

1.1 **Pollution Control Agency**

1.2 **Adopted Permanent Rules Relating to Underground Storage Tanks**

1.3 **7150.0010 APPLICABILITY.**

1.4 Subpart 1. **Scope.** The requirements of this chapter apply to all owners and operators
1.5 of an underground storage tank system as defined in part 7150.0030, except as otherwise
1.6 provided in this part.

1.7 Subp. 2. **Exclusions.** The following underground storage tank systems are excluded
1.8 from the requirements of this chapter:

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

1.10 M. a flow-through process tank;

1.11 N. a storage tank situated in an underground area such as a basement, cellar,
1.12 mineworking, drift, shaft, or tunnel if the storage tank is located upon or above the
1.13 surface of the floor;

1.14 O. an oil-water separator;

1.15 P. underground storage tank systems containing radioactive material that are
1.16 regulated under the Atomic Energy Act of 1954, United States Code, title 42, sections
1.17 2011 to 2296;

1.18 Q. an underground storage tank system that is part of an emergency generator
1.19 system at nuclear power generation facilities regulated by the Nuclear Regulatory
1.20 Commission under Code of Federal Regulations, title 10, part 50, Appendix A; and

1.21 R. airport hydrant fuel distribution systems.

1.22 Subp. 3. [See repealer.]

2.1 Subp. 4. **Emergency power generator tanks.** Parts 7150.0300 to 7150.0340 and
2.2 7150.0450, subpart 3, item D, do not apply to an underground storage tank system that
2.3 stores fuel solely for use by emergency power generators.

2.4 Subp. 5. **Heating oil tanks.** Parts 7150.0010; 7150.0030; 7150.0090, subparts 1, 2,
2.5 4, and 6; 7150.0100, subparts 7, 9, and 10; 7150.0205, subparts 1 to 4; and 7150.0215
2.6 apply to an underground storage tank system of over 1,100 gallons capacity used
2.7 exclusively for storing heating oil for consumptive use on the premises where stored.

2.8 **7150.0030 DEFINITIONS.**

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

2.10 Subp. 3. **Appurtenances.** "Appurtenances" means devices such as piping, fittings,
2.11 flanges, valves, dispensers, and pumps used to distribute, meter, or control the flow of
2.12 regulated substances to or from an underground storage tank.

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

2.14 Subp. 6. **Cathodic protection tester.** "Cathodic protection tester" means a person
2.15 who has demonstrated an understanding of the principles and measurements of all
2.16 common types of cathodic protection systems as applied to buried or submerged metal
2.17 piping and tank systems, by passing a cathodic protection test given by the National
2.18 Association of Corrosion Engineers or the Steel Tank Institute. Such persons must also
2.19 have education and experience in soil resistivity, stray current, structure-to-soil potential,
2.20 and component electrical isolation measurements of buried metal piping and tank systems.

2.21 Subp. 7. **Change in status.** "Change in status" means a permanent removal from
2.22 service or a change in the reported uses, contents, or ownership of an underground storage
2.23 tank under Minnesota Statutes, section 116.48, subdivision 3, including temporary closure
2.24 of 90 days or more and change to storage of a nonregulated substance.

3.1 Subp. 8. **Permanent closure.**"Permanent closure" means permanently taking an
3.2 underground storage tank out of service by either closing it in place or removing it from
3.3 the ground.

3.4 Subp. 9. **Commissioner.**"Commissioner" means the commissioner of the
3.5 Minnesota Pollution Control Agency.

3.6 Subp. 10. **Compatible.**"Compatible" means the ability of two or more substances to
3.7 maintain their respective physical and chemical properties upon contact with one another
3.8 under conditions likely to be encountered in the underground storage tank system.

3.9 Subp. 11. **Connected piping.**"Connected piping" means underground piping
3.10 including valves, elbows, joints, flanges, and flexible connectors attached to a tank system
3.11 through which regulated substances flow. For the purpose of determining how much
3.12 piping is connected to an individual underground storage tank system, the piping that joins
3.13 two underground storage tank systems is allocated equally between them.

3.14 [For text of subps 12 to 14, see M.R.]

3.15 Subp. 14a. **Dispenser.**"Dispenser" means equipment that is used to transfer a
3.16 regulated substance from underground piping, through a rigid or flexible hose or piping
3.17 located above ground, to a point of use outside of the underground storage tank system,
3.18 such as a motor vehicle. A dispenser does not include a loading rack used to transfer a
3.19 regulated substance into the storage compartment of a bulk transport vehicle.

3.20 [For text of subps 15 and 16, see M.R.]

3.21 Subp. 17. [See repealer.]

3.22 [For text of subps 18 to 21, see M.R.]

3.23 Subp. 22. **Hazardous material.**"Hazardous material" means:

3.24 A. a substance listed in Code of Federal Regulations, title 40, part 302, including
3.25 petroleum constituents under subpart 36, item C, but not including:

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

4.2 B. any mixture of substances identified in item A and petroleum, unless the
4.3 amount of the substance identified in item A is de minimus.

4.4 Substances identified in items A and B which also meet the definition of petroleum
4.5 are considered hazardous materials.

4.6 [For text of subps 23 to 25, see M.R.]

4.7 Subp. 25a. **Lessee.** "Lessee" means a person who leases an underground storage
4.8 tank system. A lessee is also an operator if the lessee is in control of the daily operation
4.9 of the underground storage tank system.

4.10 [For text of subp 26, see M.R.]

4.11 Subp. 27. **Motor fuel.** "Motor fuel" means petroleum or a petroleum-based
4.12 substance that is motor gasoline, aviation gasoline, No. 1 or 2 diesel fuel, biodiesel, or any
4.13 grade of gasohol, and is typically used in the operation of a motor engine.

4.14 Subp. 28. [See repealer.]

4.15 [For text of subps 29 and 30, see M.R.]

4.16 Subp. 31. **Operational life.** "Operational life" means the period beginning when
4.17 installation of the tank system has begun until the time the tank system is permanently
4.18 closed under part 7150.0410.

4.19 [For text of subps 32 to 35, see M.R.]

4.20 Subp. 36. **Petroleum.** "Petroleum" means one of the following substances:

4.21 A. diesel fuel oil, gasoline, and heating fuel oil as defined in Minnesota Statutes,
4.22 section 296A.01, subdivisions 14, 23, and 26;

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

4.24 [For text of subps 37 to 42, see M.R.]

5.1 Subp. 43. **Repair.**"Repair" means the correction or restoration to operating
5.2 condition of an underground storage tank or appurtenance. "Piping repair" includes
5.3 installation of a single run of up to ten feet of new piping to replace existing piping.
5.4 Piping repair involving installation of a single run of more than ten feet of new piping to
5.5 replace existing piping constitutes replacement. "Dispenser repair" includes installation of
5.6 a new dispenser to replace an existing dispenser so long as work is performed entirely on
5.7 or above any shear valves and check valves. Installation of a new dispenser to replace
5.8 an existing dispenser constitutes replacement if the work is performed beneath any shear
5.9 valves or check valves or on any flexible connectors or unburied risers.

5.10 Subp. 43a. **Replace or replacement.**"Replace" or "replacement" means the
5.11 installation of a new underground storage tank or appurtenance in substantially the same
5.12 location as another tank or appurtenance in lieu of that tank or appurtenance, not including
5.13 installation of new piping in connection with certain repairs as described in subpart 43.

5.14 Subp. 44. **Residential tank.**"Residential tank" means a tank located on property
5.15 used primarily for dwelling purposes.

5.16 Subp. 44a. **Secondary containment tank or secondary containment**
5.17 **piping.**"Secondary containment tank" or "secondary containment piping" means a tank
5.18 or piping that:

5.19 A. is designed with an inner primary shell and a liquid-tight outer secondary
5.20 shell or jacket that extends around the entire inner shell;

5.21 B. is designed to contain any leak through the primary shell from any part of the
5.22 tank or piping that routinely contains a regulated substance; and

5.23 C. allows for monitoring of the interstitial space between the shells and detection
5.24 of any leak.

5.25 [For text of subps 45 to 51, see M.R.]

6.1 Subp. 52. [See repealer.]

6.2 [For text of subp 53, see M.R.]

6.3 **7150.0090 NOTIFICATION AND CERTIFICATION.**

6.4 Subpart 1. **Prenotification.**At least ten days before beginning any of the following
6.5 activities, owners and operators must notify the commissioner in the manner prescribed by
6.6 the commissioner of their intent to perform the activity:

6.7 A. installation or replacement of an underground storage tank system, including
6.8 tanks, piping, or dispensers;

6.9 B. permanent closure of an underground storage tank system;

6.10 C. change in status of an underground storage tank system to storage of a
6.11 nonregulated substance; and

6.12 D. inspection of an internally lined tank.

6.13 Subp. 2. **Notification of installation, replacement, or change in status.** An owner
6.14 or operator who brings an underground storage tank system, including tanks, piping, or
6.15 dispensers, into use or makes a change in status must, within 30 days of bringing such
6.16 tank system into use or making a change in status, submit to the agency, in the manner
6.17 prescribed by the commissioner, a notice of the existence of such tank system or type
6.18 of change in status, including the information required by Minnesota Statutes, section
6.19 116.48, subdivisions 1 and 3.

6.20 Subp. 3. **Certification by owners and operators.**Owners and operators of new and
6.21 replacement underground storage tank systems, including tanks, piping, and dispensers,
6.22 must sign and certify in the notification form compliance with the following requirements:

6.23 A. installation of tanks, piping, and dispensers according to parts 7150.0100
6.24 and 7150.0205, including secondary containment of new and replacement tanks, piping,
6.25 and dispensers;

7.1 B. financial responsibility under Code of Federal Regulations, title 40, part
7.2 280, subpart H; and

7.3 C. release detection according to parts 7150.0300 to 7150.0340.

7.4 Subp. 4. **Certification by installers.** Owners and operators of new and replacement
7.5 underground storage tank systems, including tanks, piping, or dispensers, must ensure that
7.6 the installer signs and certifies in the notification form that:

7.7 A. all work was performed as specified by the manufacturer's instructions;

7.8 B. all work was performed according to the applicable codes of practice in
7.9 part 7150.0205;

7.10 C. all work was performed according to applicable state and federal regulations,
7.11 including this chapter; and

7.12 D. the installer is in compliance with certification requirements imposed by
7.13 chapter 7105.

7.14 Subp. 5. **Notification of cathodic protection testing.** Owners and operators of
7.15 underground storage tank systems with cathodic protection must notify the agency, or
7.16 ensure that a cathodic protection tester notifies the agency, of the results of testing of
7.17 cathodically protected tanks and piping as required by part 7150.0215, within 30 days of
7.18 completion of testing, in the manner prescribed by the commissioner.

7.19 Subp. 6. **Notification of tank sale.** A person who sells a tank intended to be used as
7.20 an underground storage tank or property that the seller knows contains an underground
7.21 storage tank must notify the purchaser of the tank in writing prior to closing the transaction
7.22 of the new owner's notification obligations under subpart 2 and Minnesota Statutes,
7.23 section 116.48.

7.24 Subp. 7. **Notification of tank purchase.** A person who purchases property that
7.25 the purchaser knows contains an underground storage tank system must notify the

8.1 commissioner within 30 days after closing the transaction, pursuant to subpart 2. The
8.2 notification shall include the change in ownership and verify that all operators, including
8.3 lessees, have read this chapter and have sufficient knowledge in the operation and
8.4 maintenance of underground storage tank systems.

8.5 **7150.0100 PERFORMANCE STANDARDS FOR UNDERGROUND STORAGE**
8.6 **TANK SYSTEMS.**

8.7 Subpart 1. **Purpose.** To prevent releases due to structural failure, corrosion, or spills
8.8 and overfills for as long as the underground storage tank system is used to store regulated
8.9 substances, all owners and operators of underground storage tank systems must meet the
8.10 requirements in subparts 7 to 14.

8.11 Subp. 2. [See repealer.]

8.12 Subp. 3 [See repealer.]

8.13 Subp. 4 [See repealer.]

8.14 Subp. 5 [See repealer.]

8.15 Subp. 6 [See repealer.]

8.16 Subp. 7. **Installation.** All underground storage tank systems must be properly
8.17 installed according to the manufacturer's instructions and one of the following codes
8.18 of practice developed by a nationally recognized association or independent testing
8.19 laboratory. The codes are incorporated by reference under part 7150.0500:

8.20 A. American Petroleum Institute, Installation of Underground Petroleum
8.21 Storage Systems, API 1615 (1996);

8.22 B. Petroleum Equipment Institute, Recommended Practices for Installation of
8.23 Underground Liquid Storage Systems, RP100 (2005);

8.24 C. American Society of Mechanical Engineers, Process Piping, B31.3 (2005); or

9.1 D. American Society of Mechanical Engineers, Pipeline Transportation Systems
9.2 for Liquid Hydrocarbons and Other Liquids, B31.4 (2006).

9.3 Subp. 8. [See repealer.]

9.4 Subp. 9. **Compatibility.** Owners and operators must use underground storage tank
9.5 systems, spill catchment basins, submersible pump sumps, and dispenser sumps made of
9.6 or lined with materials that are compatible with the substance stored in the underground
9.7 storage tank system. Owners and operators storing alcohol blends may use the following
9.8 guidance to comply with the requirements of this part: American Petroleum Institute,
9.9 Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and
9.10 Service Stations, API 1626 (1985). The document is incorporated by reference under
9.11 part 7150.0500.

9.12 Subp. 10. **Repairs allowed.** Owners and operators of underground storage tank
9.13 systems must ensure that repairs will prevent releases due to structural failure or corrosion
9.14 as long as the underground storage tank system is used to store regulated substances. The
9.15 owner and operator shall ensure that the person performing the repairs has been certified
9.16 under chapter 7105. The repairs must meet the requirements in items A to E.

9.17 A. Repairs to underground storage tank systems must be properly conducted
9.18 according to one of the following codes of practice developed by a nationally recognized
9.19 association or independent testing laboratory. The codes are incorporated by reference
9.20 under part 7150.0500:

9.21 (1) National Fire Protection Association, Flammable and Combustible
9.22 Liquids Code, NFPA 30 (2003);

9.23 (2) American Petroleum Institute, Repairing Crude Oil, Liquefied
9.24 Petroleum Gas, and Product Pipelines, API RP 2200 (1994);

10.1 (3) American Petroleum Institute, Interior Lining and Periodic Inspection of
10.2 Underground Storage Tanks, API 1631 (2001); or

10.3 (4) American Petroleum Institute, Cathodic Protection of Underground
10.4 Petroleum Storage Tanks and Piping Systems, API 1632 (1996).

10.5 B. If metal pipe sections are found to have pitting-type corrosion damage, or if
10.6 metal or fiberglass-reinforced plastic pipe sections have released a regulated substance,
10.7 then the entire piping segment between the tank and any dispensers must be replaced with
10.8 secondary containment piping according to part 7150.0205, subpart 3, item D. Piping may
10.9 be repaired and the entire segment need not be replaced if:

10.10 (1) the piping is already secondarily contained; or

10.11 (2) a release is due to an external, onetime cause such as damage during
10.12 excavation activity.

10.13 C. Within 30 days after completion of a tank repair, the tank must pass either
10.14 a tightness test in accordance with part 7150.0330, subpart 4, or a tightness test at a 0.1
10.15 gallon per hour leak rate using equipment for automatic tank gauging. Within 30 days
10.16 after completion of a piping repair, the piping must pass a tightness test in accordance
10.17 with part 7150.0340, subpart 3.

10.18 D. Within six months after the repair of a cathodic protection system, the
10.19 cathodic protection system must be tested according to part 7150.0215 to ensure that
10.20 it is operating properly.

10.21 E. Cathodic protection systems must be repaired by a corrosion expert.

10.22 Subp. 11. **Spill and overfill release prevention.**

10.23 A. Owners and operators must ensure that releases due to spilling or overfilling
10.24 do not occur. The owner or operator must ensure that the volume available in the tank is
10.25 greater than the volume of product to be transferred to the tank before the transfer is made

11.1 and that the transfer operation is monitored constantly to prevent overfilling and spilling.
11.2 One of the following codes of practice developed by a nationally recognized association
11.3 or independent testing laboratory must be used to comply with this subpart. The codes are
11.4 incorporated by reference under part 7150.0500:

11.5 (1) National Fire Protection Association, Flammable and Combustible
11.6 Liquids Code, NFPA 30 (2003);

11.7 (2) National Fire Protection Association, Standard for Tank Vehicles for
11.8 Flammable and Combustible Liquids, NFPA 385 (2007); or

11.9 (3) American Petroleum Institute, Bulk Liquid Stock Control at Retail
11.10 Outlets, API 1621 (1987).

11.11 B. The owner and operator must report, investigate, and clean up any spills and
11.12 overfills according to Minnesota Statutes, section 115.061.

11.13 Subp. 12. **Sump and basin maintenance.**Spill catchment basins, submersible pump
11.14 sumps, and dispenser sumps shall have liquid-tight sides and bottom and be maintained
11.15 free of storm water and debris. Regulated substances spilled to any spill catchment basin,
11.16 submersible pump sump, or dispenser sump shall be immediately removed.

11.17 Subp. 13. **Shear valves.**All shear valves shall be securely anchored.

11.18 Subp. 14. **Drop tubes.**All underground storage tanks shall have a drop tube that
11.19 extends to within 12 inches of the tank bottom.

11.20 **7150.0205 DESIGN AND CONSTRUCTION.**

11.21 Subpart 1. **Tanks.**Each tank must be properly designed and constructed and any
11.22 part underground that routinely contains product must be protected from corrosion using
11.23 one of the following methods, except that all hazardous materials tanks and all tanks, other
11.24 than heating oil tanks, installed or replaced after December 22, 2007, must comply with
11.25 item D. The corrosion protection methods must be in accordance with one of the codes

12.1 of practice in subpart 2 developed by a nationally recognized association or independent
12.2 testing laboratory.

12.3 A. The tank is constructed of fiberglass-reinforced plastic.

12.4 B. The tank is constructed of steel and cathodically protected in the following
12.5 manner:

12.6 (1) the tank is coated with a suitable dielectric material;

12.7 (2) field-installed cathodic protection systems are designed by a corrosion
12.8 expert;

12.9 (3) impressed current systems are designed to allow determination of
12.10 current operating status as required in part 7150.0215, subpart 3, item A; and

12.11 (4) cathodic protection systems are operated and maintained according
12.12 to part 7150.0215.

12.13 C. The tank is constructed of a steel and fiberglass-reinforced plastic composite.

12.14 D. The tank is secondarily contained.

12.15 (1) Secondary containment tanks shall use one of the following designs:

12.16 (a) the tank is of double-walled fiberglass-reinforced plastic
12.17 construction;

12.18 (b) the tank is of double-walled steel construction, with cathodic
12.19 protection of the outer wall meeting the requirements of item B;

12.20 (c) the tank is of double-walled steel construction with a
12.21 fiberglass-reinforced plastic jacket; or

12.22 (d) the tank is of single-walled steel construction with a
12.23 fiberglass-reinforced plastic jacket, which is designed to contain and detect a leak through
12.24 the steel wall.

13.1 (2) All secondary containment tanks shall be capable of containing a release
13.2 from the inner wall of the tank and shall be designed with release detection according to
13.3 part 7150.0330, subpart 6.

13.4 (3) If a tank is replaced in accordance with this item, all piping appurtenant
13.5 to the tank shall comply with subpart 3, item D.

13.6 E. The tank is internally lined.

13.7 (1) A tank with an internal lining as the sole method of corrosion protection
13.8 shall be internally inspected and evaluated within ten years after lining, and every five
13.9 years thereafter, and found to be structurally sound with the lining still performing
13.10 according to original design specifications, as follows:

13.11 (a) internal inspections and evaluations shall be conducted in
13.12 accordance with American Petroleum Institute, Interior Lining and Periodic Inspection
13.13 of Underground Storage Tanks, API 1631 (2001), incorporated by reference under part
13.14 7150.0500;

13.15 (b) lining inspectors shall be approved by the manufacturer of the
13.16 lining, if an approval process exists, or shall be qualified by reason of training and
13.17 experience in the application and inspection of type of internal lining to be inspected;

13.18 (c) the owner, operator, or lining inspector shall notify the
13.19 commissioner at least ten days prior to performing an inspection according to part
13.20 7150.0090, subpart 1;

13.21 (d) inspections shall include thorough cleaning of the lining; visual
13.22 inspection of the lining for cracking, blistering, perforation, disbonding, and excessive
13.23 wear; ultrasonic thickness testing (steel tanks only); holiday (spark) testing for lining
13.24 continuity; lining thickness measurement; lining hardness testing; and representative
13.25 photographs of internal surfaces;

14.1 (e) inspections shall be primarily by manned entry. Video camera
14.2 observation alone is not allowed;

14.3 (f) minor abnormal conditions of the lining, such as short cracks
14.4 or localized disbonding, may be repaired, so long as the conditions do not constitute
14.5 more than five percent of the lining surface area and the repairs will return the lining to
14.6 substantially the original design specifications;

14.7 (g) if a repair to the tank or to the internal lining as allowed under unit
14.8 (f) is performed, the tank must pass a tightness test at a 0.1 gallon per hour leak rate using
14.9 equipment for automatic tank gauging or another test method, prior to or within 30 days
14.10 after returning the tank to service;

14.11 (h) a written inspection report shall be produced that describes the
14.12 results of all tests and evaluations required by unit (d), and the results of tightness testing
14.13 under unit (g). The report shall identify any abnormal conditions found during the
14.14 inspection and the measures taken to correct the conditions. The inspector shall certify
14.15 in the report that, in the professional judgment of the inspector, the tank is structurally
14.16 sound, the lining is performing according to original design specifications, and the
14.17 tank and lining will maintain their integrity for at least five years under the anticipated
14.18 conditions of use; and

14.19 (i) the inspection report under unit (h) shall be submitted to the
14.20 commissioner within 60 days of the internal inspection.

14.21 (2) A tank with an internal lining as the sole method of corrosion protection
14.22 shall be permanently closed and site assessment completed according to parts 7150.0410
14.23 and 7150.0420 if at any time the lining is found to have failed. Lining failure is defined as
14.24 any abnormal conditions other than minor abnormal conditions described in subitem (1),
14.25 unit (f). The lining may not be replaced, nor may such a tank be upgraded with cathodic
14.26 protection or another corrosion protection method to meet the requirements of this subpart.

15.1 F. The tank construction and corrosion protection are determined by the
15.2 commissioner to be designed to prevent the release or threatened release of a stored,
15.3 regulated substance in a manner that is no less protective of human health and the
15.4 environment than items A to E. The commissioner's determination under this item must
15.5 be obtained in writing and the owners and operators must keep the determination for
15.6 the life of the tank.

15.7 Subp. 2. **Codes of practice for tanks.**Codes of practice for subpart 1 are described
15.8 in items A to E. The codes are incorporated by reference under part 7150.0500.

15.9 A. The following codes of practice apply to subpart 1, item A:

15.10 (1) Underwriters Laboratories, Standard for Glass-Fiber-Reinforced Plastic
15.11 Underground Storage Tanks for Petroleum Products, Alcohols, and Alcohol-Gasoline
15.12 Mixtures, UL 1316 (2006); or

15.13 (2) Underwriters' Laboratories of Canada, Standard for Reinforced Plastic
15.14 Underground Tanks for Flammable and Combustible Liquids, ULC-S615-98 (1998).

15.15 B. The following codes of practice apply to subpart 1, item B:

15.16 (1) Steel Tank Institute, Specification and Manual for External Corrosion
15.17 Protection of Underground Steel Storage Tanks, STI-P3 (2006);

15.18 (2) Underwriters Laboratories, Standard for Safety for External Corrosion
15.19 Protection Systems for Steel Underground Storage Tanks, UL 1746 (2007);

15.20 (3) Underwriters' Laboratories of Canada, External Corrosion Protection
15.21 Systems for Steel Underground Tanks for Flammable and Combustible Liquids,
15.22 CAN/ULC-S603.1-03 (2003);

15.23 (4) Underwriters' Laboratories of Canada, Standard for Steel Underground
15.24 Tanks for Flammable and Combustible Liquids, CAN/ULC-S603-00 (2000);

16.1 (5) Underwriters' Laboratories of Canada, Isolating Bushings for Steel
16.2 Underground Tanks Protected with External Corrosion Protection Systems, ULC-S631-05
16.3 (2005);

16.4 (6) National Association of Corrosion Engineers, Corrosion Control of
16.5 Underground Storage Tank Systems by Cathodic Protection, RP0285-2002 (2002); or

16.6 (7) Underwriters Laboratories, Standard for Steel Underground Tanks for
16.7 Flammable and Combustible Liquids, UL 58 (1996).

16.8 C. The following codes of practice apply to subpart 1, item C:

16.9 (1) Underwriters Laboratories, Standard for Safety for External Corrosion
16.10 Protection Systems for Steel Underground Storage Tanks, UL 1746 (2007); or

16.11 (2) Steel Tank Institute, ACT-100 Specification for External Corrosion
16.12 Protection of Composite Steel Underground Storage Tanks, STI F894 (2006).

16.13 D. The following codes of practice apply to subpart 1, item D:

16.14 (1) Underwriters Laboratories, Standard for Steel Underground Tanks for
16.15 Flammable and Combustible Liquids, UL 58 (1996);

16.16 (2) Underwriters Laboratories, Standard for Safety for External Corrosion
16.17 Protection Systems for Steel Underground Storage Tanks, UL 1746 (2007);

16.18 (3) Steel Tank Institute, Recommended Practice for Interstitial Tightness
16.19 Testing of Existing Underground Double Wall Steel Tanks, RP012 (2006); and

16.20 (4) Steel Tank Institute, Standard for Dual Wall Underground Steel Storage
16.21 Tanks, STI F841 (2006).

16.22 E. The following code of practice applies to subpart 1, item E: American
16.23 Petroleum Institute, Interior Lining and Periodic Inspection of Underground Storage
16.24 Tanks, API 1631 (2001).

17.1 Subp. 3. **Piping.** The piping that routinely contains regulated substances and is
17.2 in contact with the ground must be properly designed, constructed, and protected from
17.3 corrosion using one of the following methods, except that all hazardous materials piping
17.4 and all piping, other than heating oil piping, installed or replaced after December 22,
17.5 2007, other than piping that conveys regulated substances under safe suction meeting the
17.6 design requirements of part 7150.0300, subpart 6, item B, subitem (2), shall comply with
17.7 item D. The corrosion protection methods in items A to D must be in accordance with one
17.8 of the codes of practice in subpart 4 developed by a nationally recognized association or
17.9 independent testing laboratory.

17.10 A. The piping is constructed of fiberglass-reinforced plastic.

17.11 B. The piping is constructed of steel and cathodically protected in the following
17.12 manner:

17.13 (1) the piping is coated with a suitable dielectric material;

17.14 (2) field-installed cathodic protection systems are designed by a corrosion
17.15 expert;

17.16 (3) impressed current systems are designed to allow determination of
17.17 current operating status as required in part 7150.0215, subpart 3, item A; and

17.18 (4) cathodic protection systems are operated and maintained according
17.19 to part 7150.0215.

17.20 C. The piping is constructed of a steel and fiberglass-reinforced plastic
17.21 composite.

17.22 D. The piping is secondarily contained.

17.23 (1) Secondary containment piping shall use one of the following designs:

17.24 (a) the piping is of double-walled fiberglass-reinforced plastic
17.25 construction;

18.1 (b) the piping is of double-walled steel construction, with cathodic
18.2 protection of the outer wall meeting the requirements of item B;

18.3 (c) the piping is of double-walled steel construction with a
18.4 fiberglass-reinforced plastic jacket;

18.5 (d) the piping is of single-walled steel construction with a
18.6 fiberglass-reinforced plastic jacket, which is designed to contain and detect a leak through
18.7 the steel wall; or

18.8 (e) the piping is of double-walled nonmetallic flexible construction.

18.9 (2) All secondary containment piping shall be capable of containing a
18.10 release from the inner wall of the piping and shall be designed with release detection
18.11 according to part 7150.0340, subpart 4.

18.12 E. The piping is of single-walled nonmetallic flexible construction.

18.13 F. The piping construction and corrosion protection are determined by the
18.14 commissioner to be designed to prevent the release or threatened release of a stored
18.15 regulated substance in a manner that is no less protective of human health and the
18.16 environment than the requirements of items A to D. The commissioner's determination
18.17 under this item must be obtained in writing and the tank owners and operators must keep
18.18 the determination for the life of the tank.

18.19 Subp. 4. **Codes of practice for piping.** Codes of practice for subpart 3 are described
18.20 in items A and B. The codes are incorporated by reference under part 7150.0500.

18.21 A. The following codes of practice apply to subpart 3, item A:

18.22 (1) Underwriters Laboratories, Emergency Breakaway Fittings, Swivel
18.23 Connectors and Pipe-Connection Fittings for Petroleum Products and LP-Gas, UL 567
18.24 (2004);

19.1 (2) Underwriters' Laboratories of Canada, Standard for Flexible
19.2 Underground Hose Connectors for Flammable and Combustible Liquids,
19.3 CAN/ULC-S633-99 (1999); or

19.4 (3) Underwriters' Laboratories of Canada, Guide for Glass-Fiber-Reinforced
19.5 Plastic Pipe and Fittings for Flammable Liquids, ULC Subject C107C-M1984 (1984).

19.6 B. The following codes of practice apply to subpart 3, item B:

19.7 (1) National Fire Protection Association, Flammable and Combustible
19.8 Liquids Code, NFPA 30 (2003);

19.9 (2) American Petroleum Institute, Installation of Underground Petroleum
19.10 Storage Systems, API 1615 (1996);

19.11 (3) American Petroleum Institute, Cathodic Protection of Underground
19.12 Petroleum Storage Tanks and Piping Systems, API 1632 (1996); or

19.13 (4) National Association of Corrosion Engineers, Control of External
19.14 Corrosion on Underground or Submerged Metallic Piping Systems, SP0169-2007 (2007).

19.15 Subp. 5. **Spill and overfill prevention equipment.**

19.16 A. Except as provided in item B, to prevent spilling and overfilling associated
19.17 with product transfer to the underground storage tank system, owners and operators must
19.18 use the following spill and overfill prevention equipment:

19.19 (1) spill prevention equipment that will prevent release of product to the
19.20 environment when the transfer hose is detached from the fill pipe, for example, a spill
19.21 catchment basin; and

19.22 (2) overfill prevention equipment that will:

19.23 (a) automatically shut off flow into the tank when the tank is no more
19.24 than 95 percent full; or

20.1 (b) alert the transfer operator when the tank is no more than 90
20.2 percent full by restricting the flow into the tank or triggering a high-level alarm audible
20.3 to the transfer operator.

20.4 B. Owners and operators are not required to use the spill and overfill prevention
20.5 equipment specified in item A if:

20.6 (1) alternative equipment is used that is determined by the commissioner to
20.7 be no less protective of human health and the environment than the equipment specified
20.8 in item A; or

20.9 (2) the underground storage tank system is filled by transfers of no more
20.10 than 25 gallons at one time.

20.11 The commissioner's determination under subitem (1) must be obtained in writing and
20.12 the tank owners and operators must keep the determination for the life of the tank.

20.13 Subp. 6. **Submersible pumps.**

20.14 A. After December 22, 2007, any new or replacement submersible pump,
20.15 including replacement pump head, shall be provided with secondary containment around
20.16 and beneath the pump head. Secondary containment shall be:

20.17 (1) designed to contain a release from the pump head and any connectors,
20.18 fittings, and valves beneath the pump head until the release can be detected and removed;

20.19 (2) designed with liquid-tight sides, bottom, cover, and points of piping
20.20 penetration;

20.21 (3) constructed of fiberglass-reinforced plastic or other synthetic material of
20.22 comparable thickness and durability; and

20.23 (4) compatible with the stored substance.

20.24 B. The following code of practice may be used to meet the requirements of
20.25 this subpart, as applicable: Underwriters' Laboratories of Canada, Under-Dispenser

21.1 Sumps, ULC/ORD-C107.21-1992 (1992). The code is incorporated by reference under
21.2 part 7150.0500.

21.3 Subp. 7. **Dispensers.**

21.4 A. After December 22, 2007, any new dispenser, and any replacement dispenser
21.5 where work is performed beneath any shear valves or check valves or on any flexible
21.6 connectors or unburied risers, shall be provided with secondary containment beneath the
21.7 dispenser. Secondary containment shall be:

21.8 (1) designed to contain a release from the dispenser and any connectors,
21.9 fittings, and valves beneath the dispenser until the release can be detected and removed;

21.10 (2) designed with liquid-tight sides, bottom, and points of piping
21.11 penetration;

21.12 (3) constructed of fiberglass-reinforced plastic or other synthetic material of
21.13 comparable thickness and durability; and

21.14 (4) compatible with the stored substance.

21.15 B. The following code of practice shall be used to meet the requirements
21.16 of this subpart: Underwriters' Laboratories of Canada, Under-Dispenser Sumps,
21.17 ULC/ORD-C107.21-1992 (1992). The code is incorporated by reference under part
21.18 7150.0500.

21.19 **7150.0215 OPERATION AND MAINTENANCE OF CATHODIC PROTECTION.**

21.20 Subpart 1. **General.** Cathodic protection systems must be operated and maintained to
21.21 continuously provide cathodic protection to the metal components of the parts of the tank
21.22 and piping that routinely contain regulated substances and are in contact with the ground.

21.23 Subp. 2. **Sacrificial anode systems.** Sacrificial anode cathodic protection systems
21.24 must be tested for proper operation according to the following requirements:

22.1 A. systems must be tested by a cathodic protection tester within six months
22.2 of installation and at least every three years thereafter, and within six months after any
22.3 repairs and at least every three years thereafter;

22.4 B. the criteria that are used to determine that cathodic protection is adequate
22.5 as required by this subpart must be according to National Association of Corrosion
22.6 Engineers, Corrosion Control of Underground Storage Tank Systems by Cathodic
22.7 Protection, RP0285-2002 (2002), incorporated by reference under part 7150.0500; and

22.8 C. systems designed with external testing stations must be tested using a
22.9 voltmeter according to this subpart, but do not require testing by a cathodic protection
22.10 tester.

22.11 Subp. 3. **Impressed current systems.** Impressed current cathodic protection
22.12 systems must be tested for proper operation according to the following requirements:

22.13 A. the rectifier must be read every 60 days to ensure that current is being
22.14 delivered to the system and the voltage and amperage readings shall be recorded;

22.15 B. systems must be tested by a corrosion expert within six months of installation
22.16 and at least annually thereafter, and within six months after any repairs and at least
22.17 annually thereafter; and

22.18 C. the criteria that are used to determine that cathodic protection is adequate
22.19 as required by this subpart must be according to National Association of Corrosion
22.20 Engineers, Corrosion Control of Underground Storage Tank Systems by Cathodic
22.21 Protection, RP0285-2002 (2002), incorporated by reference under part 7150.0500.

22.22 **7150.0300 RELEASE DETECTION.**

22.23 Subpart 1. **General.** Owners and operators of underground storage tank systems
22.24 must provide a method, or combination of methods, of release detection for tanks, piping,
22.25 dispensers, and submersible pumps that:

23.1 A. can detect a release from any part of the tank and the connected underground
23.2 piping, dispensers, and submersible pumps that routinely contains product;

23.3 B. is installed, calibrated, operated, and maintained according to the
23.4 manufacturer's instructions, including routine maintenance and service checks for
23.5 operability or running condition; and

23.6 C. meets the performance standards in part 7150.0330 or 7150.0340.

23.7 The performance of release detection equipment must be documented with written
23.8 specifications supplied by the equipment manufacturer or installer. Methods of release
23.9 detection for tanks and piping must be capable of detecting the leak rate or quantity
23.10 specified for that method in parts 7150.0330 and 7150.0340.

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

23.12 Subp. 3. [See repealer.]

23.13 Subp. 4. [See repealer.]

23.14 Subp. 5. **Tanks.**Tanks must be monitored at least every 30 days for releases using
23.15 one of the following methods or combination of methods, except that hazardous materials
23.16 tanks must comply with item B:

23.17 A. automatic tank gauging according to part 7150.0330, subpart 5, combined
23.18 with inventory control in accordance with part 7150.0330, subpart 2;

23.19 B. interstitial monitoring according to part 7150.0330, subpart 6;

23.20 C. inventory control according to part 7150.0330, subpart 2, subject to the
23.21 following conditions:

23.22 (1) tank tightness testing shall be performed according to part 7150.0330,
23.23 subpart 4, within five years after installation; and

24.1 (2) inventory control shall be discontinued within ten years after tank
24.2 installation and another method of release detection shall be substituted;

24.3 D. for tanks with capacities of greater than 1,000 gallons and less than 2,000
24.4 gallons, manual tank gauging according to part 7150.0330, subpart 3, subject to the
24.5 following conditions:

24.6 (1) tank tightness testing shall be performed according to part 7150.0330,
24.7 subpart 4, within five years after installation; and

24.8 (2) manual tank gauging shall be discontinued within ten years after tank
24.9 installation and another method of release detection shall be substituted;

24.10 E. for tanks with capacities of 1,000 gallons or less, manual tank gauging
24.11 according to part 7150.0330, subpart 3; or

24.12 F. another method of release detection according to part 7150.0330, subpart 7.

24.13 Subp. 6. **Piping.** Underground piping that routinely contains regulated substances
24.14 must be monitored for releases using one of the following methods or combination of
24.15 methods:

24.16 A. Pressure piping. Underground piping that conveys regulated substances
24.17 under pressure must:

24.18 (1) be equipped with and operate a continuous automatic line-leak detector
24.19 according to part 7150.0340, subpart 2; and

24.20 (2) have an annual line tightness test conducted according to part
24.21 7150.0340, subpart 3, or have monthly interstitial monitoring conducted according to
24.22 part 7150.0340, subpart 4.

24.23 B. Suction piping.

25.1 (1) Except as described in subitem (2), underground piping that conveys
25.2 regulated substances under suction must:

25.3 (a) have a line tightness test conducted at least every three years
25.4 according to part 7150.0340, subpart 3; or

25.5 (b) have monthly interstitial monitoring conducted according to part
25.6 7150.0340, subpart 4.

25.7 (2) No release detection is required for suction piping that is designed and
25.8 constructed to meet the following standards:

25.9 (a) the below-grade piping operates at less than atmospheric pressure;

25.10 (b) the below-grade piping is sloped so that the entire contents of the
25.11 pipe will drain back into the storage tank if the suction is released;

25.12 (c) only one check valve is included in each suction line; and

25.13 (d) the check valve is located directly below and as close as practical to
25.14 the suction pump.

25.15 C. Other methods. Another method of release detection may be used according
25.16 to part 7150.0340, subpart 5.

25.17 Subp. 7. **Sump and basin monitoring.**Dispenser sumps, spill catchment basins,
25.18 and submersible pump sumps shall be visually checked for releases on a monthly basis.
25.19 A submersible pump sump may be visually checked for releases on an annual basis if it
25.20 is secondarily contained in accordance with the design requirements of part 7150.0205,
25.21 subpart 6, and is equipped with a continuous automatic sensing device that signals the
25.22 operator of the presence of either the regulated substance or water in the sump. If sumps
25.23 and basins are equipped with automatic leak-sensing devices that signal the operator
25.24 of the presence of any regulated substance, sensors shall be tested annually for proper

26.1 function. Sumps and basins shall be maintained free of storm water and debris. Regulated
26.2 substances spilled to sumps and basins shall be immediately removed.

26.3 **7150.0330 METHODS OF RELEASE DETECTION FOR TANKS.**

26.4 Subpart 1. **Applicability.** Each method of release detection for tanks used to meet
26.5 the requirements of part 7150.0300, subpart 5, must be conducted according to this part.

26.6 Subp. 2. **Inventory control.** Product inventory control must be conducted monthly
26.7 to detect a release of at least 1.0 percent flow-through plus 130 gallons on a monthly basis
26.8 in the following manner:

26.9 A. inventory volume measurements for regulated substance inputs, withdrawals,
26.10 and the amount still remaining in the tank are recorded each operating day;

26.11 B. the equipment used is capable of measuring the level of product over the full
26.12 range of the tank's height to the nearest one-eighth of an inch;

26.13 C. the regulated substance inputs are reconciled with delivery receipts by
26.14 measurement of the tank inventory volume before and after delivery;

26.15 D. deliveries are made through a drop tube that extends to within one foot of
26.16 the tank bottom;

26.17 E. product dispensing is metered and recorded within the local standards for
26.18 meter calibration incorporated by reference at part 7601.1000;

26.19 F. the measurement of any water level in the bottom of the tank is made to the
26.20 nearest one-eighth of an inch at least once a month; and

26.21 G. practices described in American Petroleum Institute, Bulk Liquid Stock
26.22 Control at Retail Outlets, API 1621 (1987), incorporated by reference under part
26.23 7150.0500, may be used, where applicable, as guidance in meeting the requirements
26.24 of this subpart.

27.1 Subp. 3. **Manual tank gauging.** Manual tank gauging must be conducted in the
 27.2 following manner:

27.3 A. tank liquid level measurements are taken at the beginning and ending of a
 27.4 period of at least 36 hours during which no liquid is added to or removed from the tank;

27.5 B. level measurements are based on an average of two consecutive stick
 27.6 readings at both the beginning and ending of the period; and

27.7 C. the equipment used is capable of measuring the level of product over the full
 27.8 range of the tank's height to the nearest one-eighth of an inch.

27.9 A leak is suspected and subject to the requirements of Minnesota Statutes, section
 27.10 115.061, if the variation between beginning and ending measurements exceeds the weekly
 27.11 or monthly standards in the following table:

		Weekly Standard	Monthly Standard	Minimum
Tank Capacity		(one-test)	(four-test avg.)	Duration
				of Test
27.15 If manual tank gauging is the ONLY leak detection method used:				
27.16 up to 550 gallons		10 gallons	5 gallons	36 hours
27.17 551-1,000 gallons (when				
27.18 largest tank is 64" x 73")		9 gallons	4 gallons	44 hours
27.19 1,000 gallons (if tank is 48" x				
27.20 128")		12 gallons	6 gallons	58 hours
27.21 If manual tank gauging is combined with Tank Tightness Testing:				
27.22 1,001-2,000 gallons		26 gallons	13 gallons	36 hours

27.23 Subp. 4. **Tank tightness testing.** Tank tightness testing must be capable of detecting
 27.24 a 0.1 gallon per hour leak rate from any part of the tank that routinely contains product
 27.25 while accounting for the effects of thermal expansion or contraction of the product, vapor
 27.26 pockets, tank deformation, evaporation or condensation, and the location of the water table.

28.1 Subp. 5. **Automatic tank gauging.** Equipment for automatic tank gauging that
28.2 tests for the loss of product and conducts inventory control must meet the following
28.3 requirements:

28.4 A. the automatic product level monitor test can detect a 0.2 gallon per hour leak
28.5 rate from any part of the tank that routinely contains product; and

28.6 B. inventory control is conducted according to the requirements of subpart 2.

28.7 Subp. 6. **Interstitial monitoring.**

28.8 A. Interstitial monitoring of secondary containment tanks shall be conducted:

28.9 (1) continuously, by means of an automatic leak-sensing device that signals
28.10 the operator of the presence of any liquid in the interstitial space; or

28.11 (2) monthly, by means of a procedure capable of detecting the presence of
28.12 any liquid in the interstitial space.

28.13 B. The interstitial space shall be maintained free of water, debris, or anything
28.14 that could interfere with leak detection capabilities.

28.15 C. On an annual basis, any automatic leak-sensing device shall be tested for
28.16 proper function.

28.17 Subp. 7. **Other methods.** Any other type of release detection method, or
28.18 combination of methods, can be used if:

28.19 A. the method can detect a 0.2 gallon per hour leak rate or a release of 150
28.20 gallons within a month with a probability of detection of 0.95 and a probability of false
28.21 alarm of 0.05; and

28.22 B. the owner and operator can demonstrate to the commissioner that the method
28.23 can detect a release as effectively as any of the methods allowed in this part and obtain
28.24 the commissioner's prior written approval of the method. In comparing methods, the

29.1 commissioner shall consider the size of release that the method can detect and the
29.2 frequency and reliability with which it can be detected. If the method is approved by the
29.3 commissioner, the owner and operator must comply with any conditions imposed by the
29.4 commissioner on its use to ensure the protection of human health and the environment.

29.5 **7150.0340 METHODS OF RELEASE DETECTION FOR PIPING.**

29.6 Subpart 1. **Applicability.** Each method of release detection for piping used to meet
29.7 the requirements of part 7150.0300, subpart 6, must be conducted according to this part.

29.8 Subp. 2. **Automatic line leak detectors.** Methods which continuously alert the
29.9 operator to the presence of a leak by restricting or shutting off the flow of regulated
29.10 substances through piping or triggering an audible or visual alarm may be used only if
29.11 they detect leaks of three gallons per hour at ten pounds per square inch line pressure
29.12 within one hour. An annual test of the operation of any mechanical line leak detector
29.13 must be conducted. Testing shall:

29.14 A. be conducted by a person:

29.15 (1) certified under chapter 7105;

29.16 (2) approved by the manufacturer of the equipment to test the detector; or

29.17 (3) qualified by reason of training or experience to test the detector;

29.18 B. comply with the manufacturer's testing requirements;

29.19 C. involve creation of a physical leak in a piping segment; and

29.20 D. verify the leak detection threshold of three gallons per hour at ten pounds per
29.21 square inch line pressure within one hour.

29.22 Subp. 3. **Line tightness testing.** A periodic test of piping may be conducted only if it
29.23 can detect a 0.1 gallon per hour leak rate at one and one-half times the operating pressure.

29.24 Subp. 4. **Interstitial monitoring.**

30.1 A. Interstitial monitoring of secondary containment piping shall be conducted:

30.2 (1) continuously, by means of an automatic leak-sensing device that signals
30.3 the operator of the presence of any regulated substance in the interstitial space or sump; or

30.4 (2) monthly, by means of a procedure, such as visual monitoring, capable of
30.5 detecting the presence of any regulated substance in the interstitial space or sump.

30.6 B. The interstitial space or sump shall be maintained free of water, debris, or
30.7 anything that could interfere with leak detection capabilities.

30.8 C. On an annual basis, any sump shall be visually inspected for integrity of sides
30.9 and floor and tightness of piping penetration seals. Any automatic leak-sensing device
30.10 shall be tested for proper function.

30.11 Subp. 5. **Other methods.** Any other type of release detection method, or
30.12 combination of methods, may be used if:

30.13 A. if the method can detect a 0.2 gallon per hour leak rate or a release of 150
30.14 gallons within a month with a probability of detection of 0.95 and a probability of false
30.15 alarm of 0.05; and

30.16 B. the owner and operator can demonstrate to the commissioner that the method
30.17 can detect a release as effectively as any of the methods allowed in subparts 2 to 4 and
30.18 obtain the commissioner's prior written approval of the method. In comparing methods,
30.19 the commissioner shall consider the size of release that the method can detect and the
30.20 frequency and reliability with which it can be detected. If the method is approved by the
30.21 commissioner, the owner and operator must comply with any conditions imposed by
30.22 the commissioner on the method's use to ensure the protection of human health and the
30.23 environment.

30.24 **7150.0400 TEMPORARY CLOSURE.**

31.1 Subpart 1. **Requirements.**In addition to the requirements of the most current
31.2 Minnesota Fire Code, owners and operators must comply with the provisions in subparts 2
31.3 to 5 relating to temporary closure.

31.4 Subp. 2. **Tanks out of service less than 90 days.**When an underground storage
31.5 tank system is out of service for less than 90 days, owners and operators must continue
31.6 operation and maintenance of corrosion protection according to part 7150.0215, and
31.7 any release detection according to parts 7150.0300 to 7150.0340. Release detection is
31.8 not required as long as the underground storage tank system is empty. The underground
31.9 storage tank system is empty when all materials have been removed using commonly
31.10 employed practices so that no more than 2.5 centimeters, or one inch, of residue remains
31.11 in the system as measured through any part of the tank system.

31.12 Subp. 3. **Tanks out of service 90 days.**When an underground storage tank system
31.13 is out of service for 90 days or more, owners and operators must also comply with the
31.14 following requirements:

31.15 A. leave vent lines open and functioning;

31.16 B. cap and secure all other lines, pumps, passageways, and appurtenances;

31.17 C. empty the tank;

31.18 D. continue operation and maintenance of cathodic protection according to
31.19 part 7150.0215; and

31.20 E. notify the commissioner of the change of status to temporary closure
31.21 according to part 7150.0090, subpart 2.

31.22 Subp. 4. **Tanks out of service one year.**When an underground storage tank system
31.23 is out of service for one year or more, owners and operators must permanently close the
31.24 underground storage tank system according to part 7150.0410, unless the owner requests

31.25 an extension of the closure period and completes a site assessment according to part
32.1 7150.0420, and the commissioner approves the extension in writing based on compliance
32.2 with this part. Conditions of extension shall include the operation and maintenance of
32.3 cathodic protection according to part 7150.0215. The underground storage tank system
32.4 may not be returned to service without the written approval of the commissioner, based on
32.5 compliance with the applicable requirements of this chapter.

32.6 Subp. 5. **Tanks out of service five years.**All underground storage tank systems
32.7 must be permanently closed if the tank system is out of service for five years or more.

32.8 **7150.0410 PERMANENT CLOSURE AND CHANGE IN STATUS TO STORAGE**
32.9 **OF NONREGULATED SUBSTANCES.**

32.10 Subpart 1. **Requirements.**In addition to the requirements of the most current
32.11 Minnesota Fire Code, owners and operators must comply with the provisions in subparts
32.12 2 to 7 relating to permanent closure and change in status to storage of nonregulated
32.13 substances.

32.14 Subp. 2. **Notice of closure or change in status.**At least ten days before beginning
32.15 either permanent closure under subpart 3 or a change in status under subpart 4, owners
32.16 and operators must notify the commissioner of their intent to permanently close or make
32.17 the change in status, unless such action is in response to corrective action. The required
32.18 assessment of the excavation zone under part 7150.0420 must be performed after notifying
32.19 the commissioner but before completion of the permanent closure or a change in status.

32.20 Subp. 3. **Permanent closure.**To permanently close a tank, owners and operators
32.21 must empty and clean it by removing all liquids and accumulated sludges from the tank
32.22 and piping. All tanks and piping taken out of service permanently must also be either
32.23 removed from the ground or filled in with an inert solid material.

32.24 Subp. 4. **Storage of nonregulated substances.**Continued use of an underground
32.25 storage tank system to store a nonregulated substance is considered a change in status.

32.26 Before a change in status to storage of a nonregulated substance, owners and operators
33.1 must empty and clean the tank and piping by removing all liquid and accumulated sludge
33.2 and conduct a site assessment according to part 7150.0420.

33.3 Subp. 5. **Certification of closers.** Owners and operators must ensure that persons
33.4 performing permanent closures under subpart 3 or changes in status under subpart 4 are in
33.5 compliance with certification requirements imposed by chapter 7105. Such persons must
33.6 furnish copies of current certificates issued by the agency to the owner and operator before
33.7 beginning a permanent closure under subpart 3 or a change in status under subpart 4.

33.8 Subp. 6. **Tank system closure certification.** Owners and operators must ensure that
33.9 the person who permanently closes or changes the status of an underground storage tank
33.10 system to a nonregulated substance certifies in the notification form that the methods
33.11 used comply with this part.

33.12 Subp. 7. **Cleaning and closure procedures.** The cleaning and closure procedures
33.13 listed in one of the following documents must be used as guidance for complying with this
33.14 part. The documents are incorporated by reference under part 7150.0500:

33.15 A. American Petroleum Institute, Closure of Underground Petroleum Storage
33.16 Tanks, API 1604 (1996);

33.17 B. American Petroleum Institute, Interior Lining and Periodic Inspection of
33.18 Underground Storage Tanks, API 1631 (2001); or

33.19 C. American Petroleum Institute, Requirements for Safe Entry and Cleaning of
33.20 Petroleum Storage Tanks, API 2015 (2001).

33.21 **7150.0420 SITE ASSESSMENT.**

33.22 When permanently closing a tank, making a change in status to storage of a
33.23 nonregulated substance, or temporarily closing a tank for one year or more, owners
33.24 and operators must measure through laboratory analysis for the presence of a release

33.25 where contamination is most likely to be present at the underground storage tank site. If
34.1 contaminated soils, contaminated groundwater, or free product as a liquid or vapor is
34.2 discovered by this measurement or by any other manner, owners and operators must notify
34.3 the agency immediately and begin corrective action according to Minnesota Statutes,
34.4 section 115.061. In selecting sample types, sample locations, and measurement methods,
34.5 owners and operators must consider the method of closure, the nature of the stored
34.6 substance, the type of backfill, the depth to groundwater, and other factors appropriate
34.7 for identifying the presence of a release.

34.8 **7150.0430 PREVIOUSLY CLOSED UNDERGROUND STORAGE TANK**
34.9 **SYSTEMS.**

34.10 When directed by the commissioner, the owner and operator of an underground
34.11 storage tank system permanently closed before December 22, 1988, must assess the
34.12 excavation zone according to part 7150.0420 and close the underground storage tank
34.13 system according to part 7150.0410 if releases from the underground storage tank may,
34.14 in the judgment of the commissioner, pose a current or potential threat to human health
34.15 and the environment.

34.16 **7150.0450 REPORTING AND RECORD KEEPING.**

34.17 Subpart 1. **General.** Owners and operators of underground storage tank systems
34.18 must cooperate fully with inspections, monitoring, and testing conducted by the agency,
34.19 as well as requests for document submission, testing, and monitoring by the owner or
34.20 operator.

34.21 Subp. 2. **Reporting.** Owners and operators must submit the following information
34.22 to the commissioner within the applicable time frames:

34.23 A. notification and certification for all underground storage tank systems under
34.24 part 7150.0090, including cathodic protection test reports;

34.25 B. notification of the discovery of an abandoned tank under Minnesota Statutes,
34.26 section 116.48, subdivision 2;

35.1 C. reports of all releases under Minnesota Statutes, section 115.061, including
35.2 suspected releases, spills and overfills, and confirmed releases;

35.3 D. information generated in the course of taking corrective action as defined in
35.4 Minnesota Statutes, section 115C.02, subdivision 4;

35.5 E. notification before permanent closure or change in status to a nonregulated
35.6 substance under part 7150.0410; and

35.7 F. inspection reports for internally lined tanks under part 7150.0205, subpart 1,
35.8 item E, subitem (1).

35.9 Subp. 3. **Record retention.** Owners and operators must maintain the following
35.10 information in a legible manner for the specified time frame:

35.11 A. the commissioner's determination under part 7150.0205, subpart 1, item F;
35.12 subpart 3, item F; or subpart 5, item B, subitem (1), that alternative corrosion protection
35.13 equipment or spill and overfill prevention equipment may be used, shall be maintained for
35.14 the life of the tank system;

35.15 B. for underground storage tank systems using cathodic protection, the following
35.16 records of the operation of the cathodic protection must be maintained:

35.17 (1) the results of the last three tests of sacrificial anode systems required by
35.18 part 7150.0215, subpart 2, item A;

35.19 (2) the results of rectifier readings for impressed current systems required
35.20 by part 7150.0215, subpart 3, item A, for at least three years; and

35.21 (3) the results of the last three tests of impressed current systems required
35.22 by part 7150.0215, subpart 3, item B;

35.23 C. documentation of underground storage tank system repairs, including the
35.24 nature of each repair, results of required integrity testing, and any commissioner's written
36.1 determination under part 7150.0100, subpart 10, item C, shall be maintained for the life
36.2 of the tank system;

36.3 D. documentation of compliance with release detection requirements under
36.4 parts 7150.0300 to 7150.0340, as follows:

36.5 (1) all written performance claims pertaining to any release detection system
36.6 used, and the manner in which these claims have been justified or tested by the equipment
36.7 manufacturer or installer, including documentation of "safe suction" design according to
36.8 part ~~7150.0330~~ 7150.0300, subpart 6, item B, subitem (2), must be maintained for as long
36.9 as the system is being used to comply with the requirements of this chapter;

36.10 (2) the results of any sampling, testing, or monitoring must be maintained
36.11 for at least ten years, including:

36.12 (a) monthly tank inventory control according to part 7150.0330,
36.13 subpart 2;

36.14 (b) monthly manual tank gauging according to part 7150.0330, subpart
36.15 3;

36.16 (c) monthly or annual tank tightness testing according to part
36.17 7150.0330, subpart 4;

36.18 (d) monthly automatic tank gauging according to part 7150.0330,
36.19 subpart 5;

36.20 (e) monthly interstitial monitoring of secondary containment tanks
36.21 according to part 7150.0330, subpart 6, item A, subitem (2);

36.22 (f) monthly results of an alternative tank release detection method
36.23 according to part 7150.0330, subpart 7;

36.24 (g) monthly electronic line leak detection according to part 7150.0340,
36.25 subpart 2;

37.1 (h) annual testing of any mechanical line leak detector according to
37.2 part 7150.0340, subpart 2;

37.3 (i) monthly or annual line tightness testing according to part 7150.0340,
37.4 subpart 3;

37.5 (j) monthly interstitial monitoring of secondary containment piping
37.6 according to part 7150.0340, subpart 4;

37.7 (k) monthly results of an alternative piping release detection method
37.8 according to part 7150.0340, subpart 5;

37.9 (l) monthly sump and basin monitoring according to part 7150.0300,
37.10 subpart 7; and

37.11 (m) annual testing of any automatic leak-sensing device in any
37.12 secondarily contained tank according to part 7150.0330, subpart 6, item C, or submersible
37.13 pump sump according to part 7150.0340, subpart 4, item C;

37.14 (3) written documentation of all calibration, maintenance, and repair of
37.15 release detection equipment permanently located on site must be maintained for at least
37.16 ten years after the servicing work is completed. Any schedules of required calibration and
37.17 maintenance provided by the release detection equipment manufacturer must be retained
37.18 as long as the system is being used to comply with the requirements of this chapter; and

37.19 (4) documentation of the commissioner's approval of alternate release
37.20 detection methods under part 7150.0330, subpart 7, or 7150.0340, subpart 5, must be
37.21 maintained for as long as the methods are being used to comply with the requirements
37.22 of this chapter; and

37.23 E. results of the site assessment conducted at permanent closure or change in
37.24 status to a nonregulated substance under part 7150.0420 and any other records that are
37.25 capable of demonstrating compliance with closure requirements under parts 7150.0400
38.1 and 7150.0410. The results of the site assessment required in part 7150.0420 must be
38.2 maintained for at least three years after completion of permanent closure or change in
38.3 status in one of the following ways:

38.4 (1) at the facility by the owners and operators who took the underground
38.5 storage tank system out of service;

38.6 (2) at the facility by the current owners and operators of the underground
38.7 storage tank system site; or

38.8 (3) by mailing these records to the commissioner if the records cannot be
38.9 maintained at the closed facility.

38.10 Subp. 4. **Record location.** Owners and operators must maintain the records
38.11 required:

38.12 A. at the underground storage tank site where the records are immediately
38.13 available for inspection by the commissioner; or

38.14 B. at a readily available alternative site, in which case the records must be
38.15 immediately submitted to the commissioner upon request.

38.16 **7150.0500 INCORPORATION BY REFERENCE.**

38.17 Subpart 1. **Scope.**For purposes of chapter 7150, the documents in subpart 2 are
38.18 incorporated by reference. These documents are not subject to frequent change. They can
38.19 be found at the Minnesota Pollution Control Agency Library, 520 Lafayette Road, Saint
38.20 Paul, Minnesota 55155, at the addresses indicated, or through the Minitex interlibrary loan
38.21 system. If any of the documents are amended, and if the amendments are incorporated
38.22 by reference or otherwise made a part of federal technical rules at Code of Federal

38.23 Regulations, title 40, part 280, then the amendments to documents are also incorporated
38.24 by reference in this chapter.

39.1 Subp. 2. **Referenced standards.**The documents referenced throughout this chapter
39.2 are listed in items A to H:

39.3 A. American Society of Mechanical Engineers, 345 East 47th Street, New York,
39.4 New York 10017.

39.5 (1) B31.3, Process Piping (2005); and

39.6 (2) B31.4, Pipeline Transportation Systems for Liquid Hydrocarbons and
39.7 Other Liquids (2006).

39.8 B. American Petroleum Institute, 1220 L Street Northwest, Washington, D.C.
39.9 20005.

39.10 (1) API 1604, Closure of Underground Petroleum Storage Tanks (1996);

39.11 (2) API 1615, Installation of Underground Petroleum Storage Systems
39.12 (1996);

39.13 (3) API 1621, Bulk Liquid Stock Control at Retail Outlets (1987);

39.14 (4) API 1626, Storing and Handling Ethanol and Gasoline-Ethanol Blends
39.15 at Distribution Terminals and Service Stations (1985);

39.16 (5) API 1631, Interior Lining and Periodic Inspection of Underground
39.17 Storage Tanks (2001);

39.18 (6) API 1632, Cathodic Protection of Underground Petroleum Storage
39.19 Tanks and Piping Systems (1996);

39.20 (7) API 2015, Requirements for Safe Entry and Cleaning of Petroleum
39.21 Storage Tanks (2001); and

39.22 (8) API RP 2200, Repairing Crude Oil, Liquefied Petroleum Gas, and
39.23 Product Pipelines (1994).

40.1 C. National Association of Corrosion Engineers, Publications Department,
40.2 P.O. Box 218340, Houston, Texas 77218.

40.3 (1) SP0169-2007, Control of External Corrosion on Underground or
40.4 Submerged Metallic Piping Systems (2007); and

40.5 (2) RP0285-2002, Corrosion Control of Underground Storage Tank
40.6 Systems by Cathodic Protection (2002).

40.7 D. National Fire Protection Association, Batterymarch Park, Quincy,
40.8 Massachusetts 02269.

40.9 (1) NFPA 30, Flammable and Combustible Liquids Code (2003); and

40.10 (2) NFPA 385, Standard for Tank Vehicles for Flammable and Combustible
40.11 Liquids (2007).

40.12 E. Petroleum Equipment Institute, P.O. Box 2380, Tulsa, Oklahoma 74101:
40.13 RP100, Recommended Practices for Installation of Underground Liquid Storage Systems
40.14 (2005).

40.15 F. Steel Tank Institute, 570 Oakwood Road, Lake Zurich, Illinois 60047.

40.16 (1) STI-P3, Specification and Manual for External Corrosion Protection of
40.17 Underground Steel Storage Tanks (2006);

40.18 (2) STI F841, Standard for Dual Wall Underground Steel Storage Tanks
40.19 (2006);

40.20 (3) STI F894, ACT-100 Specification for External Corrosion Protection of
40.21 Composite Steel Underground Storage Tanks (2006); and

40.22 (4) R012, Recommended Practice for Interstitial Tightness Testing of
40.23 Existing Underground Double Wall Steel Tanks (2006).

41.1 G. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, Illinois
41.2 60062.

41.3 (1) UL 58, Standard for Steel Underground Tanks for Flammable and
41.4 Combustible Liquids (1996);

41.5 (2) UL 567, Emergency Breakaway Fittings, Swivel Connectors and
41.6 Pipe-Connection Fittings for Petroleum Products and LP-Gas (2004);

41.7 (3) UL 1316, Standard for Glass-Fiber-Reinforced Plastic Underground
41.8 Storage Tanks for Petroleum Products, Alcohols, and Alcohol-Gasoline Mixtures (2006);
41.9 and

41.10 (4) UL 1746, Standard for Safety for External Corrosion Protection Systems
41.11 for Steel Underground Storage Tanks (2007).

41.12 H. Underwriters' Laboratories of Canada, 7 Crouse Road, Scarborough, Ontario,
41.13 Canada M1R 3A9.

41.14 (1) CAN/ULC-S603.1-03, External Corrosion Protection Systems for Steel
41.15 Underground Tanks for Flammable and Combustible Liquids (2003);

41.16 (2) CAN/ULC-S603-00, Standard for Steel Underground Tanks for
41.17 Flammable and Combustible Liquids (2000);

41.18 (3) ULC-S615-98, Standard for Reinforced Plastic Underground Tanks for
41.19 Flammable and Combustible Liquids (1998);

41.20 (4) ULC-S631-05, Isolating Bushings for Steel Underground Tanks
41.21 Protected with External Corrosion Protection Systems (2005);

- 41.22 (5) CAN/ULC-S633-99, Standard for Flexible Underground Hose
41.23 Connectors for Flammable and Combustible Liquids (1999);
- 42.1 (6) ULC Subject C107C-M1984, Guide for Glass-Fiber-Reinforced Plastic
42.2 Pipe and Fittings for Flammable Liquids (1984);
- 42.3 (7) ULC/ORD-C107.21-1992, Under-Dispenser Sumps (1992); and
- 42.4 (8) ULC/ORD-C971-2005, Nonmetallic Underground Piping for
42.5 Flammable and Combustible Liquids (2005).
- 42.6 **REPEALER.** Minnesota Rules, parts 7150.0010, subpart 3; 7150.0020; 7150.0030,
42.7 subparts 17, 28, and 52; 7150.0100, subparts 2, 3, 4, 5, 6, and 8; 7150.0110; 7150.0120;
42.8 7150.0200; 7150.0210; 7150.0220; 7150.0230; 7150.0240; 7150.0300, subparts 3 and 4;
42.9 7150.0310; 7150.0320; 7150.0350; and 7150.0440, are repealed.