

1 Pollution Control Agency

2

3 Adopted Permanent Rules Relating to Owners and Operators of  
4 Hazardous Waste Facilities

5

6 Rules as Adopted

7 7045.0075 PETITIONS.

8 [For text of subps 1 to 11, see M.R.]

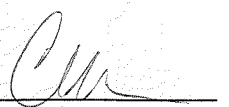
9 Subp. 12. **Petition for alternate design or operating**  
10 **practices.** An owner or operator may submit a petition to the  
11 commissioner for approval to use alternate design or operating  
12 practices in lieu of the requirements of parts 7045.0532,  
13 7045.0534, 7045.0538, 7045.0630, 7045.0632, and 7045.0638. The  
14 commissioner's decision shall be based on a demonstration by the  
15 petitioner that the alternate design or operating practices,  
16 together with location characteristics, will prevent the  
17 migration of any hazardous wastes or hazardous constituents into  
18 surface and ground water as effectively as the requirements of  
19 parts 7045.0532, 7045.0534, 7045.0538, 7045.0630, 7045.0632, and  
20 7045.0638.

21 7045.0532 SURFACE IMPOUNDMENTS.

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

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

25 A. A surface impoundment must have a double liner  
26 system that is designed, constructed, and installed to prevent  
27 migration of waste out of the impoundment to the adjacent soil  
28 or ground water or surface water at any time during the active  
29 life, including the closure ~~period~~ and post closure periods, of  
30 the impoundment. The double liner system must consist of two  
31 liners with a leak detection, collection, and removal system  
32 between the liners. This system must be designed, constructed,  
33 maintained, and operated to detect, collect, and remove liquids  
34 from the space between the liners, without clogging, through the  
35 scheduled post closure care period of the surface impoundment.



1 The liners must conform to the requirements of item B or C, as  
2 appropriate, and must be:

3 (1) constructed of materials that have  
4 appropriate chemical properties and sufficient strength and  
5 thickness to prevent failure due to pressure gradients,  
6 including static head and external hydrogeologic forces,  
7 physical contact with the waste or leachate to which they are  
8 exposed, climatic conditions, the stress of installation, and  
9 the stress of daily operation;

10 (2) placed upon a foundation or base capable of  
11 providing support to the liner and resistance to pressure  
12 gradients above and below the liner to prevent failure of the  
13 liner due to settlement, compression, or uplift; and

14 (3) installed to cover all surrounding earth  
15 likely to be in contact with the waste or leachate.

16 B. For any surface impoundment that is not covered by  
17 item C or part 7045.0630, the liners may be constructed of  
18 materials that may allow wastes to migrate into the liner, but  
19 not into the adjacent subsurface soil or drainage layer or  
20 ground water or surface water, ~~during the active life, including~~  
21 ~~the closure period, of the facility~~ provided that the  
22 impoundment is closed according to subpart 7, item A, subitem  
23 (1). For impoundments that will be closed according to subpart  
24 7, item A, subitem (2), at least one liner must be constructed  
25 of materials that can prevent wastes from migrating into the  
26 liner ~~during the active life, including the closure period, of~~  
27 ~~the facility.~~

28 C. For any new surface impoundment, new surface  
29 impoundment unit at an existing facility, replacement of an  
30 existing surface impoundment unit, and lateral expansion of an  
31 existing surface impoundment unit that accepts waste after  
32 issuance of a permit for units where Part B of the permit  
33 application is received by the commissioner after November 8,  
34 1984, the top liner must be constructed of materials that can  
35 prevent wastes from migrating into the liner ~~during the active~~  
36 ~~life, including the closure period, of the facility.~~ The lower

1 liner may be constructed of materials that may allow wastes to  
2 migrate into the liner, but not into the adjacent subsurface  
3 soil or drainage layer or ground water or surface water, ~~during~~  
4 ~~the-active-life,--including-the-closure-period.~~ For the purpose  
5 of the preceding sentence, a lower liner satisfies the  
6 requirement if it is constructed of at least a three-foot thick  
7 layer of recompactd clay or other natural material with a  
8 permeability of no more than  $1 \times 10^{-7}$  centimeter per second.

9 D. A surface impoundment must be designed,  
10 constructed, maintained, and operated to prevent overtopping  
11 resulting from normal or abnormal operations; overfilling; wind  
12 and water action; rainfall; run-on; malfunctions of level  
13 controllers, alarms, and other equipment; and human error.

14 E. A surface impoundment must have dikes that are  
15 designed, constructed, and maintained with sufficient structural  
16 integrity to prevent massive failure of the dikes. Massive  
17 failure of the dikes means any uncontrolled flow of hazardous  
18 waste from the surface impoundment. In ensuring structural  
19 integrity, it must not be presumed that the liner system will  
20 function without leakage during the active life of the unit.

21 F. The owner or operator of a surface impoundment  
22 shall have a method of emptying its wastes in an emergency.  
23 Acceptable methods include backup surface impoundments or tanks.

24 G. The owner or operator of a surface impoundment  
25 shall submit to the agency with the permit application a plan  
26 for the treatment and disposal of leachate which is removed from  
27 the surface impoundment.

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

30 I. The agency shall specify in the permit all design  
31 and operating practices that are necessary to ensure that the  
32 requirements of items A to H are satisfied.

33 [For text of subps 4 to 10, see M.R.]

34 7045.0534 WASTE PILES.

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

1 Subp. 3. Design and operating requirements. Design and  
2 operating requirements are as follows:

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

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

6 I. The agency shall specify in the permit all design  
7 and operating practices that are necessary to ensure that the  
8 requirements of items A to H are satisfied.

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

10 7045.0538 LANDFILLS.

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

12 Subp. 3. Design and operation. Design and operation  
13 requirements are as follows:

14 A. A landfill must have a double liner system that is  
15 designed, constructed, and installed to prevent any migration of  
16 wastes out of the landfill to the adjacent subsurface soil or  
17 ground water or surface water at any time during the active  
18 life, including the closure ~~period~~ and post closure periods, of  
19 the landfill. The double liner system must consist of two  
20 liners with a leak detection, collection, and removal system.  
21 This system must be designed, constructed, maintained, and  
22 operated to detect, collect, and remove liquids without  
23 clogging, through the scheduled post closure care period of the  
24 landfill. Both liners and the leak detection, collection, and  
25 removal system must conform to the ~~requirement~~ requirements of  
26 item B or C, as appropriate, and must be:

27 (1) constructed of materials that have  
28 appropriate chemical properties and sufficient strength and  
29 thickness to prevent failure due to pressure gradients,  
30 including static head and external hydrogeologic forces,  
31 physical contact with the waste or leachate to which they are  
32 exposed, climatic conditions, the stress of installation, and  
33 the stress of daily operation;

34 (2) placed upon a foundation or base capable of  
35 providing support to the liner and resistance to pressure

1 gradients above and below the liner to prevent failure of the  
2 liner due to settlement, compression, or uplift; and

3 (3) installed to cover all surrounding earth  
4 likely to be in contact with the waste or leachate.

5 B. For any landfill that is not covered by item C or  
6 part 7045.0638, one of the liners may be constructed of  
7 materials that may allow wastes to migrate into the liner, but  
8 not into the adjacent subsurface soil, drainage layer, or ground  
9 water or surface water, ~~during the active life of the facility~~  
10 ~~and the post-closure care period.~~ At least one liner must be  
11 constructed of materials that prevent wastes from passing into  
12 the liner ~~during the active life of the facility including the~~  
13 ~~post-closure care period.~~ The double liner system must consist  
14 of two liners with a leak detection, collection, and removal  
15 system between the liners. ~~This system must be designed,~~  
16 ~~constructed, maintained, and operated to detect, collect, and~~  
17 ~~remove liquids from the space between the liners, without~~  
18 ~~clogging, through the scheduled post-closure care period of the~~  
19 ~~landfill.~~

20 C. For any new landfill, new landfill unit at an  
21 existing facility, replacement of an existing landfill unit, and  
22 lateral expansion of an existing landfill unit that accepts  
23 waste after issuance of a permit for units where Part B of the  
24 permit application is received by the commissioner after  
25 November 8, 1984, the top liner must be constructed of materials  
26 that can prevent wastes from migrating into the liner ~~during the~~  
27 ~~active life, including the closure period, of the facility.~~ The  
28 lower liner may be constructed of materials that may allow  
29 wastes to migrate into the liner, but not into the adjacent  
30 subsurface soil or drainage layer or ground water or surface  
31 water, ~~during the active life, including the closure period.~~  
32 For the purpose of the preceding sentence, a lower liner  
33 satisfies the requirement if it is constructed of at least a  
34 three-foot thick layer of recompact clay or other natural  
35 material with a permeability of no more than  $1 \times 10^{-7}$  centimeter  
36 per second. The double liner system must consist of two liners

1 with a leak detection, collection, and removal system above and  
2 between the liners. ~~This system must be designed, constructed,~~  
3 ~~maintained, and operated to detect, collect, and remove liquids~~  
4 ~~from the space between the liners, without clogging, through the~~  
5 ~~scheduled post-closure care period of the landfill.~~

6 D. A landfill must have a leachate collection and  
7 removal system immediately above each liner that is designed,  
8 constructed, maintained, and operated to collect and remove  
9 leachate from the landfill. The agency shall specify design and  
10 operating conditions in the permit to ensure that the leachate  
11 depth over each liner does not exceed 30 centimeters (one foot)  
12 at any point. The leachate collection and removal systems must  
13 be:

14 (1) constructed of materials that are chemically  
15 resistant to the waste managed in the landfill and the leachate  
16 expected to be generated, and of sufficient strength and  
17 thickness to prevent collapse under the pressures exerted by  
18 overlying wastes, waste cover materials, and by any equipment  
19 used at the landfill; and

20 (2) designed, constructed, maintained, and  
21 operated to function without clogging through the scheduled post  
22 closure care period of the landfill.

23 E. The owner or operator shall design, construct,  
24 operate, and maintain a run-on control system capable of  
25 preventing flow onto the active portion of the landfill during  
26 peak discharge from at least a 100-year storm.

27 F. The owner or operator shall design, construct,  
28 operate, and maintain a run-off management system to collect and  
29 control at least the water volume resulting from a 24-hour,  
30 100-year storm.

31 G. Collection and holding facilities such as tanks or  
32 basins, associated with run-on and run-off control systems must  
33 be emptied or otherwise managed expeditiously after storms to  
34 maintain design capacity of the system.

35 H. The owner or operator shall cover or otherwise  
36 manage the landfill to control wind dispersal of particulate



1 matter.

2 I. The owner or operator shall develop the landfill  
3 in appropriately sized cells to minimize the amounts of liquids  
4 entering each cell due to precipitation.

5 J. The owner or operator of a landfill shall submit  
6 to the agency with the permit application a plan for the  
7 treatment and disposal of run-off contained in the run-off  
8 management system and leachate which is removed from the  
9 landfill.

10 K. An owner or operator may petition for alternate  
11 design or operating practices under part 7045.0075, subpart 12.

12 L. The agency shall specify in the permit all design  
13 and operating practices that are necessary to ensure that the  
14 requirements of items A to K are satisfied.

15 [For text of subps 4 to 13, see M.R.]

16 7045.0630 SURFACE IMPOUNDMENTS.

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

18 Subp. 1a. **Design requirements.** Design requirements are as  
19 follows:

20 A. The owner or operator of a surface impoundment  
21 must install two or more ~~lines~~ liners and leachate collection  
22 systems according to part 7045.0532, subpart 3, items A to H,  
23 with respect to each new unit, replacement of an existing unit,  
24 or lateral expansion of an existing unit that is within the area  
25 identified in the Part A permit application, and with respect to  
26 waste received beginning May 8, 1985.

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

32 [For text of subps 2 to 8, see M.R.]

33 7045.0632 WASTE PILES.

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

35 Subp. 4a. **Design requirements.** The owner or operator of a

1 waste pile is subject to the requirements for liners and  
2 leachate collection and removal systems provided in part  
3 7045.0534, subpart 3, with respect to each new unit, replacement  
4 of an existing unit, or lateral expansion of an existing unit  
5 that is within the area identified in Part A permit application,  
6 and with respect to waste received beginning May 8, 1985.

7 [For text of subps 5 to 7, see M.R.]

8 7045.0638 LANDFILLS.

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

10 Subp. 1a. Design requirements. Design requirements are as  
11 follows:

12 A. The owner or operator of a landfill must install  
13 two or more ~~lines~~ liners and leachate collection systems  
14 according to part 7045.0538, subpart 3, items A to K, with  
15 respect to each new unit, replacement of an existing unit, or  
16 lateral expansion of an existing unit that is within the area  
17 identified in the part A permit application, with respect to  
18 waste received beginning May 8, 1985.

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

24 [For text of subps 2 to 9, see M.R.]