

1 Pollution Control Agency

2

3 Adopted Permanent Rules Relating to Hazardous Waste; Tanks

4

5 Rules as Adopted

6 7001.0560 GENERAL INFORMATION REQUIREMENTS FOR PART B OF  
7 APPLICATION.

8 Part B of the application must contain the following  
9 information:

10 A. to D. [Unchanged.]

11 E. A copy of the inspection schedule required by part  
12 7045.0452, subpart 5, item B, including, if applicable, the  
13 information set forth in parts 7045.0526, subpart 5; 7045.0528,  
14 subparts 5 and 7; 7045.0532, subpart 5; 7045.0534, subparts 5  
15 and 6; 7045.0536, subpart 4; 7045.0538, subpart 5; and  
16 7045.0542, subpart 7.

17 F. to K. [Unchanged.]

18 L. A copy of the closure plan and, where applicable,  
19 the post-closure plan required by parts 7045.0486, 7045.0490,  
20 and 7045.0528, subpart 9, including, if applicable, the specific  
21 information in parts 7045.0526, subpart 9; 7045.0528, subpart 9;  
22 7045.0532, subpart 7; 7045.0534, subpart 7; 7045.0536, subpart  
23 8; 7045.0538, subpart 7; and 7045.0542, subpart 8.

24 M. to U. [Unchanged.]

25 7001.0580 PART B INFORMATION REQUIREMENTS FOR STORAGE OR  
26 TREATMENT TANKS.

27 Except as otherwise provided in part 7045.0528, subpart 1,  
28 if the applicant proposes to use tanks to store or treat  
29 hazardous waste, the applicant shall furnish the following  
30 information, in writing, in addition to the information required  
31 by part 7001.0560:

32 A. an assessment that is reviewed and certified by an  
33 independent, qualified, registered professional engineer as to  
34 the structural integrity and suitability for handling hazardous  
35 waste of each tank system, as required under part 7045.0528,

- 1 subparts 2 and 3;
- 2 B. the dimensions and capacity of each tank;
- 3 C. a description of feed systems, safety cutoff,  
4 bypass systems, and pressure controls such as vents for each  
5 tank;
- 6 D. a diagram of piping, instrumentation, and process  
7 flow for each tank system;
- 8 E. a description of materials and equipment used to  
9 provide external corrosion protection, as required under part  
10 7045.0528, subpart 3, item A, subitem (3);
- 11 F. for new tank systems, a detailed description of  
12 how the tank systems will be installed in compliance with part  
13 7045.0528, subpart 3, items B to E;
- 14 G. detailed plans and description of how the  
15 secondary containment system for each tank system is or will be  
16 designed, constructed, and operated to meet the requirements of  
17 part 7045.0528, subpart 4;
- 18 H. for tank systems for which a petition from the  
19 requirements of part 7045.0528, subpart 4, is sought, as  
20 provided in part 7045.0075, subparts 6 and 7:
- 21 (1) detailed plans and engineering and  
22 hydrogeologic reports, as appropriate, describing alternate  
23 design and operating practices that will, in conjunction with  
24 location aspects, prevent the migration of any hazardous waste  
25 or hazardous constituents into the ground water or surface water  
26 during the life of the facility, or
- 27 (2) a detailed assessment of the substantial  
28 present and potential hazards posed to human health or the  
29 environment should a release enter the environment;
- 30 I. description of controls and practices to prevent  
31 spills and overflows, as required under part 7045.0528, subpart  
32 6, item B; and
- 33 J. for tank systems in which ignitable, reactive, or  
34 incompatible wastes are to be stored or treated, a description  
35 of how operating procedures and tank system and facility design  
36 will achieve compliance with the requirements of part 7045.0528,

1 subparts 10 and 11.

2 7001.0650 INTERIM STATUS.

3 Subpart 1. to 3. [Unchanged.]

4 Subp. 4. **Prohibitions.** During the interim status period,  
5 an owner or operator shall not:

6 A. treat, store, or dispose of a hazardous waste not  
7 specified in Part A of the application;

8 B. employ processes not specified in Part A of the  
9 permit application;

10 C. exceed the design capacities specified in Part A  
11 of the application; or

12 D. alter a hazardous waste facility in a manner that  
13 amounts to a reconstruction of the facility. For the purpose of  
14 this part, reconstruction occurs when the capital investment in  
15 the modification of the facility exceeds 50 percent of the  
16 capital cost of a comparable new hazardous waste facility.  
17 Reconstruction does not include changes made solely for the  
18 purpose of complying with the requirements of part 7045.0628,  
19 subparts 4 and 5, for tanks and ancillary equipment.

20 Subp. 5. to 7. [Unchanged.]

21 7045.0020 DEFINITIONS.

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

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

30 Subp. 2. to 4. [Unchanged.]

31 Subp. 4a. **Ancillary equipment.** "Ancillary equipment"  
32 means any device including, but not limited to, such devices as  
33 piping, fittings, flanges, valves, and pumps, that is used to  
34 distribute, meter, or control the flow of hazardous waste from  
35 its point of generation to a storage or treatment tank, between

1 hazardous waste storage and treatment tanks to a point of  
2 disposal on site, or to a point of shipment for disposal off  
3 site.

4 Subp. 5. to 9. [Unchanged.]

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

7 Subp. 10. to 13. [Unchanged.]

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

19 Subp. 14. to 23. [Unchanged.]

20 Subp. 23a. **Existing tank system or existing component.**

21 "Existing tank system" or "existing component" means a tank  
22 system or component that is used for the storage or treatment of  
23 hazardous waste and that is in operation, or for which  
24 installation has commenced on or before July 14, 1986.

25 Installation will be considered to have commenced if the owner  
26 or operator has obtained all federal, state, and local approvals  
27 or permits necessary to begin physical construction of the site  
28 or installation of the tank system and if either (1) a  
29 continuous on-site physical construction or installation program  
30 has begun, or (2) the owner or operator has entered into  
31 contractual obligations, which cannot be canceled or modified  
32 without substantial loss, for physical construction of the site  
33 or installation of the tank system to be completed within a  
34 reasonable time.

35 Subp. 24. to 43a. [Unchanged.]

36 Subp. 43b. **Inground tank.** "Inground tank" means a device

1 meeting the definition of "tank" in subpart 90 whereby a portion  
2 of the tank wall is situated to any degree within the ground,  
3 thereby preventing visual inspection of that external surface  
4 area of the tank that is in the ground.

5 Subp. 44. and 45. [Unchanged.]

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

11 Subp. 46. to 51. [Unchanged.]

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

24 Subp. 52. to 59. [Unchanged.]

25 Subp. 59a. **New tank system or new tank component.** "New  
26 tank system" or "new tank component" means a tank system or  
27 component that will be used for the storage or treatment of  
28 hazardous waste and for which installation has commenced after  
29 July 14, 1986. However, for purposes of obtaining approval for  
30 a petition pursuant to part 7045.0075, subpart 7, a new tank  
31 system is one for which construction commences after July 14,  
32 1986.

33 Subp. 59b. **Onground tank.** "Onground tank" means a device  
34 meeting the definition of "tank" in subpart 90 and that is  
35 situated in such a way that the bottom of the tank is on the  
36 same level as the adjacent surrounding surface so that the

1 external tank bottom cannot be visually inspected.

2 Subp. 60. to 87. [Unchanged.]

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

8 Subp. 88. to 90. [Unchanged.]

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

12 Subp. 91. to 98. [Unchanged.]

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

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

22 Subp. 99. to 108. [Unchanged.]

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

29 7045.0075 PETITIONS.

30 Subpart 1. **Petitions for equivalent testing or analytical**  
31 **methods.** Any person seeking to use a testing or analytical  
32 method other than those described in parts 7045.0100 to  
33 7045.0141, 7045.0450 to 7045.0544, or 7045.0552 to 7045.0642 may  
34 petition under these provisions. The person must demonstrate to  
35 the satisfaction of the commissioner that the proposed method is

1 equal to or superior to the corresponding method prescribed in  
2 parts 7045.0100 to 7045.0141, 7045.0450 to 7045.0544, or  
3 7045.0552 to 7045.0642 in terms of its sensitivity, accuracy,  
4 precision, and reproducibility. Each petition must include:

5           A. to G. [Unchanged.]

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

10          Subp. 2. to 5. [Unchanged.]

11          Subp. 6. **Petition for alternate design or operating**  
12 **practices for secondary containment of tank systems.** A person  
13 may submit a petition to the commissioner for approval to use  
14 alternate design or operating practices in lieu of the  
15 requirements of parts 7045.0528, subpart 4, and 7045.0628,  
16 subpart 4. The commissioner's decision shall be based on a  
17 demonstration by the petitioner that the alternate design and  
18 operating practices, together with location characteristics,  
19 will prevent the migration of any hazardous wastes or hazardous  
20 constituents into surface and ground water as effectively as the  
21 secondary containment requirements of parts 7045.0528, subpart  
22 4, and 7045.0628, subpart 4, during the active life of the tank  
23 system.

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

26                   (1) the nature and quantity of the wastes;

27                   (2) the proposed alternate design and operating  
28 practices;

29                   (3) the hydrogeologic setting of the tank system,  
30 including the thickness of soils present between the tank system  
31 and ground water; and

32                   (4) factors that would influence the quality and  
33 mobility of the hazardous constituents and the potential for  
34 them to migrate to ground water or surface water.

35           B. The following procedures must be followed for  
36 submittal of a petition for alternate design or operating

1 practices for secondary containment of permitted tank systems.

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

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

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

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

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

27 (1) The owner or operator must notify the  
28 commissioner in writing that a demonstration will be conducted  
29 and submitted to obtain approval to use alternate design or  
30 operating practices. For existing tank systems this  
31 notification must be submitted 24 months before the date that  
32 secondary containment must be provided in accordance with part  
33 7045.0628, subpart 4, item A. For new tank systems this  
34 notification must be submitted 30 days before entering into a  
35 contract for installation of the tank system.

36 (2) As part of the notification, the owner or



1 operator must also submit a description of the steps necessary  
2 to conduct the demonstration and a timetable for completing each  
3 of the steps. This description must be submitted to the  
4 commissioner and must address each of the factors listed in item  
5 A.

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

10 (4) The commissioner will notify the public,  
11 through a newspaper notice, of the availability of the  
12 demonstration for a petition. The notice shall be placed in a  
13 daily or weekly major local newspaper of general circulation and  
14 shall provide at least 30 days from the date of the notice for  
15 the public to review and comment on the demonstration. Public  
16 comments shall be made in accordance with the procedures and  
17 requirements in part 7001.0110. If public comments request that  
18 a contested case hearing be held, the commissioner shall review  
19 the requests using the standards in part 7001.0120 or 7001.0130,  
20 whichever applies. If a public information meeting or contested  
21 case hearing is held, the commissioner shall give notice of the  
22 hearing or meeting in accordance with the requirements of part  
23 7001.0120 or 7001.0130, whichever applies, except that the  
24 commissioner shall give notice at least 30 days before the date  
25 of the hearing or meeting. In addition, notice of the hearing  
26 or meeting may be given at the same time as the notice of  
27 availability of the demonstration for a petition.

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

33 D. Upon approval of a petition for alternate design  
34 or operating practices, as provided in item A, the owner or  
35 operator of a tank system must comply with the following  
36 requirements in the event of a release of hazardous waste from

1 the primary tank system that has not migrated beyond the zone of  
2 engineering control. The owner or operator must:

3 (1) comply with the requirements of part  
4 7045.0528, subpart 8, except for item D; or for interim status  
5 facilities and generator's tanks, the requirements of part  
6 7045.0628, subpart 8, except for item D;

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

14 (3) if contaminated soil cannot be removed or  
15 decontaminated in accordance with subitem (2), comply with the  
16 requirement of part 7045.0528, subpart 9, item B; or for interim  
17 status facilities or generator's tanks, the requirement of part  
18 7045.0628, subpart 9, item B.

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

25 (1) Comply with the requirements of part  
26 7045.0528, subpart 8, items A to D; or for interim status  
27 facilities or generator's tanks, the requirements of part  
28 7045.0628, subpart 8, items A to D.

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

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

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

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

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

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

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

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

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

36               (e) the persistence and permanence of the

1 potential adverse effects.

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

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

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

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

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

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

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

17 (b) the patterns of rainfall in the region;

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

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

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

25 (f) the cumulative impact on surface water  
26 quality.

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

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

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

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

36 (1) The agency must be notified in writing by the

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

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

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

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

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

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

33 (2) As part of the notification, the owner or  
34 operator must also submit a description of the steps necessary  
35 to conduct the demonstration and a timetable for completing each  
36 of the steps. This description must be submitted to the agency

1 and must address each of the factors listed in item A.

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

5 (4) The agency will notify the public, through a  
6 newspaper notice, of the availability of the demonstration for a  
7 petition. The notice shall be placed in a daily or weekly major  
8 local newspaper of general circulation and shall provide at  
9 least 30 days from the date of the notice for the public to  
10 review and comment on the demonstration. Public comments shall  
11 be made in accordance with the procedures and requirements in  
12 part 7001.0110. If public comments request that a contested  
13 case hearing be held, the agency shall review the requests using  
14 the standards in part 7001.0120 or 7001.0130, whichever  
15 applies. If a public information meeting or contested case  
16 hearing is held, the agency shall give notice of the hearing or  
17 meeting in accordance with the requirements of part 7001.0120 or  
18 7001.0130, whichever applies, except that the agency shall give  
19 notice at least 30 days before the date of the hearing or  
20 meeting. In addition, notice of the hearing or meeting may be  
21 given at the same time as the notice of availability of the  
22 demonstration for a petition.

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

28 7045.0120 EXEMPT WASTES.

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

32 A. to P. [Unchanged.]

33 Q. Secondary materials that are reclaimed and  
34 returned to the original process or processes in which they were  
35 generated where they are reused in the production process

1 provided that:

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

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

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

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

14 7045.0219 SPECIAL REQUIREMENTS FOR SMALL QUANTITY GENERATORS OF  
15 HAZARDOUS WASTE.

16 Subpart 1. to 4. [Unchanged.]

17 Subp. 5. **Management requirements.**

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

20 (1) to (6) [Unchanged.]

21 (7) parts 7045.0626 and 7045.0629.

22 B. and C. [Unchanged.]

23 Subp. 6. [Unchanged.]

24 7045.0292 ACCUMULATION OF HAZARDOUS WASTE.

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

28 A. [Unchanged.]

29 B. the waste is placed in containers which meet the  
30 standards of part 7045.0270, subpart 4 and are managed in  
31 accordance with part 7045.0626, subparts 4 to 6; or in tanks  
32 provided the generator complies with the requirements of part  
33 7045.0628 except part 7045.0628, subpart 9, item C, and subpart  
34 12;

35 C. to H. [Unchanged.]

1 Subp. 2. to 4. [Unchanged.]

2 7045.0452 GENERAL FACILITY STANDARDS.

3 Subpart 1. to 4. [Unchanged.]

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

6 A. and B. [Unchanged.]

7 C. The frequency of inspection may vary for the items  
8 on the schedule. However, it must be based on the rate of  
9 possible deterioration of the equipment and the probability of  
10 an environmental or human health incident if the deterioration  
11 or malfunctions or any operator error goes undetected between  
12 inspections. Areas subject to spills, such as loading and  
13 unloading areas, must be inspected daily when in use. The  
14 inspection schedule must include the terms and frequencies  
15 called for in parts 7045.0526, subpart 5; 7045.0528, subparts 4,  
16 5, and 7; 7045.0532, subpart 5; 7045.0534, subparts 5 and 6;  
17 7045.0538, subpart 5; and 7045.0542, subpart 7, where  
18 applicable. The inspection schedule must be submitted with the  
19 permit application. The commissioner shall evaluate the  
20 schedule along with the rest of the application to ensure that  
21 it adequately protects human health and the environment. As  
22 part of this review, the commissioner may modify or amend the  
23 schedule as necessary.

24 D. and E. [Unchanged.]

25 7045.0478 OPERATING RECORD.

26 Subpart 1. and 2. [Unchanged.]

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

30 A. to G. [Unchanged.]

31 H. Monitoring, testing, or analytical data where  
32 required by parts 7045.0484; 7045.0528, subparts 2, 4, 5, and 7;  
33 7045.0532, subpart 5; 7045.0534, subparts 5 and 6; 7045.0536,  
34 subparts 5, 6, and 8; 7045.0538, subparts 5 and 6; and  
35 7045.0542, subpart 7.



1 I. and J. [Unchanged.]

2 7045.0490 POST-CLOSURE.

3 Subpart 1. Scope. Except as otherwise provided in part  
4 7045.0450, the provisions of subparts 2, 3, and parts 7045.0492  
5 to 7045.0496 apply to:

6 A. the owner or operator of a hazardous waste  
7 disposal facility;

8 B. the owner or operator of a waste pile or surface  
9 impoundment that is required by part 7045.0532, subpart 7, or  
10 7045.0534, subpart 7, to have a post-closure plan; and

11 C. the owner or operator of tank systems that are  
12 required under part 7045.0528, subpart 9, to meet the  
13 requirements for landfills.

14 Subp. 2. and 3. [Unchanged.]

15 7045.0498 FINANCIAL REQUIREMENTS.

16 Subpart 1. Scope. Parts 7045.0502, 7045.0504, and  
17 7045.0518 to 7045.0524 apply to owners and operators of all  
18 hazardous waste facilities, except as provided otherwise in this  
19 part or in part 7045.0450, subpart 3.

20 Parts 7045.0506 and 7045.0508 apply only to owners and  
21 operators of:

22 A. disposal facilities;

23 B. waste piles, and surface impoundments from which  
24 the owner or operator intends to remove the wastes at closure,  
25 to the extent that he or she is required to develop a contingent  
26 closure and post-closure care plan in parts 7045.0532, subpart  
27 7; and 7045.0534, subpart 7; and

28 C. tank systems that are required under part  
29 7045.0528, subpart 9, to meet the requirements for landfills.

30 Parts 7045.0512 to 7045.0516 apply only to owners and  
31 operators of facilities that treat, store, or dispose of  
32 hazardous waste in surface impoundments, waste piles, land  
33 treatment units, or landfills.

34 The state and the federal government are exempt from the  
35 requirements of parts 7045.0498 to 7045.0524.

1 Subp. 2. [Unchanged.]

2 7045.0528 TANKS.

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

7 A. Tanks that are used to store or treat hazardous  
8 waste that contains no free liquids and are situated inside a  
9 building with an impermeable floor are exempted from the  
10 requirements in subparts 4 and 5. To demonstrate the absence or  
11 presence of free liquids in the stored or treated waste, EPA  
12 Method 9095 (Paint Filter Liquids Test) as described in "Test  
13 Methods for Evaluating Solid Wastes, Physical/Chemical Methods"  
14 (EPA Publication No. SW-846) must be used.

15 B. Tanks, including sumps, as defined in part  
16 7045.0020, that serve as part of a secondary containment system  
17 to collect or contain releases of hazardous wastes are exempt  
18 from the requirements in subparts 4 and 5.

19 Subp. 2. **Assessment of existing tank system's integrity.**  
20 The following requirements apply to existing tank systems:

21 A. For each existing tank system that does not have  
22 secondary containment meeting the requirements of subparts 4 and  
23 5, the owner or operator must determine whether the tank system  
24 is leaking or is unfit for use. Except as provided in item C,  
25 the owner or operator must obtain and keep on file at the  
26 facility a written assessment reviewed and certified by an  
27 independent, qualified registered professional engineer, that  
28 attests to the tank system's integrity. The certification must  
29 include the statements in parts 7001.0070 and 7001.0540.

30 B. This assessment must determine that the tank  
31 system is adequately designed and has sufficient structural  
32 strength and compatibility with the wastes to be stored or  
33 treated to ensure that it will not collapse, rupture, or fail.  
34 This assessment must consider the following:

35 (1) design standards, if available, according to

1 which the tank and ancillary equipment were constructed;

2 (2) hazardous characteristics of the waste that  
3 has been and will be handled;

4 (3) existing corrosion protection measures;

5 (4) documented age of the tank system, if  
6 available (otherwise, an estimate of the age); and

7 (5) results of a leak test, internal inspection,  
8 or other tank integrity examination. For nonenterable

9 underground, inground, or onground tanks, the assessment must  
10 include a leak test that is capable of taking into account the  
11 effects of temperature variations, tank end deflection, vapor  
12 pockets, and high water table effects. For other than

13 nonenterable underground, inground, or onground tanks and for  
14 ancillary equipment, this assessment must include either a leak  
15 test, as described above, or other integrity examination, that  
16 is certified by an independent, qualified, registered  
17 professional engineer, that addresses cracks, leaks, corrosion,  
18 and erosion. The certification must include the statements in  
19 parts 7001.0070 and 7001.0540.

20 C. Owners or operators of tank systems that were  
21 required to conduct this assessment by Code of Federal  
22 Regulations, title 40, section 264.191(a), must conduct and keep  
23 this assessment on file as required by that section. Owners or  
24 operators of all other existing tank systems must conduct this  
25 assessment within 18 months of the effective date of this part.  
26 Owners or operators of tank systems that store or treat  
27 materials that become hazardous wastes must conduct this  
28 assessment within 12 months after the date the waste becomes a  
29 hazardous waste.

30 D. If, as a result of the assessment conducted in  
31 accordance with item A, a tank system is found to be leaking or  
32 unfit for use, the owner or operator must comply with the  
33 requirements of subpart 8.

34 Subp. 3. Design and installation of new tank systems or  
35 components. New tank systems and components must be designed as  
36 follows:

1           A. Owners or operators of new tank systems or  
2 components must obtain and submit to the commissioner at time of  
3 submittal of Part B information, a written assessment, reviewed  
4 and certified by an independent, qualified registered  
5 professional engineer, attesting that the tank system has  
6 sufficient structural integrity and is acceptable for the  
7 storing and treating of hazardous waste. The certification must  
8 include the statements in parts 7001.0070 and 7001.0540. The  
9 assessment must show that the foundation, structural support,  
10 seams, connections, and pressure controls, if applicable, are  
11 adequately designed and that the tank system has sufficient  
12 structural strength, compatibility with the waste to be stored  
13 or treated, and corrosion protection to ensure that it will not  
14 collapse, rupture, or fail. This assessment must include the  
15 following information:

16                   (1) design standards according to which tanks  
17 and/or the ancillary equipment are constructed;

18                   (2) hazardous characteristics of the waste to be  
19 handled;

20                   (3) for new tank systems or components in which  
21 the external shell of a metal tank or any external metal  
22 component of the tank system will be in contact with the soil or  
23 with water, a determination by a corrosion expert of the factors  
24 affecting the potential for corrosion, including soil moisture  
25 content, soil pH, soil sulfides level, soil resistivity,  
26 structure to soil potential, influence of nearby underground  
27 metal structures such as piping, existence of stray electric  
28 current, and existing corrosion-protection measures such as  
29 coating and cathodic protection. The determination must also  
30 address the type and degree of external corrosion protection  
31 that are needed to ensure the integrity of the tank system  
32 during the use of the tank system or component. This protection  
33 must consist of corrosion-resistant materials of construction  
34 such as special alloys or fiberglass reinforced plastic;  
35 corrosion-resistant coating, such as epoxy or fiberglass, with  
36 cathodic protection such as impressed current or sacrificial

1 anodes; or electrical isolation devices such as insulating  
2 joints, or flanges;

3 (4) for underground tank system components that  
4 are likely to be adversely affected by vehicular traffic, a  
5 determination of design or operational measures that will  
6 protect the tank system against potential damage; and

7 (5) design considerations to ensure that tank  
8 foundations will maintain the load of a full tank, tank systems  
9 will be anchored to prevent flotation or dislodgement where the  
10 tank system is placed in a saturated zone, and tank systems will  
11 withstand the effects of frost heave.

12 B. The owner or operator of a new tank system must  
13 ensure that proper handling procedures are adhered to in order  
14 to prevent damage to the system during installation. Before  
15 covering, enclosing, or placing a new tank system or component  
16 in use, an independent, qualified installation inspector or an  
17 independent, qualified, registered professional engineer, either  
18 of whom is trained and experienced in the proper installation of  
19 tank systems or components, must inspect the system for the  
20 presence of weld breaks, punctures, scrapes of protective  
21 coatings, cracks, corrosion, or other structural damage or  
22 inadequate construction or installation. All discrepancies must  
23 be remedied before the tank system is covered, enclosed, or  
24 placed in use.

25 C. New tank systems or components that are placed  
26 underground and that are backfilled must be provided with a  
27 backfill material that is a noncorrosive, porous, homogeneous  
28 substance and that is installed so that the backfill is placed  
29 completely around the tank and compacted to ensure that the tank  
30 and piping are fully and uniformly supported.

31 D. All new tanks and ancillary equipment must be  
32 tested for tightness before being covered, enclosed, or placed  
33 in use. If a tank system is found not to be tight, all repairs  
34 necessary to remedy the leaks in the system must be performed  
35 before the tank system is covered, enclosed, or placed into use.

36 E. Ancillary equipment must be supported and

1 protected against physical damage and excessive stress due to  
2 settlement, vibration, expansion, or contraction.

3 F. The owner or operator must provide the type and  
4 degree of corrosion protection recommended by an independent  
5 corrosion expert, based on the information provided under item  
6 A, subitem (3), or other corrosion protection if the  
7 commissioner believes other corrosion protection is necessary to  
8 ensure the integrity of the tank system during use of the tank  
9 system. The installation of a corrosion protection system that  
10 is field fabricated must be supervised by an independent  
11 corrosion expert to ensure proper installation.

12 G. The owner or operator must obtain and keep on file  
13 at the facility written statements by those persons required to  
14 certify the design of the tank system and supervise the  
15 installation of the tank system in accordance with the  
16 requirements of items A to F that attest that the tank system  
17 was properly designed and installed and that repairs under items  
18 B and D were performed. The certification must include the  
19 statements in parts 7001.0070 and 7001.0540.

20 Subp. 4. **Containment and detection of releases.** The  
21 following requirements apply to the containment and detection of  
22 releases from tanks:

23 A. In order to prevent the release of hazardous waste  
24 or hazardous constituents to the environment, secondary  
25 containment that meets the requirements of this part must be  
26 provided, except as provided in item H:

27 (1) for new tank systems or components, before  
28 they are put into service;

29 (2) for existing tank systems, within five years  
30 of the effective date of these rules, except as provided in  
31 subitem (3);

32 (3) for tank systems that are known to be more  
33 than 15 years old or that will reach 15 years of age before the  
34 time provided in subitem (2), by January 12, 1989;

35 (4) for tank systems that store or treat  
36 materials that become hazardous wastes, within two years of the

1 date the material becomes hazardous waste; and

2 (5) for all existing tanks used to store or treat  
3 EPA hazardous waste Nos. F020, F021, F022, F023, F026, F027, and  
4 F028, by January 12, 1989.

5 B. Secondary containment systems must be:

6 (1) designed, installed, and operated to prevent  
7 any migration of wastes or accumulated liquid out of the system  
8 to the soil, ground water, or surface water at any time during  
9 the use of the tank system; and

10 (2) capable of detecting and collecting releases  
11 and accumulated liquids until the collected material is removed.

12 C. To meet the requirements of item B, secondary  
13 containment systems must be:

14 (1) constructed of or lined with materials that  
15 are compatible with the waste to be placed in the tank system  
16 and must have sufficient strength and thickness to prevent  
17 failure owing to pressure gradients, including static head and  
18 external hydrological forces; physical contact with the waste to  
19 which it is exposed; climatic conditions; and the stress of  
20 daily operation, including stresses from nearby vehicular  
21 traffic;

22 (2) placed on a foundation or base capable of  
23 providing support to the secondary containment system,  
24 resistance to pressure gradients above and below the system, and  
25 capable of preventing failure due to settlement, compression, or  
26 uplift;

27 (3) provided with a leak-detection system that is  
28 designed and operated so that it will detect the failure of  
29 either the primary or secondary containment structure or the  
30 presence of any release of hazardous waste or accumulated liquid  
31 in the secondary containment system within 24 hours, or at the  
32 earliest practicable time if the owner or operator can  
33 demonstrate to the commissioner that existing detection  
34 technologies or site conditions will not allow detection of a  
35 release within 24 hours; and

36 (4) sloped or otherwise designed or operated to

1 drain and remove liquids resulting from leaks, spills, or  
2 precipitation. Spilled or leaked waste and accumulated  
3 precipitation must be removed from the secondary containment  
4 system within 24 hours, or in as timely a manner as is possible  
5 to prevent harm to human health and the environment, if the  
6 owner or operator can demonstrate to the commissioner that  
7 removal of the released waste or accumulated precipitation  
8 cannot be accomplished within 24 hours.

9 D. Unless a petition is granted under part 7045.0075,  
10 subpart 7, secondary containment for tanks must include one or  
11 more of the following devices:

- 12 (1) a liner external to the tank;
- 13 (2) a vault;
- 14 (3) a double-walled tank; or
- 15 (4) an equivalent device as approved by the  
16 commissioner under part 7045.0075, subpart 6.

17 E. In addition to the requirements of items B, C, and  
18 D, an external liner system of secondary containment systems  
19 must be:

- 20 (1) designed or operated to contain 100 percent  
21 of the capacity of the largest tank within its boundary;
- 22 (2) designed and operated to prevent run-on or  
23 infiltration of precipitation into the secondary containment  
24 system unless the collection system has sufficient excess  
25 capacity to contain run-on or infiltration. The additional  
26 capacity must be sufficient to contain precipitation from a  
27 25-year, 24-hour rainfall event;
- 28 (3) free of cracks or gaps; and
- 29 (4) designed and installed to surround the tank  
30 completely and to cover all surrounding earth likely to come  
31 into contact with the waste if the waste is released from the  
32 tank; that is, capable of preventing lateral as well as vertical  
33 migration of the waste.

34 F. In addition to the requirements of items B, C, and  
35 D, a vault system must be:

- 36 (1) designed or operated to contain 100 percent



1 of the capacity of the largest tank within its boundary;

2 (2) designed or operated to prevent run-on or  
3 infiltration of precipitation into the secondary containment  
4 system unless the collection system has sufficient excess  
5 capacity to contain run-on or infiltration. Such additional  
6 capacity must be sufficient to contain precipitation from a  
7 25-year, 24-hour rainfall event;

8 (3) constructed with chemical-resistant water  
9 stops in place at all joints, if any;

10 (4) provided with an impermeable interior coating  
11 or lining that is compatible with the stored waste and that will  
12 prevent migration of waste into the concrete;

13 (5) provided with a means to protect against the  
14 formation and ignition of vapors within the vault, if the waste  
15 being stored or treated meets the definition of ignitable waste  
16 under part 7045.0131, or reactive waste under part 7045.0131 and  
17 may form an ignitable or explosive vapor; and

18 (6) provided with an exterior moisture barrier or  
19 be otherwise designed or operated to prevent migration of  
20 moisture into the vault if the vault is subject to hydraulic  
21 pressure.

22 G. In addition to the requirements of items B, C, and  
23 D, double-walled tanks must be:

24 (1) designed as an integral structure, that is,  
25 an inner tank completely enveloped within an outer shell, so  
26 that any release from the inner tank is contained by the outer  
27 shell;

28 (2) protected, if constructed of metal, from both  
29 corrosion of the primary tank interior and of the external  
30 surface of the outer shell; and

31 (3) provided with a built-in continuous leak  
32 detection system capable of detecting a release within 24 hours,  
33 or at the earliest practicable time, if the owner or operator  
34 can demonstrate to the commissioner, and the commissioner  
35 concludes, that the existing detection technology or site  
36 conditions would not allow detection of a release within 24

1 hours.

2 H. Ancillary equipment must be provided with  
3 secondary containment, such as trench, jacketing, or  
4 double-walled piping, that meets the requirements of items B and  
5 C, except for:

6 (1) aboveground piping, exclusive of flanges,  
7 joints, valves, and other connections, that are visually  
8 inspected for leaks on a daily basis;

9 (2) welded flanges, welded joints, and welded  
10 connections, that are visually inspected for leaks on a daily  
11 basis;

12 (3) sealless or magnetic coupling pumps that are  
13 visually inspected for leaks on a daily basis; and

14 (4) pressurized aboveground piping systems with  
15 automatic shut-off devices, such as excess flow check valves,  
16 flow metering shutdown devices, and loss of pressure actuated  
17 shut-off devices, that are visually inspected for leaks on a  
18 daily basis.

19 Subp. 5. **Requirements for tank systems.** All tank systems,  
20 until such time as secondary containment that meets the  
21 requirements of this part is provided, must comply with the  
22 following:

23 A. For nonenterable underground, inground, and  
24 onground tanks, a leak test that meets the requirements of  
25 subpart 2, item B, subitem (5), or other tank integrity method,  
26 as approved or required by the commissioner, must be conducted  
27 at least annually.

28 B. For other than nonenterable underground, inground,  
29 and onground tanks, the owner or operator must either conduct a  
30 leak test as in item A, or develop a schedule and procedure for  
31 an assessment of the overall condition of the tank system by an  
32 independent, qualified, registered professional engineer. The  
33 schedule and procedure must be adequate to detect obvious  
34 cracks, leaks, and corrosion or erosion that may lead to cracks  
35 and leaks. The owner or operator must remove the stored waste  
36 from the tank, if necessary, to allow the condition of all

1 internal tank surfaces to be assessed. The frequency of these  
2 assessments must be based on the material of construction of the  
3 tank and its ancillary equipment, the age of the system, the  
4 type of corrosion or erosion protection used, the rate of  
5 corrosion or erosion observed during the previous inspection,  
6 and the characteristics of the waste being stored or treated.

7 C. For underground, inground, and onground tanks, a  
8 test to detect tank wall thinning and to determine that the  
9 minimum tank wall thickness is maintained. The frequency of the  
10 inspections will be determined by the commissioner based on  
11 consideration of waste type, tank construction and materials,  
12 age of facility, and facility management practices.

13 D. For ancillary equipment, a leak test or other  
14 integrity assessment as approved by the commissioner, must be  
15 conducted at least annually.

16 E. The owner or operator must maintain on file at the  
17 facility a record of the results of the assessments conducted in  
18 accordance with items A to D.

19 F. If a tank system or component is found to be  
20 leaking or unfit for use as a result of the leak test or  
21 assessment in items A to D, the owner or operator must comply  
22 with the requirements of subpart 8.

23 Subp. 6. General operating requirements.

24 A. Hazardous wastes or treatment reagents must not be  
25 placed in a tank system if they could cause the tank, its  
26 ancillary equipment, or the containment system to rupture, leak,  
27 corrode, or otherwise fail.

28 B. The owner or operator must use appropriate  
29 controls and practices to prevent spills and overflows from tank  
30 or containment systems. These include:

31 (1) spill prevention controls such as check  
32 valves and dry disconnect couplings;

33 (2) overfill prevention controls such as level  
34 sensing devices, high level alarms, automatic feed cutoff, or  
35 bypass to a standby tank; and

36 (3) maintenance of sufficient freeboard in

1 uncovered tanks to prevent overtopping by wave or wind action or  
2 by precipitation.

3 C. The owner or operator must comply with the  
4 requirements of subpart 8 if a leak or spill occurs in the tank  
5 system.

6 Subp. 7. **Inspections.** The following requirements apply to  
7 inspections:

8 A. The owner or operator must develop and follow a  
9 schedule and procedure for inspecting overfill controls.

10 B. The owner or operator must inspect at least once  
11 each operating day:

12 (1) aboveground portions of the tank system, if  
13 any, to detect corrosion or releases of waste;

14 (2) data gathered from monitoring and leak  
15 detection equipment, such as pressure or temperature gauges and  
16 monitoring wells, to ensure that the tank system is being  
17 operated according to its design; and

18 (3) the construction materials and the area  
19 immediately surrounding the externally accessible portion of the  
20 tank system, including the secondary containment system, such as  
21 dikes, to detect erosion or signs of releases of hazardous waste  
22 such as wet spots and dead vegetation.

23 C. The owner or operator must inspect cathodic  
24 protection systems, if present, according to the following  
25 schedule to ensure that they are functioning properly:

26 (1) the proper operation of the cathodic  
27 protection system must be confirmed within six months after  
28 initial installation and annually thereafter; and

29 (2) all sources of impressed current must be  
30 inspected and/or tested, as appropriate, at least bimonthly.

31 D. The owner or operator must document in the  
32 operating record of the facility an inspection of those items in  
33 items A to C.

34 Subp. 8. **Response to leaks or spills and disposition of**  
35 **leaking or unfit-for-use tank systems.** The owner or operator of  
36 a tank system or secondary containment system from which there

1 has been a leak or spill, or which is unfit for use, must  
2 satisfy the following requirements:

3           A. The owner or operator must immediately stop the  
4 flow of hazardous waste into the tank system or secondary  
5 containment system and inspect the system to determine the cause  
6 of the release.

7           B. Removal of waste from tank system or secondary  
8 containment system:

9           (1) If the release was from the tank system, the  
10 owner or operator must, within 24 hours after detection of the  
11 leak, or if the owner or operator demonstrates that it is not  
12 possible, at the earliest practicable time, remove as much of  
13 the waste as is necessary to prevent further release of  
14 hazardous waste to the environment and to allow inspection and  
15 repair of the tank system to be performed.

16           (2) If the material released was to a secondary  
17 containment system, all released materials must be removed  
18 within 24 hours or in as timely a manner as is possible to  
19 prevent harm to human health and the environment.

20           C. The owner or operator must immediately conduct a  
21 visual inspection of the release and, based upon that inspection:

22           (1) prevent further migration of the leak or  
23 spill to soils or surface water; and

24           (2) remove and properly dispose of any visible  
25 contamination of the soil or surface water.

26           D. Notification and reports.

27           (1) Any release to the environment must be  
28 reported to the commissioner within 24 hours of its detection.

29           (2) Within 30 days of detection of a release to  
30 the environment, a report containing the following information  
31 must be submitted to the commissioner. The report must include  
32 the likely route of migration of the release; the  
33 characteristics of the surrounding soil, including soil  
34 composition, geology, hydrogeology, and climate; and the results  
35 of any monitoring or sampling conducted in connection with the  
36 release, if available. If sampling or monitoring data relating

1 to the release are not available within 30 days, these data must  
2 be submitted to the commissioner as soon as they become  
3 available. The report must also address the proximity to  
4 downgradient drinking water, surface water, and populated areas  
5 and a description of response actions taken or planned.

6 (3) A leak or spill of hazardous waste that is  
7 less than or equal to a quantity of one pound and immediately  
8 contained and cleaned up is exempt from the requirements of  
9 subitem (2).

10 E. Provision of secondary containment, repair, or  
11 closure.

12 (1) Unless the owner or operator satisfies the  
13 requirements of subitems (2) to (4), the tank system must be  
14 closed in accordance with subpart 9.

15 (2) If the cause of the release was a spill that  
16 has not damaged the integrity of the system, the owner or  
17 operator may return the system to service as soon as the  
18 released waste is removed and repairs, if necessary, are made.

19 (3) If the cause of the release was a leak from  
20 the primary tank system into the secondary containment system,  
21 the system must be repaired before returning the tank system to  
22 service.

23 (4) If the source of the release was a leak to  
24 the environment from a component of a tank system without  
25 secondary containment, the owner or operator must provide the  
26 component of the system from which the leak occurred with  
27 secondary containment that satisfies the requirements of  
28 subparts 4 and 5 before it can be returned to service, unless  
29 the source of the leak is an aboveground portion of a tank  
30 system that can be inspected visually. If the source is an  
31 aboveground component that can be inspected visually, the  
32 component must be repaired and may be returned to service  
33 without secondary containment as long as the requirements of  
34 item F are satisfied. If a component is replaced to comply with  
35 the requirements of this subitem, that component must satisfy  
36 the requirements for new tank systems or components in subparts

1 3 to 5. Additionally, if a leak has occurred in any portion of  
2 a tank system component that is not readily accessible for  
3 visual inspection, such as the bottom of an inground or onground  
4 tank, the entire component must be provided with secondary  
5 containment in accordance with subparts 4 and 5 before being  
6 returned to use.

7 F. If the owner or operator has repaired a tank  
8 system in accordance with item E and the repair has been  
9 extensive, such as installation of an internal liner or repair  
10 of a ruptured primary containment or secondary containment  
11 vessel, the tank system must not be returned to service unless  
12 the owner or operator has obtained a certification by an  
13 independent, qualified, registered professional engineer that  
14 the repaired system is capable of handling hazardous wastes  
15 without release. This certification must be submitted to the  
16 commissioner before returning the tank system to use and must  
17 include the statements in parts 7001.0070 and 7001.0540.

18 Subp. 9. Closure and post-closure care. The requirements  
19 for closure and post-closure care of tank systems are as follows:

20 A. At closure of a tank system, the owner or operator  
21 must remove or decontaminate all waste residues, contaminated  
22 containment system components, such as liners, contaminated  
23 soils, and structures and equipment contaminated with waste, and  
24 manage them as hazardous waste unless it can be demonstrated  
25 that they are not a hazardous waste. The closure plan, closure  
26 activities, cost estimates for closure, and financial  
27 responsibility for tank systems must meet all of the  
28 requirements of parts 7045.0486 to 7045.0524.

29 B. If the owner or operator demonstrates that not all  
30 contaminated soils can be practicably removed or decontaminated  
31 as required in item A, then the owner or operator must close the  
32 tank system and perform post-closure care in accordance with the  
33 closure and post-closure care requirements of part 7045.0538,  
34 subpart 7. In addition, for the purposes of closure,  
35 post-closure, and financial responsibility, the tank system is  
36 then considered to be a landfill, and the owner or operator must

1 meet all of the requirements of parts 7045.0486 to 7045.0524.

2 C. If an owner or operator has a tank system that  
3 does not have secondary containment that meets the requirements  
4 of subpart 4, items B to F, and has not been granted a petition  
5 under part 7045.0075, subpart 6 or 7, then:

6 (1) the closure plan for the tank system must  
7 include both a plan for complying with item A and a contingent  
8 plan for complying with item B;

9 (2) a contingent post-closure plan for complying  
10 with item B must be prepared and submitted as part of the permit  
11 application;

12 (3) the cost estimates calculated for closure and  
13 post-closure care must reflect the costs of complying with the  
14 contingent closure plan and the contingent post-closure plan, if  
15 those costs are greater than the costs of complying with the  
16 closure plan prepared for the expected closure under item A;

17 (4) financial assurance must be based on the cost  
18 estimates in subitem (3); and

19 (5) for the purposes of the contingent closure  
20 and post-closure plans, the tank system is considered to be a  
21 landfill, and the contingent plans must meet all of the closure,  
22 post-closure, and financial responsibility requirements of parts  
23 7045.0486 to 7045.0524.

24 Subp. 10. **Special requirements for ignitable or reactive**  
25 **waste.** Ignitable or reactive waste must not be placed in a tank  
26 unless:

27 A. the waste is treated, rendered, or mixed before or  
28 immediately after placement in the tank so that the resulting  
29 waste, mixture, or dissolved material no longer meets the  
30 definition of ignitable or reactive waste under part 7045.0131,  
31 subparts 2 and 5, and compliance with part 7045.0456, subpart 2  
32 is maintained;

33 B. the waste is stored or treated in such a way that  
34 it is protected from any materials or conditions which may cause  
35 the waste to ignite or react; or

36 C. the tank is used solely for emergencies.



1       The owner or operator of a facility that treats or stores  
2 ignitable or reactive waste in a tank shall comply with the  
3 requirements for the maintenance of protective distances between  
4 the waste management area and any public ways, streets, alleys,  
5 or an adjoining property line that can be built upon, as  
6 required in the National Fire Protection Association's buffer  
7 zone requirements for tanks contained in Tables 2-1 to 2-6 of  
8 the Flammable and Combustible Liquids Code in the National Fire  
9 Codes, 1981 issued by the National Fire Protection Association  
10 (Quincy, Massachusetts, 1981). As required by part 7045.0458,  
11 the waste analysis plan must include analyses needed to comply  
12 with these special requirements for ignitable or reactive waste.  
13 Additional requirements for ignitable and reactive wastes are  
14 contained in part 7045.0456, subpart 1. Part 7045.0456, subpart  
15 3 also requires waste analysis, trial tests, or other  
16 documentation to ensure compliance with part 7045.0456, subpart  
17 2. As required by part 7045.0478, the owner or operator shall  
18 place the results of each waste analysis and trial test, and any  
19 documented information, in the operating record of the facility.

20       Subp. 11. **Special requirements for incompatible wastes.**  
21 Incompatible wastes or incompatible wastes and materials, must  
22 not be placed in the same tank, unless compliance with part  
23 7045.0456, subpart 2 is maintained.

24       Hazardous waste must not be placed in a tank system that  
25 has not been decontaminated and which previously held an  
26 incompatible waste or material, unless compliance with part  
27 7045.0456, subpart 2 is maintained. As required by part  
28 7045.0458, the waste analysis plan must include analyses needed  
29 to comply with these special requirements for incompatible  
30 wastes. Part 7045.0456, subpart 3 also requires waste analyses,  
31 trial tests, or other documentation to ensure compliance with  
32 part 7045.0456, subpart 2. As required by part 7045.0478, the  
33 owner or operator shall place the results of each waste analysis  
34 and trial test, and any documented information, in the operating  
35 record of the facility.

36       Subp. 9. [See Repealer.]

1 7045.0556 GENERAL FACILITY STANDARDS.

2 Subpart 1. to 4. [Unchanged.]

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

5 A. The owner or operator shall inspect the facility  
6 for malfunctions and deterioration, operator errors, and  
7 discharges which may be causing or may lead to the release of  
8 hazardous waste constituents to the environment or a threat to  
9 human health. The owner or operator shall conduct these  
10 inspections often enough to identify problems in time to correct  
11 them before they harm human health or the environment.

12 B. The owner or operator shall develop and follow a  
13 written schedule for inspecting monitoring equipment, safety and  
14 emergency equipment, security devices, and operating and  
15 structural equipment that are important to preventing,  
16 detecting, or responding to environmental or human health  
17 hazards. The owner or operator shall keep this schedule at the  
18 facility. The schedule must identify the types of problems  
19 which are to be looked for during the inspection.

20 C. The frequency of inspection may vary for the items  
21 on the schedule. However, it must be based on the rate of  
22 possible deterioration of the equipment and the probability of  
23 an environmental or human health incident if the deterioration  
24 or malfunction or any operator error goes undetected between  
25 inspections. Areas subject to spills, such as loading and  
26 unloading areas, must be inspected daily when in use. The  
27 inspection schedule must include the items and frequencies  
28 called for in parts 7045.0626, subpart 5; 7045.0628, subparts 4,  
29 5, and 7; 7045.0630, subpart 5; 7045.0640, subpart 4; and  
30 7045.0642, subpart 4.

31 D. The owner or operator shall remedy any  
32 deterioration or malfunction of equipment or structures which  
33 the inspection reveals on a schedule which ensures that the  
34 problem does not lead to an environmental or human health  
35 hazard. Where a hazard is imminent or has already occurred,

1 remedial action must be taken immediately.

2 E. The owner or operator shall record inspections in  
3 an inspection log or summary. He or she shall keep these  
4 records for at least three years from the date of inspection.  
5 These records must include the date and time of the inspection,  
6 the name of the inspector, a notation of the observations made,  
7 and the date and nature of any repairs or other remedial actions.

8 Subp. 6. and 7. [Unchanged.]

9 7045.0564 WASTE ANALYSIS REQUIREMENTS.

10 Subpart 1. [Unchanged.]

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

16 A. to E. [Unchanged.]

17 F. Where applicable, the methods which will be used  
18 to meet the additional waste analysis requirements for specific  
19 waste management methods as specified in parts 7045.0628,  
20 subpart 12; 7045.0630, subpart 4; 7045.0632, subpart 3;  
21 7045.0634, subpart 3; 7045.0638, subpart 7; 7045.0640, subpart  
22 2; and 7045.0642, subpart 3.

23 G. [Unchanged.]

24 7045.0584 OPERATING RECORD.

25 Subpart 1. and 2. [Unchanged.]

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

29 A. to D. [Unchanged.]

30 E. Records and results of waste analysis and trial  
31 tests performed as specified in parts 7045.0564; 7045.0628,  
32 subpart 12; 7045.0630, subpart 4; 7045.0632, subpart 3;  
33 7045.0634, subpart 3; 7045.0638, subpart 7; 7045.0640, subpart  
34 2; and 7045.0642, subpart 3.

35 F. and G. [Unchanged.]

1           H. Monitoring, testing, or analytical data where  
2 required by parts 7045.0590, subparts 1, 6, and 7; 7045.0592,  
3 subparts 1 and 7; 7045.0628, subparts 2, 4, 5, and 7; 7045.0634,  
4 subparts 4 and 6, item D, subitem (1); 7045.0636; and 7045.0640,  
5 subpart 4. As required by parts 7045.0590, subparts 6 and 7;  
6 and 7045.0592, subpart 7, monitoring data at disposal facilities  
7 must be kept throughout the post-closure period.

8           I. [Unchanged.]

9 7045.0600 POST-CLOSURE.

10          Subpart 1. **Scope.** This part and parts 7045.0602 to  
11 7045.0606 apply to the owners and operators of all hazardous  
12 waste disposal facilities, including tank systems that are  
13 required under part 7045.0628, subpart 9, to meet the  
14 requirements for landfills, except as provided otherwise in part  
15 7045.0552.

16          Subp. 2. and 3. [Unchanged.]

17 7045.0608 FINANCIAL REQUIREMENTS.

18          Subpart 1. **Scope.** The requirements of parts 7045.0610,  
19 7045.0612, and 7045.0620 to 7045.0624 apply to owners and  
20 operators of hazardous waste facilities except as provided  
21 otherwise in this part or in part 7045.0552.

22          The requirements of parts 7045.0614 to 7045.0618 apply only  
23 to owners and operators of disposal facilities and tank systems  
24 that are required under part 7045.0628, subpart 9, to meet the  
25 requirements for landfills.

26          The state and the federal government are exempt from the  
27 requirements of parts 7045.0608 to 7045.0624.

28          Subp. 2. [Unchanged.]

29 7045.0628 TANKS.

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

34          A. Tanks that are used to store or treat hazardous

1 waste containing no free liquids and that are located inside a  
2 building with an impermeable floor are exempt from the  
3 requirements of subparts 4 and 5. To demonstrate the absence or  
4 presence of free liquids in the stored or treated waste, EPA  
5 Method 9095 (Paint Filter Liquids Test) as described in "Test  
6 Methods for Evaluating Solid Wastes, Physical/Chemical Methods"  
7 (EPA Publication No. SW-846) must be used.

8           B. Tanks, including sumps, as defined in part  
9 7045.0020 that serve as part of a secondary containment system  
10 to collect or contain releases of hazardous wastes are exempted  
11 from the requirements in subparts 4 and 5.

12           **Subp. 2. Assessment of existing tank system's integrity.**

13 The following requirements apply to existing tank systems:

14           A. For each existing tank system that does not have  
15 secondary containment meeting the requirements of subparts 4 and  
16 5, the owner or operator must determine whether the tank system  
17 is leaking or is unfit for use. Except as provided in item C,  
18 the owner or operator must obtain and keep on file at the  
19 facility a written assessment reviewed and certified by an  
20 independent, qualified, registered professional engineer that  
21 attests to the tank system's integrity. The certification must  
22 include the statements in parts 7001.0070 and 7001.0540.

23           B. This assessment must determine that the tank  
24 system is adequately designed and has sufficient structural  
25 strength and compatibility with the waste to be stored or  
26 treated to ensure that it will not collapse, rupture, or fail.  
27 This assessment must consider the following:

28                   (1) design standards, if available, according to  
29 which the tank and ancillary equipment were constructed;

30                   (2) hazardous characteristics of the waste that  
31 has been or will be handled;

32                   (3) existing corrosion protection measures;

33                   (4) documented age of the tank system, if  
34 available, otherwise, an estimate of the age; and

35                   (5) results of a leak test, internal inspection,  
36 or other tank integrity examination. For nonenterable

1 underground, inground, or onground tanks, this assessment must  
2 consist of a leak test that is capable of taking into account  
3 the effects of temperature variations, tank end deflection,  
4 vapor pockets, and high water table effects. For other than  
5 nonenterable underground, inground, or onground tanks and for  
6 ancillary equipment, this assessment must be either a leak test,  
7 as described above, or an internal inspection and/or other tank  
8 integrity examination certified by an independent, qualified,  
9 registered professional engineer, that addresses cracks, leaks,  
10 corrosion, and erosion. The certification must include the  
11 statements in parts 7001.0070 and 7001.0540.

12 C. Owners or operators of tank systems that were  
13 required to conduct this assessment by Code of Federal  
14 Regulations, title 40, section 265.191(a), must conduct and keep  
15 this assessment on file as required by that section. Owners or  
16 operators of all other existing tank systems must conduct this  
17 assessment within 18 months of the effective date of this part.  
18 Owners or operators of tank systems that store or treat  
19 materials that become hazardous wastes must conduct this  
20 assessment within 12 months after the date that the waste  
21 becomes a hazardous waste.

22 D. If, as a result of the assessment conducted in  
23 accordance with item A, a tank system is found to be leaking or  
24 unfit for use, the owner or operator must comply with the  
25 requirements of subpart 8.

26 Subp. 3. Design and installation of new tank systems or  
27 components.

28 A. Owners or operators of new tank systems or  
29 components must ensure that the foundation, structural support,  
30 seams, connections, and pressure controls, if applicable, are  
31 adequately designed and that the tank system has sufficient  
32 structural strength, compatibility with the waste to be stored  
33 or treated, and corrosion protection so that it will not  
34 collapse, rupture, or fail. The owner or operator must obtain a  
35 written assessment reviewed and certified by an independent,  
36 qualified, registered professional engineer, attesting that the

1 system has sufficient structural integrity and is acceptable for  
2 the storing and treating of hazardous waste. The certification  
3 must include the statements in parts 7001.0070 and 7001.0540.

4 This assessment must include the following information:

5 (1) design standards according to which the tank  
6 and ancillary equipment is or will be constructed;

7 (2) hazardous characteristics of the waste to be  
8 handled;

9 (3) for new tank systems or components in which  
10 the external shell of a metal tank or any external metal  
11 component of the tank system is or will be in contact with the  
12 soil or with water, a determination by a corrosion expert of the  
13 factors affecting the potential for corrosion, including soil  
14 moisture content, soil pH, soil sulfides level, soil  
15 resistivity, structure to soil potential, influence of nearby  
16 underground metal structures such as piping, stray electric  
17 current, and existing corrosion-protection measures such as  
18 coating and cathodic protection. The determination must also  
19 address the type and degree of external corrosion protection  
20 that are needed to ensure the integrity of the tank system  
21 during the use of the tank system or component. This protection  
22 must consist of corrosion-resistant materials of construction  
23 such as special alloys or fiberglass-reinforced plastic;  
24 corrosion-resistant coating, such as epoxy or fiberglass, with  
25 cathodic protection such as impressed current or sacrificial  
26 anodes; and electrical isolation devices such as insulating  
27 joints or flanges;

28 (4) for underground tank system components that  
29 are likely to be affected by vehicular traffic, a determination  
30 of design or operational measures that will protect the tank  
31 system against potential damage; and

32 (5) design considerations to ensure that tank  
33 foundations will maintain the load of a full tank, tank systems  
34 will be anchored to prevent flotation or dislodgement where the  
35 tank system is placed in a saturated zone, and tank systems will  
36 withstand the effects of frost heave.

1           B. The owner or operator of a new tank system must  
2 ensure that proper handling procedures are adhered to in order  
3 to prevent damage to the system during installation. Before  
4 covering, enclosing, or placing a new tank system or component  
5 in use, an independent, qualified installation inspector or an  
6 independent, qualified, registered professional engineer, either  
7 of whom is trained and experienced in the proper installation of  
8 tank systems, must inspect the system or component for the  
9 presence of weld breaks, punctures, scrapes of protective  
10 coatings, cracks, corrosion, and other structural damage or  
11 inadequate construction or installation. All discrepancies must  
12 be remedied before the tank system is covered, enclosed, or  
13 placed in use.

14           C. New tank systems or components and piping that are  
15 placed underground and that are backfilled must be provided with  
16 a backfill material that is a noncorrosive, porous, homogeneous  
17 substance and that is carefully installed so that the backfill  
18 is placed completely around the tank and compacted to ensure  
19 that the tank and piping are fully and uniformly supported.

20           D. All new tanks and ancillary equipment must be  
21 tested for tightness before being covered, enclosed, or placed  
22 in use. If a tank system is found not to be tight, all repairs  
23 necessary to remedy the leaks in the system must be performed  
24 before the tank system is covered, enclosed, or placed in use.

25           E. Ancillary equipment must be supported and  
26 protected against physical damage and excessive stress due to  
27 settlement, vibration, expansion, or contraction.

28           F. The owner or operator must provide the type and  
29 degree of corrosion protection necessary, based on the  
30 information provided under item A, subitem (3), to ensure the  
31 integrity of the tank system during use of the tank system. The  
32 installation of a corrosion-protection system that is field  
33 fabricated must be supervised by an independent corrosion expert  
34 to ensure proper installation.

35           G. The owner or operator must obtain and keep on file  
36 at the facility written statements by those persons required to



1 certify the design of the tank system and supervise the  
2 installation of the tank system in accordance with the  
3 requirements of items B to F to attest that the tank system was  
4 properly designed and installed and that repairs under items B  
5 and D were performed. The certification must include the  
6 statements in parts 7001.0070 and 7001.0540.

7 Subp. 4. Containment and detection of releases.

8 A. In order to prevent the release of hazardous waste  
9 or hazardous constituents to the environment, secondary  
10 containment that meets the requirements of this part must be  
11 provided, except as provided in item H:

12 (1) for new tank systems or components, before  
13 being put into service;

14 (2) for existing tank systems, within five years  
15 of the effective date of these rules except as provided in  
16 subitem (3);

17 (3) for existing tank systems that are known to  
18 be more than 15 years old or that will reach 15 years of age  
19 before the time provided in subitem (2), by January 12, 1989;

20 (4) for tank systems that store or treat material  
21 that becomes a hazardous waste, within two years of the date the  
22 material becomes a hazardous waste; and

23 (5) for existing tanks used to store or treat EPA  
24 Hazardous Waste Nos. F020, F021, F022, F023, F026, F027, and  
25 F028, by January 12, 1989.

26 B. Secondary containment systems must be:

27 (1) designed, installed, and operated to prevent  
28 any migration of wastes or accumulated liquid out of the system  
29 to the soil, ground water, or surface water at any time during  
30 the use of the tank system; and

31 (2) capable of detecting and collecting releases  
32 and accumulated liquids until the collected material is removed.

33 C. To meet the requirements of item B, secondary  
34 containment systems must be at a minimum:

35 (1) constructed of or lined with materials that  
36 are compatible with the waste to be placed in the tank system

1 and must have sufficient strength and thickness to prevent  
2 failure due to pressure gradients, including static head and  
3 external hydrological forces; physical contact with the waste to  
4 which they are exposed; climatic conditions; the stress of  
5 installation; and the stress of daily operation, including  
6 stresses from nearby vehicular traffic;

7 (2) placed on a foundation or base capable of  
8 providing support to the secondary containment system and  
9 resistance to pressure gradients above and below the system and  
10 capable of preventing failure due to settlement, compression, or  
11 uplift;

12 (3) provided with a leak detection system that is  
13 designed and operated so that it will detect the failure of  
14 either the primary and secondary containment structure or any  
15 release of hazardous waste or accumulated liquid in the  
16 secondary containment system within 24 hours, or at the earliest  
17 practicable time if the existing detection technology or site  
18 conditions will not allow detection of a release within 24  
19 hours; and

20 (4) sloped or otherwise designed or operated to  
21 drain and remove liquids resulting from leaks, spills, or  
22 precipitation. Spilled or leaked waste and accumulated  
23 precipitation must be removed from the secondary containment  
24 system within 24 hours, or in as timely a manner as is possible  
25 to prevent harm to human health or the environment, if removal  
26 of the released waste or accumulated precipitation cannot be  
27 accomplished within 24 hours.

28 D. Unless a petition is granted under part 7045.0075,  
29 subpart 7, secondary containment for tanks must include one or  
30 more of the following devices:

31 (1) a liner external to the tank;

32 (2) a vault;

33 (3) a double-walled tank; or

34 (4) an equivalent device as approved by the

35 commissioner under part 7045.0075, subpart 6.

36 E. In addition to the requirements of items B, C, and

1 D, the external liner system of secondary containment systems  
2 must be:

3 (1) designed or operated to contain 100 percent  
4 of the capacity of the largest tank within its boundary;

5 (2) designed or operated to prevent run-on or  
6 infiltration of precipitation into the secondary containment  
7 system unless the collection system has sufficient excess  
8 capacity to contain run-on or infiltration. Such additional  
9 capacity must be sufficient to contain precipitation from a  
10 25-year, 24-hour rainfall event;

11 (3) free of cracks or gaps; and

12 (4) designed and installed to completely surround  
13 the tank and to cover all surrounding earth likely to come into  
14 contact with the waste if released from the tank; that is,  
15 capable of preventing lateral as well as vertical migration of  
16 the waste.

17 F. In addition to the requirements of items B, C, and  
18 D, a vault system must be:

19 (1) designed or operated to contain 100 percent  
20 of the capacity of the largest tank within its boundary;

21 (2) designed or operated to prevent run-on or  
22 infiltration of precipitation into the secondary containment  
23 system unless the collection system has sufficient excess  
24 capacity to contain run-on or infiltration. The additional  
25 capacity must be sufficient to contain precipitation from a  
26 25-year, 24-hour rainfall event;

27 (3) constructed with chemical-resistant water  
28 stops in place at all joints, if any;

29 (4) provided with an impermeable interior coating  
30 or lining that is compatible with the stored waste and that will  
31 prevent migration of waste into the concrete;

32 (5) provided with a means to protect against the  
33 formation of and ignition of vapors within the vault, if the  
34 waste being stored or treated meets the definition of ignitable  
35 waste under part 7045.0131, or reactive waste under part  
36 7045.0131 and may form an ignitable or explosive vapor; and

1           (6) provided with an exterior moisture barrier or  
2 be otherwise designed or operated to prevent migration of  
3 moisture into the vault if the vault is subject to hydraulic  
4 pressure.

5           G. In addition to the requirements of items B, C, and  
6 D, double-walled tanks must be:

7           (1) designed as an integral structure, such as an  
8 inner tank within an outer shell so that any release from the  
9 inner tank is contained by the outer shell;

10           (2) protected, if constructed of metal, from both  
11 corrosion of the primary tank interior and the external surface  
12 of the outer shell; and

13           (3) provided with a built-in, continuous  
14 leak-detection system capable of detecting a release within 24  
15 hours or at the earliest practicable time, if the owner or  
16 operator can demonstrate to the commissioner, and the  
17 commissioner concurs, that the existing leak-detection  
18 technology or site conditions will not allow detection of a  
19 release within 24 hours.

20           H. Ancillary equipment must be provided with full  
21 secondary containment, such as trench, jacketing, or  
22 double-walled piping, that meets the requirements of items B and  
23 C, except for:

24           (1) aboveground piping, exclusive of flanges,  
25 joints, valves, and other connections, that are visually  
26 inspected on a daily basis;

27           (2) welded flanges, welded joints, and welded  
28 connections, that are visually inspected on a daily basis;

29           (3) sealless or magnetic coupling pumps, that are  
30 visually inspected on a daily basis; and

31           (4) pressurized aboveground piping systems with  
32 automatic shut-off devices, such as excess flow check valves,  
33 flow metering shutdown devices, and loss of pressure actuated  
34 shut-off devices, that are visually inspected on a daily basis.

35           Subp. 5. Requirements for tank systems. All tank systems,  
36 until such time as secondary containment meeting the

1 requirements of this section is provided, must comply with the  
2 following:

3           A. For nonenterable underground, inground, and  
4 onground tanks, a leak test that meets the requirements of  
5 subpart 2, item B, subitem (5), must be conducted at least  
6 annually.

7           B. For other than nonenterable underground, inground,  
8 and onground tanks and for all ancillary equipment, an annual  
9 leak test, as described in item A, or an internal inspection or  
10 other tank integrity examination by an independent, qualified,  
11 registered professional engineer, that addresses cracks, leaks,  
12 corrosion, and erosion must be conducted at least annually. The  
13 owner or operator must remove the stored waste from the tank, if  
14 necessary, to allow the condition of all internal tank surfaces  
15 to be assessed.

16           C. For underground, inground, and onground tanks, a  
17 test to detect tank wall thinning and to determine that the  
18 minimum tank wall thickness is maintained. This test must be  
19 conducted within 18 months of the effective date of this part  
20 and every two years thereafter until secondary containment  
21 meeting the requirements of subparts 4 and 5 is installed.

22           D. The owner or operator must maintain on file at the  
23 facility a record of the results of the assessments conducted in  
24 accordance with items A to D.

25           E. If the tank system or component is found to be  
26 leaking or unfit for use as a result of the leak test or  
27 assessment in items A to D, the owner or operator must comply  
28 with the requirements of subpart 8.

29           Subp. 6. **General operating requirements.** Treatment or  
30 storage of hazardous waste in tanks must comply with the  
31 following:

32           A. Hazardous wastes or treatment reagents must not be  
33 placed in a tank system if they could cause the tank, its  
34 ancillary equipment, or the secondary containment system to  
35 rupture, leak, corrode, or otherwise fail.

36           B. The owner or operator must use appropriate

1 controls and practices to prevent spills and overflows from tank  
2 or secondary containment systems. These include:

3 (1) spill prevention controls such as check  
4 valves or dry disconnect couplings;

5 (2) overflow prevention controls such as level  
6 sensing devices, high level alarms, automatic feed cutoff, or  
7 bypass to a standby tank; and

8 (3) maintenance of sufficient freeboard in  
9 uncovered tanks to prevent overtopping by wave or wind action or  
10 by precipitation.

11 C. The owner or operator must comply with subpart 8  
12 if a leak or spill occurs in the tank system.

13 Subp. 7. **Inspections.**

14 A. The owner or operator must inspect, where present,  
15 at least once each operating day:

16 (1) overflow or spill control equipment such as  
17 waste-feed cutoff systems, bypass systems, and drainage systems  
18 to ensure that it is in good working order;

19 (2) the aboveground portions of the tank system,  
20 if any, to detect corrosion or releases of waste;

21 (3) data gathered from monitoring equipment and  
22 leak-detection equipment, such as pressure and temperature  
23 gauges or monitoring wells, to ensure that the tank system is  
24 being operated according to its design; and

25 (4) the construction materials and the area  
26 immediately surrounding the externally accessible portion of the  
27 tank system, including secondary containment structures such as  
28 dikes, to detect erosion or signs of releases of hazardous waste  
29 such as wet spots or dead vegetation.

30 B. The owner or operator must inspect cathodic  
31 protection systems, if present, according to the following  
32 schedule, to ensure that they are functioning properly:

33 (1) The proper operation of the cathodic  
34 protection system must be confirmed within six months after  
35 initial installation, and annually thereafter.

36 (2) All sources of impressed current must be

1 inspected and/or tested, as appropriate, at least bimonthly.

2 C. The owner or operator must document in the  
3 operating record of the facility an inspection of those items in  
4 items A and B.

5 Subp. 8. Responses to leaks or spills and disposition of  
6 unfit-for-use tank systems. A tank system or secondary  
7 containment system from which there has been a leak or spill, or  
8 which is unfit for use, must be removed from service  
9 immediately, and the owner or operator must satisfy the  
10 following requirements:

11 A. The owner or operator must immediately stop the  
12 flow of hazardous waste into the tank system or secondary  
13 containment system and inspect the system to determine the cause  
14 of the release.

15 B. Removal of waste from tank system or secondary  
16 containment system.

17 (1) If the release was from the tank system, the  
18 owner or operator must, within 24 hours after detection of the  
19 leak or, if the owner or operator demonstrates that that is not  
20 possible, at the earliest practicable time, remove as much of  
21 the waste as is necessary to prevent further release of  
22 hazardous waste to the environment and to allow inspection and  
23 repair of the tank system to be performed.

24 (2) If the release was to a secondary containment  
25 system, all released materials must be removed within 24 hours  
26 or in as timely a manner as is possible to prevent harm to human  
27 health and the environment.

28 C. The owner or operator must immediately conduct a  
29 visual inspection of the release and, based upon that inspection:

30 (1) prevent further migration of the leak or  
31 spill to soils or surface water; and

32 (2) remove, and properly dispose of, any visible  
33 contamination of the soil or surface water.

34 D. Notifications, reports.

35 (1) Any release to the environment must be  
36 reported to the commissioner within 24 hours of detection.

1           (2) Within 30 days of detection of a release to  
2 the environment, a report containing the following information  
3 must be submitted to the commissioner. The report must address  
4 the likely route of migration of the release; characteristics of  
5 the surrounding soil, including soil composition, geology,  
6 hydrogeology, and climate; and the results of any monitoring or  
7 sampling conducted in connection with the release, if  
8 available. If sampling or monitoring data relating to the  
9 release are not available within 30 days, these data must be  
10 submitted to the commissioner as soon as they become available.  
11 The report must also address the proximity to downgradient  
12 drinking water, surface water, and population areas; and a  
13 description of response actions taken or planned.

14           (3) A leak or spill of hazardous waste that is  
15 less than or equal to a quantity of one pound and immediately  
16 contained and cleaned up is exempted from the requirements of  
17 subitem (2).

18           E. Provision of secondary containment, repair, or  
19 closure.

20           (1) Unless the owner or operator satisfies the  
21 requirements of subitems (2) to (4), the tank system must be  
22 closed in accordance with subpart 9.

23           (2) If the cause of the release was a spill that  
24 has not damaged the integrity of the system, the owner or  
25 operator may return the system to service as soon as the  
26 released waste is removed and repairs, if necessary, are made.

27           (3) If the cause of the release was a leak from  
28 the primary tank system into the secondary containment system,  
29 the system must be repaired before returning the tank system to  
30 service.

31           (4) If the source of the release was a leak to  
32 the environment from a component of a tank system without  
33 secondary containment, the owner or operator must provide the  
34 component of the system from which the leak occurred with  
35 secondary containment that satisfies the requirements of  
36 subparts 4 and 5 before it can be returned to service, unless



1 the source of the leak is an aboveground portion of a tank  
2 system. If the source is an aboveground component that can be  
3 inspected visually, the component must be repaired and may be  
4 returned to service without secondary containment as long as the  
5 requirements of item F are satisfied. If a component is  
6 replaced to comply with the requirements of this subitem, that  
7 component must satisfy the requirements for new tank systems or  
8 components in subparts 3 to 5. Additionally, if a leak has  
9 occurred in any portion of a tank system component that is not  
10 readily accessible for visual inspection, such as the bottom of  
11 an inground or onground tank, the entire component must be  
12 provided with secondary containment in accordance with subparts  
13 4 and 5 before being returned to use.

14 F. Certification of major repairs. If the owner or  
15 operator has repaired a tank system in accordance with item E  
16 and the repair has been extensive, such as installation of an  
17 internal liner or repair of a ruptured primary containment or  
18 secondary containment vessel, the tank system must not be  
19 returned to service unless the owner or operator has obtained a  
20 certification by an independent, qualified, registered  
21 professional engineer that the repaired system is capable of  
22 handling hazardous wastes without release. This certification  
23 must be submitted to the commissioner within seven days after  
24 returning the tank system to use and must include the statements  
25 in parts 7001.0070 and 7001.0540.

26 Subp. 9. Closure and post-closure care. The requirements  
27 for closure and post-closure care of tank systems are as follows:

28 A. At closure of a tank system, the owner or operator  
29 must remove or decontaminate all waste residues, contaminated  
30 containment system components such as liners, contaminated  
31 soils, and structures and equipment contaminated with waste, and  
32 manage them as hazardous waste unless it can be demonstrated  
33 that they are not a hazardous waste. The closure plan, closure  
34 activities, cost estimates for closure, and financial  
35 responsibility for tank systems must meet the requirements of  
36 parts 7045.0594 to 7045.0624.

1           B. If the owner or operator demonstrates that not all  
2 contaminated soils can be practicably removed or decontaminated  
3 as required in item A, then the owner or operator must close the  
4 tank system and perform post-closure care in accordance with the  
5 closure and post-closure care requirements that apply to  
6 landfills in part 7045.0638. In addition, for the purposes of  
7 closure, post-closure, and financial responsibility, such a tank  
8 system is then considered to be a landfill, and the owner or  
9 operator must meet the requirements for landfills in parts  
10 7045.0594 to 7045.0624.

11           C. If an owner or operator has a tank system which  
12 does not have secondary containment that meets the requirements  
13 of subpart 4, items B to F, and which is not exempt from the  
14 secondary containment requirements in accordance with part  
15 7045.0075, subparts 6 and 7, then:

16                   (1) the closure plan for the tank system must  
17 include both a plan for complying with item A and a contingent  
18 plan for complying with item B;

19                   (2) a contingent post-closure plan for complying  
20 with item B must be prepared and submitted as part of the permit  
21 application;

22                   (3) the cost estimates calculated for closure and  
23 post-closure care must reflect the costs of complying with the  
24 contingent closure plan and the contingent post-closure plan, if  
25 these costs are greater than the costs of complying with the  
26 closure plan prepared for the expected closure under item A;

27                   (4) financial assurance must be based on the cost  
28 estimates in subitem (3); and

29                   (5) for the purposes of the contingent closure  
30 and post-closure plans, the tank system is considered to be a  
31 landfill, and the contingent plans must meet the closure,  
32 post-closure, and financial responsibility requirements of parts  
33 7045.0594 to 7045.0624.

34           Subp. 10. Special requirements for ignitable or reactive  
35 waste. Ignitable or reactive waste must not be placed in a tank  
36 unless:

1           A. the waste is treated, rendered, or mixed before or  
2 immediately after placement in the tank so that the resulting  
3 waste, mixture, or dissolved material no longer meets the  
4 definition of ignitable or reactive waste under part 7045.0131,  
5 subpart 2 or 5, and compliance with part 7045.0562, subpart 2 is  
6 maintained; or

7           B. the waste is stored or treated in such a way that  
8 it is protected from any material or conditions which may cause  
9 the waste to ignite or react; or the tank is used solely for  
10 emergencies.

11           The owner or operator of a facility which treats or stores  
12 ignitable or reactive waste in a tank shall comply with the  
13 requirements for the maintenance of protective distances between  
14 the waste management area and any public ways, streets, alleys,  
15 or an adjoining property line that can be built upon, as  
16 required in the National Fire Protection Association's buffer  
17 zone requirements for tanks, contained in Tables 2-1 through 2-6  
18 of the Flammable and Combustible Code, in the National Fire  
19 Codes, 1981 issued by the National Fire Protection Association  
20 (Quincy, Massachusetts, 1981).

21           Subp. 11. **Special requirement for incompatible wastes.**  
22 Incompatible wastes, or incompatible wastes and materials must  
23 not be placed in the same tank, unless compliance with part  
24 7045.0562, subpart 2, is maintained.

25           Hazardous waste must not be placed in a tank system that  
26 has not been decontaminated and which previously held an  
27 incompatible waste or material, unless compliance with part  
28 7045.0562, subpart 2, is maintained.

29           Subp. 12. **Waste analysis and trial tests.** In addition to  
30 performing the waste analysis required by part 7045.0564, the  
31 owner or operator must, whenever a tank system is to be used to  
32 treat chemically or to store a hazardous waste that is  
33 substantially different from waste previously treated or stored  
34 in that tank system, or treat chemically a hazardous waste with  
35 a substantially different process than any previously used in  
36 that tank system:

1           A. conduct waste analyses and trial treatment or  
2 storage tests, bench-scale or pilot-plant scale tests; or

3           B. obtain written, documented information on similar  
4 waste under similar operating conditions to show that the  
5 proposed treatment or storage will meet the requirements of  
6 subpart 6, item A.

7 7045.0629 REQUIREMENTS FOR SMALL QUANTITY GENERATORS THAT  
8 ACCUMULATE HAZARDOUS WASTE IN TANKS.

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

13           Subp. 2. **General operating requirements.** Small quantity  
14 generators must comply with the following general operating  
15 requirements:

16           A. Treatment or storage of hazardous waste in tanks  
17 must comply with part 7045.0562, subpart 2.

18           B. Hazardous wastes or treatment reagents must not be  
19 placed in a tank if they could cause the tank or its inner liner  
20 to rupture, leak, corrode, or otherwise fail.

21           C. Uncovered tanks must be operated to ensure at  
22 least 60 centimeters of freeboard, unless the tank is equipped  
23 with a containment structure such as a dike or trench, a  
24 drainage control system, or a diversion structure such as a  
25 standby tank with a capacity that equals or exceeds the volume  
26 of the top 60 centimeters of the tank.

27           D. Where hazardous waste is continuously fed into a  
28 tank, the tank must be equipped with a means to stop this inflow  
29 such as a waste feed cutoff system or bypass system to a standby  
30 tank.

31           Subp. 3. **Inspections.** Small quantity generators must  
32 inspect, where present:

33           A. discharge control equipment, such as waste feed  
34 cutoff systems, bypass systems, and drainage systems, at least  
35 once each operating day, to ensure that it is in good working

1 order;

2 B. data gathered from monitoring equipment such as  
3 pressure and temperature gauges, at least once each operating  
4 day, to ensure that the tank is being operated according to its  
5 design;

6 C. the level of waste in the tank at least once each  
7 operating day to ensure compliance with subpart 3, item C;

8 D. the construction materials of the tank at least  
9 weekly to detect corrosion or leaking of fixtures or seams; and

10 E. the construction materials of, and the area  
11 immediately surrounding, discharge confinement structures such  
12 as dikes at least weekly to detect erosion or obvious signs of  
13 leakage such as wet spots or dead vegetation.

14 Subp. 4. **Closure.** Small quantity generators must, upon  
15 closure of the facility, remove all hazardous waste from tanks,  
16 discharge control equipment, and discharge confinement  
17 structures.

18 Subp. 5. **Ignitable and reactive wastes.** Small quantity  
19 generators must comply with the following special requirements  
20 for ignitable or reactive waste:

21 A. Ignitable or reactive waste must not be placed in  
22 a tank, unless the waste is treated, rendered, or mixed before  
23 or immediately after placement in a tank so that the resulting  
24 waste, mixture, or dissolution of material no longer meets the  
25 definition of ignitable or reactive waste under parts 7045.0131,  
26 subpart 2 or 5, and 7045.0562, subpart 2 is complied with, or  
27 the waste is stored or treated in such a way that it is  
28 protected from any material or conditions that may cause the  
29 waste to ignite or react, or the tank is used solely for  
30 emergencies.

31 B. The owner or operator of a facility which treats  
32 or stores ignitable or reactive waste in covered tanks must  
33 comply with the buffer zone requirements for tanks contained in  
34 Tables 2-1 to 2-6 of the National Fire Protection Association's  
35 Flammable and Combustible Liquids Code, (1977 or 1981).

36 Subp. 6. **Incompatible wastes.** Small quantity generators

1 must comply with the following special requirements for  
2 incompatible wastes:

3           A. Incompatible wastes, or incompatible wastes and  
4 materials, must not be placed in the same tank, unless part  
5 7045.0562, subpart 2 is complied with.

6           B. Hazardous waste must not be placed in an unwashed  
7 tank which previously held an incompatible waste or material  
8 unless part 7045.0562, subpart 2 is complied with.

9

10           REPEALER. Minnesota Rules, part 7045.0528, subpart 9, is  
11 repealed.