small quantity exclusion defined in part 7045.0219, subpart 1, item A. 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 are listed as follows:

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

(a) U001, Acetaldehyde: (I);
(b) U034, Acetaldehyde, trichloro-;
(c) U187, Acetamide, N-(4-ethoxyphenyl)-;

(d) U005, Acetamide, N-9H-fluoren-2-yl-;
(e) U112, Acetic acid, ethyl ester: (I);
(f) U144, Acetic acid, lead salt;
(g) U214, Acetic acid, thallium(I) salt;
(h) U002, Acetone: (I);
(i) U003, Acetonitrile: (I,T);
(j) U248, 3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts when present at concentrations of 0.3 percent or less;
(k) U004, Acetophenone;
(l) U005, 2-Acetylaminofluorene;
(m) U006, Acetyl chloride: (C,R,T);
(n) U007, Acrylamide;
(o) U008, Acrylic acid: (I);
(p) U009, Acrylonitrile;
(q) U150, Alanine, 3-[p-bis(2-chloroethyl)amino] phenyl-,L-;
(r) U011, Amitrole;
(s) U328, 2-Amino-1-methylbenzene;
(t) U353, 4-Amino-1-methylbenzene;
(u) U012, Aniline: (I,T);
(v) U014, Auramine;
(w) U015, Azaserine; and
(x) U010, 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-,.

(2) Hazardous wastes from commercial chemical products beginning with the letter B:
(a) U157, Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-;
(b) U016, Benz[c]acridine;
(c) U016, 3,4-Benzacridine;
(d) U017, Benzal chloride;
(e) U018, Benz[a]anthracene;
(f) U018, 1,2-Benzanthracene;
(g) U094, 1,2-Benzanthracene, 7,12-dimethyl-;
(h) U012, Benzenamine: (I,T);
(i) U014, Benzenamine, 4,4'-carbonimidoylbis (N,N-dimethyl)-;
(j) U049, Benzenamine, 4-chloro-2-methyl-;
(k) U093, Benzenamine, N,N'-dimethyl-4-phenylazo-;
(l) U158, Benzenamine, 4,4'-methylenebis (2-chloro)-;
(m) U222, Benzenamine, 2-methyl-, hydrochloride;
(n) U181, Benzenamine, 2-methyl-5-nitro;
(o) U019, Benzene: (I,T);
(p) U038, Benzeneacetic acid, 4-chloro-alpha- (4-chlorophenyl)-alpha-hydroxy, ethyl ester;
(q) U030, Benzene, 1-bromo-4-phenoxy-;
(r) U037, Benzene, chloro-;
(s) U190, 1,2-Benzenedicarboxylic acid anhydride;
(t) U028, 1,2-Benzenedicarboxylic acid, [bis(2-ethyl-hexyl)] ester;
(u) U069, 1,2-Benzenedicarboxylic acid, dibutyl ester;

(v) U088, 1,2-Benzenedicarboxylic acid, diethyl ester;
(w) U102, 1,2-Benzenedicarboxylic acid, dimethyl ester;
(x) U107, 1,2-Benzenedicarboxylic acid, di-n-octyl ester;
(y) U070, Benzene, 1,2-dichloro-;
(z) U071, Benzene, 1,3-dichloro-;
(aa) U072, Benzene, 1,4-dichloro-;
(bb) U017, Benzene, (dichloromethyl)-;
(cc) U223, Benzene, 1,3-diisocyanatomethyl-: (R,T);
(dd) U239, Benzene, dimethyl-: (I,T);
(ee) U201, 1,3-Benzenediol;
(ff) U127, Benzene, hexachloro-;
(gg) U056, Benzene, hexahydro-: (I);
(hh) U188, Benzene, hydroxy-;
(ii) U220, Benzene, methyl-;
(jj) U105, Benzene, 1-methyl-1-2,4-dinitro-;
(kk) U106, Benzene, 1-methyl-2,6 dinitro-;
(ll) U203, Benzene, 1,2-methylenedioxy-4-allyl-;
(mm) U141, Benzene, 1,2-methylenedioxy-4-propenyl-;
(nn) U090, Benzene, 1,2-methylenedioxy-4-propyl-;
(oo) U055, Benzene, (1-methylethyl)-: (I);
(pp) U169, Benzene, nitro-: (I,T);
(qq) U183, Benzene, pentachloro-;
(rr) U185, Benzene, pentachloronitro-;
(ss) U020, Benzenesulfonic acid chloride: (C,R);
(tt) U020, Benzenesulfonyl chloride: (C,R);
(uu) U207, Benzene, 1,2,4,5-tetrachloro-;
(vv) U023, Benzene, (trichloromethyl)-: (C,R,T);
(ww) U234, Benzene, 1,3,5-trinitro-: (R,T);
(xx) U021, Benzidine;
(yy) U202, 1,2-Benzisothiazolin-3-one,1,1-dioxide and salts;
(zz) U120, Benzo[j,k]fluorene;
(aaa) U022, Benzo[a]pyrene;
(bbb) U022, 3,4-Benzopyrene;
(ccc) U197, p-Benzoquinone;
(ddd) U023, Benzotrichloride: (C,R,T);
(eee) U050, 1,2-Benzphenanthrene;
(fff) U085, 2,2'-Bioxirane: (I,T);
(ggg) U021, (1,1'-Biphenyl)-4,4'-diamine;
(hhh) U073, (1,1'-Biphenyl)-4,4'-diamine, 3,3'-dichloro-;
(iii) U091, (1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethoxy-;
(jjj) U095, (1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethyl-;
(kkk) U024, Bis(2-chloroethoxy) methane;
(lll) U027, Bis(2-chloroisopropyl) ether;
(mmm) U244, Bis(dimethylthiocarbamoyl) disulfide;
(nnn) U028, Bis(2-ethylhexyl) phthalate;
(ooo) U246, Bromine cyanide;
(ppp) U225, Bromoform;
(qqq) U030, 4-Bromophenyl phenyl ether;

(rrr) U128, 1,3-Butadiene, 1,1,2,3,4,4-hexachloro-;
(sss) U172, 1-Butanamine, N-butyl-N-nitroso-;
(ttt) U035, Butanoic acid, 4-[bis(2-chloroethyl) amino] benzene-;
(uuu) U031, 1-Butanol: (I);
(vvv) U159, 2-Butanone: (I,T);
(www) U160, 2-Butanone peroxide: (R,T);
(xxx) U053, 2-Butenal;
(yyy) U074, 2-Butene, 1,4-dichloro-: (I,T); and
(zzz) U031, n-Butyl alcohol: (I).

(3) Hazardous wastes from commercial chemical compounds beginning with the letter C:
(a) U136, Cacodylic acid;
(b) U032, Calcium chromate;
(c) U238, Carbamic acid, ethyl ester;
(d) U178, Carbamic acid, methylnitroso-, ethyl ester;
(e) U176, Carbamide, N-ethyl-N-nitroso-;
(f) U177, Carbamide, N-methyl-N-nitroso-;
(g) U219, Carbamide, thio-;
(h) U097, Carbamoyl chloride, dimethyl-;
(i) U215, Carbonic acid, dithallium(I) salt;
(j) U156, Carbonochloridic acid, methyl ester: (I,T);
(k) U033, Carbon oxyfluoride: (R,T);
(l) U211, Carbon tetrachloride;
(m) U033, Carbonyl fluoride: (R,T);
(n) U034, Chloral;
(o) U035, Chlorambucil;
(p) U036, Chlordane, technical;
(q) U026, Chlornaphazine;
(r) U037, Chlorobenzene;
(s) U039, 4-Chloro-m-cresol;
(t) U041, 1-Chloro-2,3-epoxypropane;
(u) U042, 2-Chloroethyl vinyl ether;
(v) U044, Chloroform;
(w) U046, Chloromethyl methyl ether;
(x) U047, beta-Chloronaphthalene;
(y) U048, o-Chlorophenol;
(z) U049, 4-Chloro-o-toluidine, hydrochloride;
(aa) U032, Chromic acid, calcium salt;
(bb) U050, Chrysene;
(cc) U051, Creosote;
(dd) U052, Cresols;
(ee) U052, Cresylic acid;
(ff) U053, Crotonaldehyde;
(gg) U055, Cumene: (I);
(hh) U246, Cyanogen bromide;
(ii) U197, 1,4-Cyclohexadienedione;
(jj) U056, Cyclohexane: (I);

(kk) U057, Cyclohexanone: (I);
(ll) U130, 1,3-Cyclopentadiene, 1,2,3,4,5, 5-hexachloro-; and
(mm) U058, Cyclophosphamide.

(4) Hazardous wastes from commercial chemical products beginning with the letter D:

(a) U240, 2,4-D, salts and esters;
(b) U059, Daunomycin;
(c) U060; DDD, 1,1-(2,2-dichloroethylidene)-bis-4-chlorobenzene;
(d) U061, DDT, 1,1'-(2,2,2-trichloroethylidene)-bis-4-chlorobenzene;
(e) U142, Decachlorooctahydro-1,3,4-metheno -2H-cyclobuta [c,d]-pentalen-2-one;
(f) U062, Diallate;
(g) U133, Diamine: (R,T);
(h) U221, Diaminotoluene;
(i) U063, Dibenz[a,h]anthracene;
(j) U063, 1,2:5,6-Dibenzanthracene;
(k) U064, 1,2:7,8-Dibenzopyrene;
(l) U064, Dibenz[a,i]pyrene;
(m) U066, 1,2-Dibromo-3-chloropropane;
(n) U069, Dibutyl phthalate;
(o) U062, S-(2,3-Dichloroallyl) diisopropylthiocarbamate;
(p) U070, o-Dichlorobenzene;
(q) U071, m-Dichlorobenzene;
(r) U072, p-Dichlorobenzene;
(s) U073, 3,3'-Dichlorobenzidine;
(t) U074, 1,4-Dichloro-2-butene: (I,T);
(u) U075, Dichlorodifluoromethane;
(v) U192, 3,5-Dichloro-N-(1,1-dimethyl-2- propynyl) benzamide;
(w) U060, Dichloro diphenyl dichloroethane;
(x) U061, Dichloro diphenyl trichloroethane;
(y) U078, 1,1-Dichloroethylene;
(z) U079, 1,2-Dichloroethylene;
(aa) U025, Dichloroethyl ether;
(bb) U081, 2,4-Dichlorophenol;
(cc) U082, 2,6-Dichlorophenol;
(dd) U240, 2,4-Dichlorophenoxyacetic acid, salts and esters;
(ee) U083, 1,2-Dichloropropane;
(ff) U084, 1,3-Dichloropropene;
(gg) U085, 1,2:3,4-Diepoxybutane: (I,T);
(hh) U108, 1,4-Diethylene dioxide;
(ii) U086, N,N-Diethylhydrazine;
(jj) U087, O,O-Diethyl-S-methyl-dithiophosphate;
(kk) U088, Diethyl phthalate;
(ll) U089, Diethylstilbestrol;
(mm) U148, 1,2-Dihydro-3,6-pyridazinedione;
(nn) U090, Dihydrosafrole;

(oo) U091, 3,3'-Dimethoxybenzidine;
(pp) U092, Dimethylamine: (I);
(qq) U093, Dimethylaminoazobenzene;
(rr) U094, 7,12-Dimethylbenz[a]anthracene;
(ss) U095, 3,3'-Dimethylbenzidine;
(tt) U096, alpha,alpha-Dimethylbenzylhydroperoxide: (R);
(uu) U097, Dimethylcarbamoyl chloride;
(vv) U098, 1,1-Dimethylhydrazine;
(ww) U099, 1,2-Dimethylhydrazine;
(xx) U101, 2,4-Dimethylphenol;
(yy) U102, Dimethyl phthalate;
(zz) U103, Dimethyl sulfate;
(aaa) U105, 2,4-Dinitrotoluene;
(bbb) U106, 2,6-Dinitrotoluene;
(ccc) U107, Di-n-octyl phthalate;
(ddd) U108, 1,4-Dioxane;
(eee) U109, 1,2-Diphenylhydrazine;
(fff) U110, Dipropylamine: (I); and
(ggg) U111, Di-n-propylnitrosamine.

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

(a) U001, Ethanal: (I);
(b) U174, Ethanamine, N-ethyl-N-nitroso-;
(c) U067, Ethane, 1,2-dibromo-;
(d) U076, Ethane, 1,1-dichloro-;
(e) U077, Ethane, 1,2-dichloro-;
(f) U114, 1,2-Ethanediylbiscarbamodithioic acid;
(g) U131, Ethane, 1,1,1,2,2,2-hexachloro-;
(h) U024, Ethane, 1,1'[methylenebis(oxy)]bis [2-chloro]-;
(i) U003, Ethanenitrile: (I,T);
(j) U117, Ethane, 1,1'-oxybis-: (I);
(k) U025, Ethane, 1,1'-oxybis[2-chloro]-;
(l) U184, Ethane, pentachloro-;
(m) U208, Ethane, 1,1,1,2-tetrachloro-;
(n) U209, Ethane, 1,1,2,2-tetrachloro-;
(o) U218, Ethanethioamide;
(p) U227, Ethane, 1,1,2-trichloro-;
(q) U247, Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl);
(r) U043, Ethene, chloro-;
(s) U042, Ethene, 2-chloroethoxy-;
(t) U078, Ethene, 1,1-dichloro-;
(u) U079, Ethene, trans-1,2-dichloro-;
(v) U210, Ethene, 1,1,2,2-tetrachloro-;
(w) U173, Ethanol, 2,2'-(nitrosoimino)bis-;
(x) U004, Ethanone, 1-phenyl-;
(y) U006, Ethanoyl chloride: (C,R,T);
(z) U359, 2-Ethoxyethanol;
(aa) U112, Ethyl acetate: (I);

(bb) U113, Ethyl acrylate: (I);
(cc) U238, Ethyl carbamate(urethan);
(dd) U038, Ethyl 4,4'-dichlorobenzilate;
(ee) U114, Ethylenebis(dithiocarbamic acid), salts and esters;
(ff) U067, Ethylene dibromide;
(gg) U077, Ethylene dichloride;
(hh) U359, Ethylene glycol monoethyl ether;
(ii) U115, Ethylene oxide: (I,T);
(jj) U116, Ethylene thiourea;
(kk) U117, Ethyl ether: (I);
(ll) U076, Ethylidene dichloride;
(mm) U118, Ethyl methacrylate; and
(nn) U119, Ethyl methanesulfonate.

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

(a) U139, Ferric dextran;
(b) U120, Fluoranthene;
(c) U122, Formaldehyde;
(d) U123, Formic acid: (C,T);
(e) U124, Furan: (I);
(f) U125, 2-Furancarboxaldehyde: (I);
(g) U147, 2,5-Furandione;
(h) U213, Furan, tetrahydro-: (I);
(i) U125, Furfural: (I); and
(j) U124, Furfuran: (I).

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

(a) U206, D-Glucopyranose, 2-deoxy-2(3-methyl-3-nitrosoureido)-;
(b) U126, Glycidylaldehyde; and
(c) U163, Guanidine, N-nitroso-N-methyl-N'-nitro-.

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

(a) U127, Hexachlorobenzene;
(b) U128, Hexachlorobutadiene;
(c) U129, Hexachlorocyclohexane (gamma isomer);
(d) U130, Hexachlorocyclopentadiene;
(e) U131, Hexachloroethane;
(f) U132, Hexachlorophene;
(g) U243, Hexachloropropene;
(h) U133, Hydrazine: (R,T);
(i) U086, Hydrazine, 1,2-diethyl-;
(j) U098, Hydrazine, 1,1-dimethyl-;
(k) U099, Hydrazine, 1,2-dimethyl-;
(l) U109, Hydrazine, 1,2-diphenyl-;
(m) U134, Hydrofluoric acid: (C,T);
(n) U134, Hydrogen fluoride: (C,T);
(o) U135, Hydrogen sulfide;
(p) U096, Hydroperoxide, 1-methyl-1-phenylethyl-: (R); and

(q) U136, Hydroxydimethylarsine oxide.

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

(a) U116, 2-Imidazolidinethione;

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

(c) U139, Iron dextran;

(d) U140, Isobutyl alcohol: (I,T); and

(e) U141, Isosafrole.

(10) Hazardous wastes from commercial chemical products beginning with the letter K: U142, Kepone.

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

(a) U143, Lasiocarpine;

(b) U144, Lead acetate;

(c) U145, Lead phosphate;

(d) U146, Lead subacetate; and

(e) U129, Lindane.

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

(a) U147, Maleic anhydride;

(b) U148, Maleic hydrazide;

(c) U149, Malononitrile;

(d) U150, Melphalan;

(e) U151, Mercury;

(f) U152, Methacrylonitrile: (I,T);

(g) U092, Methanamine, N-methyl-: (I);

(h) U029, Methane, bromo-;

(i) U045, Methane, chloro-: (I,T);

(j) U046, Methane, chloromethoxy-;

(k) U068, Methane, dibromo-;

(l) U080, Methane, dichloro-;

(m) U075, Methane, dichlorodifluoro-;

(n) U138, Methane, iodo-;

(o) U119, Methanesulfonic acid, ethyl ester;

(p) U211, Methane, tetrachloro-;

(q) U121, Methane, trichlorofluoro-;

(r) U153, Methanethiol: (I,T);

(s) U225, Methane, tribromo-;

(t) U044, Methane, trichloro-;

(u) U121, Methane, trichlorofluoro-;

(v) U123, Methanoic acid: (C,T);

(w) U036, 4,7-Methanoindan, 1,2,4,5,6,7,8,8- octachloro-3a,4,7,7a-tetrahydro-;

(x) U154, Methanol: (I);

(y) U155, Methapyrilene;

(z) U247, Methoxychlor;

(aa) U154, Methyl alcohol: (I);

(bb) U029, Methyl bromide;

(cc) U186, 1-Methylbutadiene: (I);

(dd) U045, Methyl chloride: (I,T);
(ee) U156, Methyl chlorocarbonate: (I,T);
(ff) U226, Methyl chloroform;
(gg) U157, 3-Methylcholanthrene;
(hh) U158, 4,4'-Methylenebis (2-chloroaniline);
(ii) U132, 2,2'-Methylenebis (3,4,6-trichlorophenol);
(jj) U068, Methylene bromide;
(kk) U080, Methylene chloride;
(ll) U122, Methylene oxide;
(mm) U159, Methyl ethyl ketone: (I,T);
(nn) U160, Methyl ethyl ketone peroxide: (R,T);
(oo) U138, Methyl iodide;
(pp) U161, Methyl isobutyl ketone: (I);
(qq) U162, Methyl methacrylate: (I,T);
(rr) U163, N-Methyl-N'-nitro-N-nitrosoquanidine;
(ss) U161, 4-Methyl-2-pentanone: (I);
(tt) U164, Methylthiouracil; and
(uu) U010, Mitomycin C.

(13) Hazardous wastes from commercial chemical compounds beginning with the letter N:

(a) U059, 5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L- lyxo-hexopyranosyl)oxyl]-7,8,9,10- tetrahydro-6,8,11-trihydroxy-1-methoxy-;
(b) U165, Naphthalene;
(c) U047, Naphthalene, 2-chloro-;
(d) U166, 1,4-Naphthalenedione;
(e) U236, 2,7-Naphthalenedisulfonic acid, 3,3'-[3,3'-dimethyl-(1,1'-biphenyl)-4,4'diyl)]-bis (azo)bis(5-amino-4-hydroxy)-,tetrasodium salt;
(f) U166, 1,4 -Naphthoquinone;
(g) U167, 1-Naphthylamine;
(h) U168, 2-Naphthylamine;
(i) U167, alpha-Naphthylamine;
(j) U168, beta-Naphthylamine;
(k) U026, 2-Naphthylamine, N,N-bis(2-chloro-ethyl)-;
(l) U169, Nitrobenzene: (I,T);
(m) U170, p-Nitrophenol;
(n) U171, 2-Nitropropane: (I);
(o) U172, N-Nitrosodi-n-butylamine;
(p) U173, N-Nitrosodiethanolamine;
(q) U174, N-Nitrosodiethylamine;
(r) U111, N-Nitrosodi-N-propylamine;
(s) U176, N-Nitroso-N-ethylurea;
(t) U177, N-Nitroso-N-methylurea;
(u) U178, N-Nitroso-N-methylurethane;
(v) U179, N-Nitrosopiperidine;
(w) U180, N-Nitrosopyrrolidine; and
(x) U181, 5-Nitro-o-toluidine.

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

(a) U193, 1,2-Oxathiolane, 2,2-dioxide;

(b) U058, 2H-1,3,2-Oxazaphosphorine, 2 [bis(2-chloroethyl)amino]-tetrahydro-, 2-oxide;

(c) U115, Oxirane: (I,T); and

(d) U041, Oxirane, 2-(chloromethyl)-.

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

(a) U182, Paraldehyde;
(b) U183, Pentachlorobenzene;
(c) U184, Pentachloroethane;
(d) U185, Pentachloronitrobenzene;
(e) U186, 1,3-Pentadiene: (I);
(f) U187, Phenacetin;
(g) U188, Phenol;
(h) U048, Phenol, 2-chloro-;
(i) U039, Phenol, 4-chloro-3-methyl-;
(j) U081, Phenol, 2,4-dichloro-;
(k) U082, Phenol, 2,6-dichloro-;
(l) U101, Phenol, 2,4-dimethyl-;
(m) U170, Phenol, 4-nitro-;
(n) U137, 1,10-(1,2-Phenylene)pyrene;
(o) U145, Phosphoric acid, lead salt;
(p) U087, Phosphorodithioic acid, O,O-diethyl S-methyl ester;
(q) U189, Phosphorus sulfide: (R);
(r) U190, Phthalic anhydride;
(s) U191, 2-Picoline;
(t) U192, Pronamide;
(u) U194, 1-Propanamine: (I,T);
(v) U110, 1-Propanamine, N-propyl-: (I);
(w) U066, Propane, 1,2-dibromo-3-chloro-;
(x) U149, Propanedinitrile;
(y) U171, Propane, 2-nitro-: (I);
(z) U027, Propane, 2,2'oxybis[2-chloro]-;
(aa) U193, 1,3-Propane sultone;
(bb) U235, 1-Propanol, 2,3-dibromo-, phosphate (3:1);
(cc) U126, 1-Propanol, 2,3-epoxy-;
(dd) U140, 1-Propanol, 2-methyl-: (I,T);
(ee) U002, 2-Propanone: (I);
(ff) U007, 2-Propenamide;
(gg) U084, Propene, 1,3-dichloro-;
(hh) U243, 1-Propene, 1,1,2,3,3,3-hexachloro-;
(ii) U009, 2-Propenemtrile;
(jj) U152, 2-Propenenitrile, 2-methyl-: (I,T);
(kk) U008, 2-Propenoic acid: (I);
(ll) U113, 2-Propenoic acid, ethyl ester: (I);
(mm) U118, 2-Propenoic acid, 2-methyl-, ethyl ester;
(nn) U162, 2-Propenoic acid, 2-methyl-, methyl ester,: (I,T);
(oo) U194, n-Propylamine: (I,T);

(pp) U083, Propylene dichloride;
(qq) U196, Pyridine;
(rr) U155, Pyridine, 2-[(2-dimethylamino)ethyl]-2-thenylamino-;
(ss) U179, Pyridine, hexahydro-N-nitroso-;
(tt) U191, Pyridine, 2-methyl-;
(uu) U164, 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-; and
(vv) U180, Pyrrole, tetrahydro-N-nitroso-.

(16) Hazardous wastes from commercial chemical products beginning with the letter R:
(a) U200, Reserpine; and
(b) U201, Resorcinol.

(17) Hazardous wastes from commercial chemical products beginning with the letter S:
(a) U202, Saccharin and salts;
(b) U203, Safrole;
(c) U204, Selenious acid;
(d) U204, Selenium dioxide;
(e) U205, Selenium disulfide: (R,T);
(f) U015, L-Serine, diazoacetate (ester);
(g) U089, 4,4'-Stilbenediol, alpha,alpha'-diethyl-;
(h) U206, Streptozotocin;
(i) U135, Sulfur hydride;
(j) U103, Sulfuric acid, dimethyl ester;
(k) U189, Sulfur phosphide: (R); and
(l) U205, Sulfur selenide: (R,T).

(18) Hazardous wastes from commercial chemical products beginning with the letter T:
(a) U207, 1,2,4,5-Tetrachlorobenzene;
(b) U208, 1,1,1,2-Tetrachloroethane;
(c) U209, 1,1,2,2-Tetrachloroethane;
(d) U210, Tetrachloroethylene;
(e) U213, Tetrahydrofuran: (I);
(f) U214, Thallium(I) acetate;
(g) U215, Thallium(I) carbonate;
(h) U216, Thallium(I) chloride;
(i) U217, Thallium(I) nitrate;
(j) U218, Thioacetamide;
(k) U153, Thiomethanol: (I,T);
(l) U219, Thiourea;
(m) U244, Thiram;
(n) U220, Toluene;
(o) U221, Toluenediamine;
(p) U223, Toluene diisocyanate: (R,T);
(q) U328, o-Toluidine;
(r) U353, p-Toluidine;
(s) U222, o-Toluidine hydrochloride;
(t) U011, 1H-1,2,4-Triazol-3-amine;

(u) U226, 1,1,1-Trichloroethane;

(v) U227, 1,1,2-Trichloroethane;

(w) U228, Trichloroethene;

(x) U228, Trichloroethylene;

(y) U121, Trichloromonofluoromethane;

(z) U234, sym-Trinitrobenzene: (R,T);

(aa) U182, 1,3,5-Trioxane, 2,4,6-trimethyl-;

(bb) U235, Tris (2,3-dibromopropyl) phosphate; and

(cc) U236, Trypan blue.

(19) Hazardous wastes from commercial chemical products beginning with the letter U:

(a) U237, Uracil, 5[bis(2-chloroethyl) amino]-; and

(b) U237, Uracil mustard.

(20) Hazardous wastes from commercial chemical products beginning with the letter V: U043, Vinyl chloride.

(21) Hazardous wastes from commercial chemical products beginning with the letter W: U248, Warfarin when present at concentrations of 0.3 percent or less.

(22) Hazardous wastes from commercial chemical products beginning with the letter X: U239, Xylene: (I).

(23) Hazardous wastes from commercial chemical products beginning with the letter Y: U200, Yohimban-16-carboxylic acid, 11, 17-di-methoxy-18-[(3,4,5-trimethoxy- benzoyl)oxy]-, methyl ester,.

(24) Hazardous wastes from commercial chemical products beginning with the letter Z: U249, Zinc phosphide when present at concentrations of 10 percent or less.

[For text of subp 5, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 10 SR 70; 10 SR 1212; 10 SR 1688; 11 SR 301; 11 SR 1832; 12 SR 1660*

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 subitems (1) to (21).

(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, tetrachloroethylne, 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) F026: Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans;

(20) 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; and

(21) 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.

B. Constituents of wastes identified in part 7045.0135, subpart 3 are listed in subitems (1) to (89).

(1) K001: Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichloro-, phenols, tetrachlorophenols, 2,4-dinitrophenol, cresosote, 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;

(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: Meta-dinitrobenzene, 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, ortho-dichlorobenzene;

(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) K069: Hexavalent chromium, lead, cadmium;

(56) K071: Mercury;

(57) K073: Chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane;

(58) K083: Aniline, diphenylamine, nitrobenzene, phenylenediamine;

(59) K084: Arsenic;

(60) K085: Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride;

(61) K086: Lead, hexavalent chromium;

(62) K087: Phenol, naphthalene;

(63) K093: Phthalic anhydride, maleic anhydride;

(64) K094: Phthalic anhydride;

(65) K095: 1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane;

(66) K096: 1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane;

(67) K097: Chlordane, heptachlor;

(68) K098: Toxaphene;

(69) K099: 2,4-dichlorophenol, 2,4,6-trichlorophenol;

(70) K100: Hexavalent chromium, lead, cadmium;

(71) K101: Arsenic;

(72) K102: Arsenic;

(73) K103: Aniline, nitrobenzene, phenylenediamine;

(74) K104: Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine;

(75) K105: Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol;

(76) K106: Mercury;

(77) K111: 2,4-Dinitrotoluene;

(78) K112: 2,4-Toluenediamine, o-toluidine, p-toluidine, aniline;

(79) K113: 2,4-Toluenediamine, o-toluidine, p-toluidine, aniline;

(80) K114: 2,4-Toluenediamine, o-toluidine, p-toluidine;

(81) K115: 2,4-Toluenediamine;

(82) K116: Carbon tetrachloride, tetrachloroethylene, chloroform, phosgene;

(83) K117: Ethylene dibromide;

(84) K118: Ethylene dibromide;

(85) K123: Ethylene thiourea;

(86) K124: Ethylene thiourea;

(87) K125: Ethylene thiourea;

(88) K126: Ethylene thiourea; and

(89) K136: Ethylene dibromide.

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 10 SR 1212; 11 SR 1832; 12 SR 1660*

7045.0141 HAZARDOUS CONSTITUENTS.

Subpart 1. **"A" constituents.** Hazardous constituents beginning with the letter A are as follows:

A. Acetonitrile;

B. Acetophenone;

C. 3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts;

D. 2-Acetylaminofluorene;

E. Acetyl chloride;

F. 1-Acetyl-2-thiourea;

G. Acrolein;

H. Acrylamide;

I. Acrylonitrile;

J. Aflatoxins;

K. Aldrin;

L. Allyl alcohol;

M. Aluminum phosphide;

N. 4-Aminobiphenyl;

O. 6-Amino-1,1a,2,8,8a,8b-hexahydro-8- (hydroxymethyl)-8a-methoxy-5-methylcarbamate azirino(2',3':3,4) pyrrolo(1,2-a)indole-4,7-dione, (ester), (Mitomycin C);

P. 5-(Aminomethyl)-3-isoxazolol;

Q. Amitrole;

R. Aniline;

S. Antimony and compounds not otherwise specified in this list;

T. Aramite;

U. Arsenic and compounds not otherwise specified in this list;

V. Arsenic acid;

W. Arsenic pentoxide;

X. Arsenic trioxide;

Y. Auramine; and

Z. Azaserine.

Subp. 2. **"B" constituents.** Hazardous constituents beginning with the letter B are as follows:

A. Barium and compounds not otherwise specified in this list;

B. Barium cyanide;

C. Benz[c]acridine;

D. Benz[a]anthracene;

E. Benzene;
F. Benzene, 2-amino-1-methyl (o-Toluidine);
G. Benzene, 4-amino-1-methyl (p-Toluidine);
H. Benzenearsonic acid;
I. Benzene, dichloromethyl-;
J. Benzenethiol;
K. Benzidine;
L. Benzo[b]fluoranthene;
M. Benzo[j]fluoranthene;
N. Benzo[a]pyrene;
O. p-Benzoquinone;
P. Benzotrichloride;
Q. Benzyl chloride;
R. Beryllium and compounds not otherwise specified in this list;
S. Bis(2-chloroethoxy)methane;
T. Bis(2-chloroethyl) ether;
U. N,N-Bis(2-chloroethyl)-2-naphthylamine;
V. Bis(2-chloroisopropyl) ether;
W. Bis(chloromethyl) ether;
X. Bis(2-ethylhexyl) phthalate;
Y. Bromoacetone;
Z. Bromomethane;
AA. 4-Bromophenyl phenyl ether;
BB. Brucine;
CC. 2-Butanone peroxide;
DD. Butyl benzyl phthalate; and
EE. 2-sec-Butyl-4,6-dinitrophenol (DNBP).

Subp. 3. **"C" constituents.** Hazardous constituents beginning with the letter C are as follows:

A. Cadmium and compounds not otherwise specified in this list;
B. Calcium chromate;
C. Calcium cyanide;
D. Carbon disulfide;
E. Carbon oxyfluoride;
F. Chloral;
G. Chlorambucil;
H. Chlordane (alpha and gamma isomers);
I. Chlorinated benzenes not otherwise specified in this list;
J. Chlorinated ethane not otherwise specified in this list;
K. Chlorinated fluorocarbons not otherwise specified in this list;
L. Chlorinated naphthalene not otherwise specified in this list;
M. Chlorinated phenol not otherwise specified in this list;
N. Chloroacetaldehyde;
O. Chloroalkyl ethers not otherwise specified in this list;
P. p-Chloroaniline;
Q. Chlorobenzene;
R. Chlorobenzilate;
S. 2-Chloro-1,3-butadiene (chloroprene);

T. p-Chloro-m-cresol;
U. 1-Chloro-2,3-epoxybutane;
V. 1-Chloro-2,3-epoxypropane;
W. 2-Chloroethyl vinyl ether;
X. Chloroform;
Y. Chloromethane;
Z. Chloromethyl methyl ether;
AA. 2-Chloronaphthalene;
BB. 2-Chlorophenol;
CC. 1-(o-Chlorophenyl)thiourea;
DD. 3-Chloropropene (allyl chloride);
EE. 3-Chloropropionitrile;
FF. Chromium and compounds not otherwise specified in this list;
GG. Chrysene;
HH. Citrus red No. 2;
II. Coal Tars;
JJ. Copper cyanide;
KK. Creosote;
LL. Cresols;
MM. Crotonaldehyde;
NN. Cyanides (soluble salts and complexes) not otherwise specified in this list;
OO. Cyanogen;
PP. Cyanogen bromide;
QQ. Cyanogen chloride;
RR. Cycasin;
SS. 2-Cyclohexyl-4,6-dinitrophenol; and
TT. Cyclophosphamide.

Subp. 4. **"D" constituents.** Hazardous constituents beginning with the letter D are as follows:

A. Daunomycin;
B. DDD (1,1-(2,2-dichloroethylidene)-bis- 4-chlorobenzene);
C. DDE (Ethylene, 1,1-dichloro-2,2-bis (4-chlorophenyl)-);
D. DDT (1,1'-(2,2,2-trichloroethylidene)-bis- 4-chlorobenzene);
E. Diallate;
F. Dibenz[a,h]acridine;
G. Dibenz[a,j]acridine;
H. Dibenz[a,h]anthracene;
I. 7H-Dibenzo[c,g]carbazole;
J. Dibenzo[a,e]pyrene;
K. Dibenzo[a,h]pyrene;
L. Dibenzo[a,i]pyrene;
M. 1,2-Dibromo-3-chloropropane;
N. 1,2-Dibromoethane;
O. Dibromomethane;
P. Di-n-butyl phthalate;
Q. o-Dichlorobenzene;
R. m-Dichlorobenzene;

S. p-Dichlorobenzene;
T. Dichlorobenzene not otherwise specified in this list;
U. 3,3'-Dichlorobenzidine;
V. 1,4-Dichloro-2-butene;
W. Dichlorodifluoromethane;
X. 1,1-Dichloroethane;
Y. 1,2-Dichloroethane;
Z. trans-1,2-Dichloroethene;
AA. Dichloroethylene not otherwise specified in this list;
BB. 1,1-Dichloroethylene;
CC. Dichloromethane;
DD. 2,4-Dichlorophenol;
EE. 2,6-Dichlorophenol;
FF. 2,4-Dichlorophenoxyacetic acid, salts and esters (2,4-D);
GG. Dichlorophenylarsine;
HH. Dichloropropane not otherwise specified in this list;
II. 1,2-Dichloropropane;
JJ. Dichloropropanol not otherwise specified in this list;
KK. Dichloropropene not otherwise specified in this list;
LL. 1,3-Dichloropropene;
MM. Dieldrin;
NN. 1,2:3,4-Diepoxybutane;
OO. Diethylarsine;
PP. N,N-Diethylhydrazine;
QQ. O,O-Diethyl-S-methyl ester of phosphorodithioic acid;
RR. O,O-Diethylphosphoric acid, O-p-nitrophenyl ester;
SS. Diethyl phthalate;
TT. O,O-Diethyl-O-(2-pyrazinyl)phosphorothioate;
UU. Diethylstilbestrol;
VV. Dihydrosafrole;
WW. 3,4-Dihydroxy-alpha-(methylamino)methylbenzyl alcohol;
XX. Di-isopropylfluorophosphate (DFP);
YY. Dimethoate;
ZZ. 3,3'-Dimethoxybenzidine;
AAA. p-Dimethylaminoazobenzene;
BBB. 7,12-Dimethylbenz[a]anthracene;
CCC. 3,3'-Dimethylbenzidine;
DDD. Dimethylcarbamoyl chloride;
EEE. 1,1-Dimethylhydrazine;
FFF. 1,2-Dimethylhydrazine;
GGG. 3,3-Dimethyl-1-(methylthio)-2- butanone-O-[(methylamino) carbonyl oxime];
HHH. alpha, alpha-Dimethylphenethylamine;
III. 2,4-Dimethylphenol;
JJJ. Dimethyl phthalate;
KKK. Dimethyl sulfate;
LLL. Dinitrobenzene not otherwise specified in this list;
MMM. 4,6-Dinitro-o-cresol and salts;

NNN. 2,4-Dinitrophenol;
OOO. 2,4-Dinitrotoluene;
PPP. 2,6-Dinitrotoluene;
QQQ. Di-n-octyl phthalate;
RRR. 1,4-Dioxane;
SSS. Diphenylamine;
TTT. 1,2-Diphenylhydrazine;
UUU. Di-n-propylnitrosamine;
VVV. Disulfoton; and
WWW. 2,4-Dithiobiuret.

Subp. 5. **"E" constituents.** Hazardous constituents beginning with the letter E are as follows:

A. Endosulfan;
B. Endrin and metabolites;
C. Ethyl carbamate;
D. Ethyl cyanide;
E. Ethylenebisdithiocarbamic acid, salts and esters;
F. Ethylene glycol monoethyl ether (Ethanol, 2-ethoxy);
G. Ethyleneimine;
H. Ethylene oxide;
I. Ethylenethiourea;
J. Ethyl methacrylate; and
K. Ethyl methanesulfonate.

Subp. 6. **"F" constituents.** Hazardous constituents beginning with the letter F are as follows:

A. Fluoranthene;
B. Fluorine;
C. 2-Fluoroacetamide;
D. Fluoroacetic acid, sodium salt;
E. Formaldehyde; and
F. Formic acid.

Subp. 7. **"G" constituents.** Hazardous constituents beginning with the letter G are as follows:

Glycidylaldehyde.

Subp. 8. **"H" constituents.** Hazardous constituents beginning with the letter H are as follows:

A. Halomethane not otherwise specified in this list;
B. Heptachlor;
C. Heptachlor epoxide (alpha, beta, and gamma isomers);
D. Hexachlorobenzene;
E. Hexachlorobutadiene;
F. Hexachlorocyclohexane (all isomers);
G. Hexachlorocyclopentadiene;
H. Hexachlorodibenzo-p-dioxins;
I. Hexachlorodibenzofurans;
J. Hexachloroethane;
K. 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo, endo-dimethanonaphthalene;
L. Hexachlorophene;

M. Hexachloropropene;
N. Hexaethyl tetraphosphate;
O. Hydrazine;
P. Hydrocyanic acid;
Q. Hydrofluoric acid;
R. Hydrogen sulfide; and
S. Hydroxydimethylarsine oxide.

Subp. 9. **"I" constituents.** Hazardous constituents beginning with the letter I are as follows:

A. Indeno(1,2,3-cd)pyrene;
B. Iodomethane;
C. Iron dextran;
D. Isocyanic acid, methyl ester;
E. Isobutyl alcohol; and
F. Isosafrole.

Subp. 10. **"K" constituents.** Hazardous constituents beginning with the letter K are as follows:

Kepone.

Subp. 11. **"L" constituents.** Hazardous constituents beginning with the letter L are as follows:

A. Lasiocarpine;
B. Lead and compounds not otherwise specified in this list;
C. Lead acetate;
D. Lead phosphate; and
E. Lead subacetate.

Subp. 12. **"M" constituents.** Hazardous constituents beginning with the letter M are as follows:

A. Maleic anhydride;
B. Maleic hydrazide;
C. Malononitrile;
D. Melphalan;
E. Mercury fulminate;
F. Mercury and compounds not otherwise specified in this list;
G. Methacrylonitrile;
H. Methanethiol;
I. Methapyrilene;
J. Methomyl;
K. Methoxychlor;
L. 2-Methylaziridine;
M. 3-Methylcholanthrene;
N. Methyl chlorocarbonate;
O. 4,4'-Methylene-bis-(2-chloroaniline);
P. Methyl ethyl ketone (MEK);
Q. Methyl hydrazine;
R. 2-Methyllactonitrile;
S. Methyl methacrylate;
T. Methyl methanesulfonate;
U. 2-Methyl-2-(methylthio)propionaldehyde- o-(methylcarbonyl) oxime;
V. N-Methyl-N'-nitro-N-nitrosoguanidine;

W. Methyl parathion;
X. Methylthiouracil; and
Y. Mustard gas.

Subp. 13. **"N" constituents.** Hazardous constituents beginning with the letter N are as follows:

A. Naphthalene;
B. 1,4-Naphthoquinone;
C. 1-Naphthylamine;
D. 2-Naphthylamine;
E. 1-Naphthyl-2-thiourea;
F. Nickel and compounds not otherwise specified in this list;
G. Nickel carbonyl;
H. Nickel cyanide;
I. Nicotine and salts;
J. Nitric oxide;
K. p-Nitroaniline;
L. Nitrobenzene;
M. Nitrogen dioxide;
N. Nitrogen mustard and hydrochloride salt;
O. Nitrogen mustard N-oxide and hydrochloride salt;
P. Nitroglycerin;
Q. 4-Nitrophenol;
R. 2-Nitropropane (Propane, 2-nitro);
S. 4-Nitroquinoline-1-oxide;
T. Nitrosamine not otherwise specified in this list;
U. N-Nitrosodi-N-butylamine;
V. N-Nitrosodiethanolamine;
W. N-Nitrosodiethylamine;
X. N-Nitrosodimethylamine;
Y. N-Nitroso-N-ethylurea;
Z. N-Nitrosomethylethylamine;
AA. N-Nitroso-N-methylurea;
BB. N-Nitroso-N-methylurethane;
CC. N-Nitrosomethylvinylamine;
DD. N-Nitrosomorpholine;
EE. N-Nitrosonornicotine;
FF. N-Nitrosopiperidine;
GG. N-Nitrosopyrrolidine;
HH. N-Nitrososarcosine; and
II. 5-Nitro-o-toluidine.

Subp. 14. **"O" constituents.** Hazardous constituents beginning with the letter O are as follows:

A. Octamethylpyrophosphoramide;
B. Osmium tetroxide; and
C. 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid.

Subp. 15. **"P" constituents.** Hazardous constituents beginning with the letter P are as follows:

A. Paraldehyde;

B. Parathion;
C. Pentachlorobenzene;
D. Pentachlorodibenzo-p-dioxins;
E. Pentachlorodibenzofurans;
F. Pentachloroethane;
G. Pentachloronitrobenzene (PCNB);
H. Pentachlorophenol;
I. Phenacetin;
J. Phenol;
K. Phenylenediamine;
L. Phenylmercury acetate;
M. N-Phenylthiourea;
N. Phosgene;
O. Phosphine;
P. Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl]ester (Phorate);
Q. Phosphorothioic acid, O,O-dimethyl; O-[p-(dimethylamino- sulfonyl)phenyl] ester;
R. Phthalic acid esters not otherwise specified in this list;
S. Phthalic anhydride;
T. 2-Picoline;
U. Polychlorinated biphenyl not otherwise specified in this list;
V. Potassium cyanide;
W. Potassium silver cyanide;
X. Pronamide;
Y. 1,3-Propane sultone;
Z. n-Propylamine;
AA. Propylthiouracil;
BB. 2-Propyn-1-ol; and
CC. Pyridine.

Subp. 16. **"R" constituents.** Hazardous constituents beginning with the letter R are as follows:
A. Reserpine; and
B. Resorcinol.

Subp. 17. **"S" constituents.** Hazardous constituents beginning with the letter S are as follows:
A. Saccharin and salts;
B. Safrole;
C. Selenious acid;
D. Selenium and compounds not otherwise specified in this list;
E. Selenium sulfide;
F. Selenourea;
G. Silver and compounds not otherwise specified in this list;
H. Silver cyanide;
I. Sodium cyanide;
J. Streptozotocin;
K. Strontium sulfide; and
L. Strychnine and salts.

Subp. 18. **"T" constituents.** Hazardous constituents beginning with the letter T are as follows:

A. 1,2,4,5-Tetrachlorobenzene;
B. 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD);
C. Tetrachlorodibenzo-p-dioxins not otherwise specified in this list;
D. Tetrachlorodibenzofurans;
E. Tetrachloroethane not otherwise specified in this list;
F. 1,1,1,2-Tetrachloroethane;
G. 1,1,2,2-Tetrachloroethane;
H. Tetrachloroethylene;
I. Tetrachloromethane;
J. 2,3,4,6-Tetrachlorophenol;
K. Tetraethyldithiopyrophosphate;
L. Tetraethyl lead;
M. Tetraethylpyrophosphate;
N. Tetranitromethane;
O. Thallium and compounds not otherwise specified in this list;
P. Thallic oxide;
Q. Thallium (I) acetate;
R. Thallium (I) carbonate;
S. Thallium (I) chloride;
T. Thallium (I) nitrate;
U. Thallium selenide;
V. Thallium (I) sulfate;
W. Thioacetamide;
X. Thiosemicarbazide;
Y. Thiourea;
Z. Thiuram;
AA. Toluene;
BB. Toluenediamine, N.O.S.;
CC. 2,4-Toluenediamine;
DD. 2,6-Toluenediamine;
EE. 3,4-Toluenediamine;
FF. o-Toluidine hydrochloride;
GG. Tolylene diisocyanate;
HH. Toxaphene;
II. Tribromomethane;
JJ. 1,2,4-Trichlorobenzene;
KK. 1,1,1-Trichloroethane;
LL. 1,1,2-Trichloroethane;
MM. Trichloroethene;
NN. Trichloromethanethiol;
OO. Trichloromonofluoromethane;
PP. 2,4,5-Trichlorophenol;
QQ. 2,4,6-Trichlorophenol;
RR. 2,4,5-Trichlorophenoxyacetic acid (2,4,5-T);
SS. 2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP) (Silvex);
TT. Trichloropropane not otherwise specified in this list;
UU. 1,2,3-Trichloropropane;
VV. 0,0,0-Triethyl phosphorothioate;

WW. sym-Trinitrobenzene;

XX. Tris(1-azridinyl)phosphine sulfide;

YY. Tris(2,3-dibromopropyl) phosphate; and

ZZ. Trypan blue.

Subp. 19. **"U" constituents.** Hazardous constituents beginning with the letter U are as follows:

Uracil mustard.

Subp. 20. **"V" constituents.** Hazardous constituents beginning with the letter V are as follows:

A. Vanadic acid, ammonium salt;

B. Vanadium pentoxide; and

C. Vinyl chloride.

Subp. 21. **"Z" constituents.** Hazardous constituents beginning with the letter Z are as follows:

A. Zinc cyanide; and

B. Zinc phosphide.

Statutory Authority: *MS s 116.07 subd 4*

History: *9 SR 115; 10 SR 1212; 11 SR 1832*

7045.0214 EVALUATION OF WASTES.

[For text of subps 1 and 2, see M.R. 1987]

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

[For text of subp 3, item A, see M.R. 1987]

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.

[For text of subp 3, item C, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832*

7045.0219 SPECIAL REQUIREMENTS FOR SMALL QUANTITY GENERATORS OF HAZARDOUS WASTE.

[For text of subpart 1, see M.R. 1987]

Subp. 2. **Exemption.** A generator maintaining small quantity generator status is only required to comply with the generator requirements of parts 7045.0205 to 7045.0304 as provided in subpart 5.

Subp. 3. **Excessive generation.** Except as provided in item B, if the quantity of hazardous waste generated in any calendar month exceeds the quantities listed in subpart 1, the small quantity generator loses small quantity generator status and thereafter is subject to all the generator requirements of this chapter.

A. Once small quantity generator status is lost, the generator shall not regain that status until the generator is notified in writing by the commissioner that small quantity generator status has been approved. The commissioner shall only approve small quantity generator status under this subpart 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 1.

The generator shall make this demonstration by submitting a written statement to the commissioner requesting reclassification as a small quantity generator 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 may be necessary to document that the overgeneration will not reoccur.

B. If the quantity of hazardous waste generated in any calendar month exceeds the quantities listed in subpart 1 and the cause of the overgeneration is a spill or accidental release of a hazardous waste not listed as acute hazardous waste in part 7045.0135, subpart 2, 3, or 4, item E; the shutdown or cleanup of some part of the generation process; or the replacement of PCB containing equipment, the small quantity 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 1; and

(2) complies with the quantity limits in subpart 1 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. Wastes accumulated when small quantity generator status is lost are ineligible for management under part 7045.0219 and must be managed in accordance with the generator requirements in this chapter, regardless of the cause of the excessive generation.

Subp. 4. **Accumulation on-site.** A small quantity generator who does not have a permit or interim status may accumulate hazardous waste on-site under the following conditions: if the quantity of hazardous waste accumulated at any time exceeds the quantities set forth in item A or B, whichever applies, the small quantity generator must manage all of the accumulated waste in accordance with all the generator requirements set forth in parts 7045.0205 to 7045.0304, excluding this part, but does not lose the small quantity generator status.

A. The following provisions apply to waste not listed as acute hazardous waste:

(1) A small quantity generator who m a calendar month generates at least 100 kilograms of waste not listed as acute hazardous waste in part 7045.0135, subpart 2, 3, or 4, item E may accumulate that waste on-site for 180 days or less if the quantity of waste accumulated on-site never exceeds 3,000 kilograms and the small quantity generator meets all the requirements of subpart 5. For purposes of this subitem, the time period for accumulation begins when the generator begins accumulation in a container or tank.

(2) A small quantity generator who in a calendar month generates less than 100 kilograms of waste not listed as acute hazardous waste in part 7045.0135, subpart 2, 3, or 4, item E may accumulate that waste on-site indefinitely until 1,000 kilograms of waste are accumulated, at which point the small quantity generator may only store the waste on-site for a period of 180 days following the date the 1,000 kilogram limit is reached. A small quantity generator accumulating waste under this subitem must meet the requirements of subpart 5, except for subpart 5, item B, subitems (2) to (5).

(3) If waste accumulated under item A, subitem (1) or (2) must be transported 200 miles or more to a facility, the small quantity generator may store the wastes for an additional 90 days beyond the established limits. In this event, the small quantity 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.

B. The following provisions apply to waste listed as acute hazardous waste: a small quantity generator who generates waste listed as acute hazardous waste in part 7045.0135, subpart 2, 3, or 4, item E may accumulate that waste on-site indefinitely until the limit of subpart 1, item B or C is met, at which point the small quantity generator must manage the waste on-site in accordance with all the generator requirements in parts 7045.0205 to 7045.0304, excluding this part. Until then, a small quantity generator accumulating wastes under this item must meet the requirements of subpart 5, except for subpart 5, item B, subitems (2) to (5).

Subp. 5. **Management requirements.**

A. Small quantity generators shall comply with the following requirements of this chapter:

(1) parts 7045.0214 to 7045.0217;

(2) parts 7045.0220 to 7045.0255 except part 7045.0230, subpart 1, item G;

(3) parts 7045.0261 to 7045.0290, except that an alternate manifest system may be used if the commissioner approves such system under part 7045.0075, subpart 5;

(4) part 7045.0292, subpart 1, items C to F and as applicable, subpart 4;

(5) parts 7045.0294 to 7045.0302;

(6) parts 7045.0566 and 7045.0568; and

(7) parts 7045.0626 and 7045.0629.

B. Unless explicitly exempted under subpart 4, all small quantity generators must also comply with the following requirements:

(1) Small quantity generators shall label all containers and tanks in a manner generally identifying their contents to employees and emergency personnel. The labels must contain an easily understood description of the waste.

(2) Small quantity generators shall ensure that there is available at all times at least one employee responsible for coordinating all emergency response measures provided in subitem (5). This employee, identified as 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.

(3) Small quantity generators shall 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, and, if present, the fire alarm; and the telephone number of the fire department, unless there is a direct alarm.

(4) Small quantity generators 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.

(5) 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 their 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.

(6) If waste generated by a small quantity generator is transported using an alternate manifest for waste transport as provided in part 7045.0075, subpart 5, the small quantity generator shall 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.

(7) For each shipment of waste using an alternate manifest for waste transport as provided in part 7045.0075, subpart 5, the small quantity generator shall submit a completed copy of that alternate manifest to the commissioner within five working days of the transporter's acceptance of the waste shipment.

(8) The small quantity generator shall either treat or dispose of the hazardous waste in an on-site facility or 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; or in interim status under parts 7045.0552 to 7045.0642; or 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; or a facility which under 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.

C. A contingency plan meeting the requirements of part 7045.0466 may be used to fulfill the requirements of item B, subitems (2) to (5).

[For text of subp 6, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1950; L 1987 c 186 s 15; 12 SR 1660; 13 SR 259*

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.

[For text of subpart 1, item C, see M.R. 1987]

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.

[For text of subps 3 to 6, see M.R. 1987]

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 7045.0141 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 documents section 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, Solid and 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 subd 4*

History: *11 SR 1832; 11 SR 1950; L 1987 c 186 s 15*

7045.0275 PROPER HAZARDOUS WASTE MANAGEMENT.

[For text of subpart 1, see M.R. 1987]

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.

[For text of subp 3, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832*

7045.0292 ACCUMULATION OF HAZARDOUS WASTE.

Subpart 1. **When allowed without a permit.** A generator may accumulate hazardous waste on-site without a permit or without having interim status if:

[For text of subpart 1, item A, see M.R. 1987]

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, subparts 4 to 6; 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;

[For text of subpart 1, items C to H, see M.R. 1987]

[For text of subps 2 to 4, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1950; 13 SR 259*

7045.0296 ANNUAL REPORTING.

Subpart 1. **Generators who ship wastes.** A generator who ships hazardous waste off site to a treatment, storage, or disposal facility within the United States must submit annual reports to the commissioner on the forms provided no later than March 1 for the preceding calendar year.

Subp. 2. **Required information.** The annual report must contain the following information related for each hazardous waste or wastes produced during the preceding calendar year:

A. the generator's name, address, and identification number;

B. the calendar year covered by the report;

C. the name of the hazardous waste or wastes, the hazardous waste number or numbers, and the United States Department of Transportation hazard class;

D. the amount of each hazardous waste produced and shipped off site to a facility within the United States;

E. the names and identification numbers of the transporters used to transport shipments to facilities within the United States;

F. the names and addresses of the hazardous waste facilities used in the United States, their identification numbers, the method of treatment or disposal, or both, and, as applicable:

(1) the numbers of the hazardous waste facility permits issued by the agency for those facilities located in Minnesota;

(2) the addresses of those facilities located outside Minnesota;

(3) the name of the wastewater treatment works to which a sewered hazardous waste was discharged; and

(4) the national pollution discharge elimination system or state disposal permit number for discharge to land and waters of the state;

G. a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated;

H. 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

I. the certification signed by the generator or authorized representative.

Subp. 3. **Generators who do not ship wastes.** Any generator who treats, stores, or disposes of hazardous waste on-site must submit an annual report covering those wastes in accordance with parts 7045.0450 to 7045.0642.

Subp. 4. **Generators who export 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 annual reports.** Annual reports shall be subject to the commissioner's procedures and approval under part 7045.0245.

Subp. 6. **Wastes which are recycled.** Generators of wastes that are recycled in accordance with the provisions of part 7045.0125 and are exempt from the requirements of parts 7045.0261 and 7045.0265 must include the following information in the annual report:

A. evidence that the waste was recycled as indicated in the management plan; and

B. evidence that a continuing market exists for the waste.

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832; 12 SR 1660; L 1987 c 186 s 15*

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:

[For text of subp 4, items A and B, see M.R. 1987]

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 subd 4*

History: *11 SR 1832; 12 SR 1660, L 1987 c 186 s 15*

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 7045.0304. 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.

[For text of subp 2, see M.R. 1987]

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 ensure that a copy of the EPA Acknowledgment of Consent also accompanies the hazardous waste.

Statutory Authority: *MS s 116.07 subd 4*

History: *12 SR 1660*

7045.0381 USE OF MANIFEST.

[For text of subpart 1, see M.R. 1987]

Subp. 2. **Delivery of bulk shipments by water.** The requirements of subpart 1 do not apply to bulk shipments by water if:

[For text of subp 2, item A, see M.R. 1987]

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;

[For text of subp 2, items C to E, see M.R. 1987]

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.

[For text of subp 3, item A, see M.R. 1987]

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.

[For text of subp 3, items C to F, see M.R. 1987]

Subp. 4. **Transportation to foreign country from Minnesota.** Transporters who transport hazardous waste to a foreign country from Minnesota must:

[For text of subp 4, item A, see M.R. 1987]

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 subd 4*

History: *11 SR 1950; 12 SR 1660*

7045.0395 HAZARDOUS WASTE DISCHARGES.

[For text of subps 1 and 2, see M.R. 1987]

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;

[For text of subp 3, items B to D, see M.R. 1987]

[For text of subps 4 and 5, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832*

7045.0452 GENERAL FACILITY STANDARDS.

[For text of subps 1 to 4, see M.R. 1987]

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

[For text of subp 5, items A and B, see M.R. 1987]

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; and 7045.0542, subpart 7, where applicable. The inspection schedule must be submitted with the permit application. The commissioner shall evaluate the schedule along with the rest of the application to ensure that it adequately protects human health and the environment. As part of this review, the commissioner may modify or amend the schedule as necessary.

[For text of subp 5, items D and E, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *13 SR 259*

7045.0458 WASTE ANALYSIS REQUIREMENTS.

[For text of subpart 1, see M.R. 1987]

Subp. 2. **Waste analysis plan.** The owner or operator shall develop and follow a written waste analysis plan which describes the procedures which he or she will carry out to comply with subpart 1. The owner or operator shall keep this plan at the facility. The plan must specify:

[For text of subp 2, items A to E, see M.R. 1987]

F. where applicable, the methods which 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; and 7045.0542, subpart 2; and

[For text of subp 2, item G, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832*

7045.0460 LOCATION STANDARDS.

[For text of subps 1 and 2, see M.R. 1987]

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 subd 4*

History: *11 SR 1832*

7045.0468 EMERGENCY PROCEDURES.

[For text of subps 1 to 4, see M.R. 1987]

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.

[For text of subp 5, item A, see M.R. 1987]

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:

[For text of subp 5, item B, subitems (1) to (6), see M.R. 1987]

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.

[For text of subps 7 and 8, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832*

7045.0476 MANIFEST DISCREPANCIES.

[For text of subpart 1, see M.R. 1987]

Subp. 2. **Definition of a discrepancy.** Manifest discrepancies are defined as significant or minor as follows:

[For text of subp 2, item A, see M.R. 1987]

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.

[For text of subp 3, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832*

7045.0478 OPERATING RECORD.

[For text of subps 1 and 2, see M.R. 1987]

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

[For text of subp 3, items A to D, see M.R. 1987]

E. Records and results of waste analysis performed as specified in parts 7045.0456, 7045.0458, 7045.0538, subpart 10, and 7045.0542, subpart 2.

[For text of subp 3, items F and G, see M.R. 1987]

H. Monitoring, testing, or analytical data 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; and 7045.0542, subpart 7.

[For text of subp 3, items I and J, see M.R. 1987]

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.

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832; 13 SR 259*

7045.0482 REQUIRED REPORTS.

[For text of subpart 1, see M.R. 1987]

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:

[For text of subp 2, items A to E, see M.R. 1987]

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.

[For text of subps 3 and 4, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

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

7045.0484 GROUND WATER 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.

[For text of subpart 1, items C and D, see M.R. 1987]

[For text of subps 2 to 11, see M.R. 1987]

Subp. 12. **Detection monitoring program.** An owner or operator required to establish a detection monitoring program under this part shall perform the following:

[For text of subp 12, items A to D, see M.R. 1987]

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):

[For text of subp 12, item E, subitems (1) and (2), see M.R. 1987]

[For text of subp 12, items F to K, see M.R. 1987]

[For text of subps 13 and 14, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

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

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.

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832*

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, 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 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; 7045.0542, 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; 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, 5, 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; 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. 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. 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.

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 subd 4*

History: *11 SR 2415; L 1987 c 186 s 15*

7045.0488 CLOSURE ACTIVITIES.

Subpart 1. **Time allowance to begin closure activities.** Within 90 days after receiving the final volume of hazardous waste 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, 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 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 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, 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. 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 parts 7045.0532, subpart 7; 7045.0534, subpart 7; 7045.0536, subpart 8, and 7045.0538, subpart 7. By removing any hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that waste in accordance with all applicable requirements of parts 7045.0205 to 7045.0304.

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 director releases the owner or operator from the financial assurance requirements for closure under part 7045.0504, subpart 10.

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 2415; L 1987 c 186 s 15*

7045.0490 POST CLOSURE.

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. **Post closure 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 post closure plan during the remainder of the post closure period. 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 and the frequency of these activities, and it must include at least:

[For text of subp 3, item A, see M.R. 1987]

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 7045.0538, and the function of the facility monitoring equipment according to parts 7045.0484 and 7045.0532 to 7045.0538; 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. 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.

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 2415; L 1987 c 186 s 15; 13 SR 259*

7045.0492 POST CLOSURE CARE AND USE OF PROPERTY.

Subpart 1. **Post closure care requirements.** Post closure care requirements are as follows:

A. Post closure 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 7045.0538, and the maintenance of monitoring and waste containment systems, according to parts 7045.0484 and 7045.0532 to 7045.0538.

B. Any time preceding closure of a hazardous waste management unit subject to the post closure care requirements or final closure, or at any time during the post closure period for a particular unit, the commissioner may reduce the post closure care period in accordance with the agency's permit modification procedures in chapter 7001 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.

C. Before the time that the post closure care period is due to expire, the commissioner may extend the post closure care period in accordance with the agency's permit modification procedures in chapter 7001 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 ground water 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 post closure care activities must be in accordance with the approved post closure 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 post closure 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. **Post closure use of property.** Post closure 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 post closure plan or by petition that the disturbance:

[For text of subp 3, items A and B, see M.R 1987]

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 by the owner or operator and by an independent registered professional engineer that the post closure care period for the hazardous waste disposal unit was performed in accordance with the approved post 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 post closure care under part 7045.0508, subpart 10.

Statutory Authority: *MS s 116 07 subd 4*

History: *11 SR 2415; L 1987 c 186 s 15*

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 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: *11 SR 2415; L 1987 c 186 s 15*

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. 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 subd 4*

History: *11 SR 2415; L 1987 c 186 s 15*

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.

[For text of subp 2, item A, subitems (3) and (4), see M R. 1987]

(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:

[For text of subp 2, item B, subitems (1) to (8), see M.R. 1987]

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:

[For text of subp 2, item C, subitems (1) to (4), see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 2415; 13 SR 259*

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; 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 disposal 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, 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 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:

[For text of subp 2, items A and B, see M.R. 1987]

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 subd 4*

History: *11 SR 2415; L 1987 c 186 s 15*

7045.0504 FINANCIAL ASSURANCE FOR FACILITY CLOSURE.

[For text of subpart 1, see M.R. 1987]

Subp. 2. **Closure trust fund.** The following apply to closure trust funds:

[For text of subp 2, items A to J, see M.R. 1987]

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:

[For text of subp 3, items A to C, see M R. 1987]

D. The bond must guarantee that the owner or operator will:

[For text of subp 3, item D, subitem (1), see M R. 1987]

(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

[For text of subp 3, item D, subitem (3), see M.R. 1987]

[For text of subp 3, items E to I, see M.R. 1987]

Subp. 4. **Surety bond guaranteeing performance of closure.** The following apply to surety bonds that guarantee performance of closure:

[For text of subp 4, items A to D, see M.R. 1987]

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.

[For text of subp 4, items F to H, see M.R 1987]

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:

[For text of subp 5, items A to I, see M.R 1987]

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:

[For text of subp 6, items A to D, see M.R. 1987]

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.

[For text of subp 6, items F to I, see M.R. 1987]

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:

[For text of subp 7, item A, see M.R. 1987]

B. The owner or operator shall have:

[For text of subp 7, item B, subitem (1), see M.R. 1987]

(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).

[For text of subp 7, items E to J, see M R 1987]

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.

[For text of subp 7, item L, see M R. 1987]

[For text of subps 8 and 9, see M R. 1987]

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: *11 SR 2415; L 1987 c 186 s 15*

7045.0506 COST ESTIMATE FOR POST CLOSURE CARE.

Subpart 1. **Cost estimate requirements.** The owner or operator of a facility subject to post closure monitoring or maintenance requirements shall have a written estimate, in current dollars, of the annual cost of post closure monitoring and maintenance of the facility in accordance with the applicable post closure requirements in parts 7045.0490 to 7045.0496; 7045.0532, subpart 7; 7045.0534, subpart 7; 7045.0536, subpart 8; and 7045.0538, subpart 7. 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 7045.0492. 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 7045.0508 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:

[For text of subp 2, items A and B, see M.R. 1987]

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: *11 SR 2415; L 1987 c 186 s 15*

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:

[For text of subp 2, items A to K, see M R. 1987]

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.

[For text of subp 2, item M, see M.R. 1987]

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:

[For text of subp 3, items A to C, see M.R. 1987]

D. The bond must guarantee that the owner or operator will:

[For text of subp 3, item D, subitem (1), see M R. 1987]

(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

[For text of subp 3, item D, subitem (3), see M.R. 1987]

[For text of subp 3, items E to I, see M.R. 1987]

[For text of subps 4 and 5, see M.R. 1987]

Subp. 6. **Post closure insurance.** The following apply to post closure insurance:

[For text of subp 6, items A to D, see M.R. 1987]

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 director 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.

[For text of subp 6, items F to K, see M.R. 1987]

Subp. 7. **Financial test and corporate guarantee for post closure care.** The financial test and corporate guarantee for post closure care is as follows:

[For text of subp 7, item A, see M.R. 1987]

B. The owner or operator must have:

[For text of subp 7, item B, subitem (1), see M.R. 1987]

(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;

[For text of subp 7, item B, subitem (3), see M.R. 1987]

(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).

[For text of subp 7, items E to M, see M R. 1987]

[For text of subps 8 and 9, see M.R. 1987]

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: *11 SR 2415; L 1987 c 186 s 15*

7045.0518 LIABILITY REQUIREMENTS.

[For text of subps 1 to 4, see M.R. 1987]

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.

[For text of subp 6, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 2415; L 1987 c 186 s 15*

7045.0524 WORDING OF INSTRUMENTS.

[For text of subps 1 to 5, see M R 1987]

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.

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.]

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 four 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?	—	—

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 [owner's or operator'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. For each facility, include its identification number, name, and address.]

The owner or operator identified above is the owner or operator of the following facilities for which liability coverage is being demonstrated through the financial test specified in Minnesota Rules, parts 7045.0498 to 7045.0524 and 7045.0608 to 7045.0624: _____.

[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 owner or operator 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 owner or operator 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 owner or operator 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. The owner or operator 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 owner or operator 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 owner or operator [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 owner or operator ends on [month, day]. The figures for the following items marked with an asterisk are derived from this owner's or operator'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?	___	___

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)	$____

		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]

[For text of subps 8 to 10, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 2415; L 1987 c 186 s 15*

7045.0528 TANKS.

Subpart 1. **Scope.** This part applies to owners and operators of facilities that use tanks to treat or store hazardous waste, except as part 7045.0450, and items A and B provide otherwise.

A. Tanks 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. Tanks, 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 then 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 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 m 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) overfill 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 overfill 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 subd 4*

History: *13 SR 259*

7045.0534 WASTE PILES

[For text of subps 1 to 3, see M.R. 1987]

Subp. 4. [Repealed, 11 SR 1832]

Subp. 5. [Repealed, 11 SR 1832]

[For text of subps 6 to 10, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

7045.0538 LANDFILLS.

[For text of subps 1 to 9, see M.R. 1987]

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.

[For text of subp 10, item B, see M.R. 1987]

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.

[For text of subps 11 to 13, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832*

7045.0552 FACILITIES GOVERNED BY INTERIM STATUS.

[For text of subpart 1, see M.R. 1987]

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.

[For text of subps 2 to 4, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

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

7045.0556 GENERAL FACILITY STANDARDS.

[For text of subps 1 to 4, see M.R. 1987]

Subp. 5. **General inspection requirements.** The following are the general inspection requirements:

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 items 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.

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 inspec-

tion, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

[For text of subp 6, see M.R. 1987]

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 subd 4*

History: *11 SR 1832; 13 SR 259*

7045.0564 WASTE ANALYSIS REQUIREMENTS.

[For text of subpart 1, see M.R 1987]

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:

[For text of subp 2, items A to E, see M.R. 1987]

F. Where applicable, the methods which 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; and 7045.0642, subpart 3.

[For text of subp 2, item G, see M.R 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832; 13 SR 259*

7045.0584 OPERATING RECORD.

[For text of subps 1 and 2, see M.R. 1987]

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

[For text of subp 3, items A to D, see M.R. 1987]

E. Records and results of waste analysis 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; and 7045.0642, subpart 3.

[For text of subp 3, items F and G, see M.R. 1987]

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. 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.

[For text of subp 3, item I, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832, 13 SR 259*

7045.0588 REQUIRED REPORTS.

[For text of subpart 1, see M.R. 1987]

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:

[For text of subp 2, items A to F, see M.R. 1987]

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.

[For text of subps 3 and 4, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

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

7045.0594 CLOSURE.

[For text of subpart 1, see M R 1987]

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 performance 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.

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 subd 4*

History: *11 SR 2415; L 1987 c 186 s 15*

7045.0596 CLOSURE ACTIVITIES.

Subpart 1. **Time allowance to begin closure activities.** Within 90 days after receiving the final volume of hazardous waste 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, 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 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 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, 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. 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 7045.0630, 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 in accordance with all applicable requirements of parts 7045.0205 to 7045.0304.

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 subd 4*

History: *11 SR 2415; L 1987 c 186 s 15*

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 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.

[For text of subp 3, item A, subitem (2), see M.R. 1987]

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 determine whether the requirements should be permanently discontinued or reinstated to prevent threats to human health and the environment.

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 2415; L 1987 c 186 s 15; 13 SR 259*

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.

[For text of subp 3, see M.R. 1987]

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: *11 SR 2415; L 1987 c 186 s 15*

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: *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: *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.

[For text of subp 2, items B and C, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *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 scale of hazardous wastes, 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 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:

[For text of subp 2, items A and B, see M.R. 1987]

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 subd 4*

History: *11 SR 2415; L 1987 c 186 s 15*

7045.0612 FINANCIAL ASSURANCE FOR FACILITY CLOSURE.

[For text of subpart 1, see M.R. 1987]

Subp. 2. **Closure trust fund.** Requirements for closure trust funds are as follows:

[For text of subp 2, items A to K, see M.R. 1987]

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:

[For text of subp 3, items A to C, see M R. 1987]

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

[For text of subp 3, item D, subitem (3), see M.R. 1987]

[For text of subp 3, items E to I, see M.R. 1987]

Subp. 4. **Closure letter of credit.** Requirements for closure letters of credit are as follows:

[For text of subp 4, items A to I, see M.R. 1987]

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:

[For text of subp 5, items A to D, see M.R. 1987]

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.

[For text of subp 5, items F to I, see M.R. 1987]

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:

[For text of subp 6, item A, see M.R. 1987]

B. The owner or operator shall have:

[For text of subp 6, item B, subitem (1), see M.R. 1987]

(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).

[For text of subp 6, items E to J, see M.R. 1987]

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.

[For text of subp 6, item L, see M.R. 1987]

[For text of subps 7 and 8, see M.R. 1987]

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: *11 SR 2415; L 1987 c 186 s 15*

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 monitoring 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: *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:

[For text of subp 2, items A to L, see M.R. 1987]

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.

[For text of subp 2, item N, see M.R. 1987]

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:

[For text of subp 3, items A to C, see M R. 1987]

D. The bond must guarantee that the owner or operator will:

[For text of subp 3, item D, subitem (1), see M.R. 1987]

(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

[For text of subp 3, item D, subitem (3), see M.R. 1987]

[For text of subp 3, items E to I, see M.R. 1987]

[For text of subp 4, see M R 1987]

Subp. 5. **Post closure insurance.** The following requirements apply to post closure insurance:

[For text of subp 5, items A to D, see M.R. 1987]

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.

[For text of subp 5, items F to K, see M.R. 1987]

Subp. 6. **Financial test and corporate guarantee for post closure care.** The following is the financial test and corporate guarantee for post closure care:

[For text of subp 6, item A, see M.R. 1987]

B. The owner or operator shall have:

[For text of subp 6, item B, subitem (1), see M R. 1987]

(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;

[For text of subp 6, item B, subitem (3), see M.R. 1987]

(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;

[For text of subp 6, item C, subitem (3), see M.R. 1987]

(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).

[For text of subp 6, items E to M, see M.R. 1987]

[For text of subps 7 and 8, see M.R. 1987]

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: *11 SR 2415; L 1987 c 186 s 15*

7045.0620 LIABILITY REQUIREMENTS.

[For text of subps 1 to 3, see M.R. 1987]

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.

[For text of subp 5, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 2415; L 1987 c 186 s 15*

7045.0628 TANKS.

Subpart 1. **Scope.** This part applies to owners and operators of facilities that use tanks to treat or store hazardous waste, except as items A and B and part 7045.0552 provide otherwise.

A. Tanks 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. Tanks, 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, 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) overfill 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) overfill 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 subd 4*

History: *13 SR 259*

7045.0629 REQUIREMENTS FOR SMALL QUANTITY GENERATORS THAT ACCUMULATE HAZARDOUS WASTE IN TANKS.

Subpart 1. **Scope.** The requirements of this part apply to small quantity generators that accumulate hazardous waste in tanks, and do not accumulate over 3,000 kilograms on site at any time as provided in part 7045.0219.

Subp. 2. **General operating requirements.** Small quantity generators 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 freeboard, 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.** Small quantity generators 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 3, 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.** Small quantity generators 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.** Small quantity generators 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.** Small quantity generators 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 subd 4*

History: *13 SR 259*

7045.0638 LANDFILLS.

[For text of subpart 1, see M.R. 1987]

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.

[For text of subps 3 to 6, see M.R. 1987]

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.

[For text of subps 8 and 9, see M.R. 1987]

Statutory Authority: *MS s 116.07 subd 4*

History: *11 SR 1832*