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1301:7-9-06 Design, construction, installation, operation and maintenance for UST systems

**(A) Purpose and scope.**

For the purpose of prescribing rules pursuant to section 3737.88 of the Revised Code, the fire marshal hereby adopts this rule to establish design, construction, installation, operation and maintenance requirements for underground storage tanks containing petroleum or other regulated substances. This rule is adopted by the fire marshal in accordance with Chapter 119. of the Revised Code and shall not be considered a part of the "Ohio Fire Code." The following UST systems are exempted from this rule:

- (1) Wastewater treatment tank systems;
- (2) Any UST systems containing radioactive material that are regulated under the Atomic Energy Act of 1954 (42 U.S.C.A. 2014 and following);
- (3) Any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the United States nuclear regulatory commission;
- (4) Airport hydrant fuel distribution systems; and
- (5) UST systems with field constructed tanks.

**(B) Performance standards for new UST systems.**

(1) New USTs shall be double-wall and shall have full secondary containment and shall be equipped, operated and maintained pursuant to paragraphs (D)(1) and (D)(2) of this rule;

(2) Underground piping that routinely contains regulated substances that is part of a new UST system shall be double-wall and shall have full secondary containment and shall be equipped, operated and maintained pursuant to paragraphs (D)(3) and (D)(4) of this rule except that:

- (a) Underground piping that conveys petroleum under suction is not required to be equipped to meet the secondary containment requirements of paragraph (B)(2) of this rule; and
- (b) A manifold that conveys petroleum under suction between tanks is not required to be equipped to meet the secondary containment requirements of paragraph (B)(2) of this rule.

(3) Containments that are part of a new UST system shall be equipped, operated, and maintained pursuant to paragraphs (D)(5) and (D)(6) of this rule and shall be present at the following locations:

- (a) In those areas where piping that routinely contains regulated substances exits the UST;
- (b) In those areas where piping that routinely contains regulated substances transitions from underground to above ground;

(c) In those areas where a transition sump is required to maintain the proper slope of piping that routinely contains regulated substances; and

(d) In those areas under each motor fuel dispenser.

(4) No other containment equipment is required on new UST systems except for spill containment as described in paragraph (B)(7) of this rule.

(5) All secondary containment systems that are part of new UST systems shall be equipped pursuant to the following:

(a) Secondary containment systems shall completely contain release of regulated substances from the UST system until they are detected and removed; and

(b) Secondary containment systems shall prevent the release of regulated substances into the environment at any time during the operational life of the UST system.

(6) Other methods of secondary containment, such as vaults, external liners and jackets, may be used if owners and/or operators:

(a) Demonstrate to the fire marshal that the alternative method of secondary containment is as least as protective of human health and the environment as those methods described in paragraphs (B)(1) through (B)(3)(d) of this rule; and

(b) Obtain written approval from the fire marshal to use the alternative method of secondary containment before installation and operation of the new UST system. The fire marshal may approve, deny or rescind the method at the fire marshal's discretion. If the alternative method of secondary containment is approved by the fire marshal, the owner and operator shall comply with any conditions imposed by the fire marshal on its use. The alternative method request shall be evaluated on a site by site basis.

(7) New UST systems shall be equipped with spill and overfill protection pursuant to paragraph (D)(7) of this rule.

(8) If an owner and/or operator elects to equip an UST system in a manner that exceeds the requirements of this rule, the owner and/or operator is only required to maintain the UST system to the extent required by this rule.

**(C) Performance standards for existing UST systems.**

(1) Existing USTs shall be equipped, operated and maintained pursuant to paragraphs (D)(1) and (D)(2) of this rule except that:

(a) Existing USTs installed prior to the effective date of this rule are not required to be equipped to meet the new UST secondary containment requirements of paragraph (B)(1) of this rule unless the USTs undergo work pursuant to paragraph (C)(7)(a) of this rule; and

(b) The addition of internal lining in the field to an existing metal UST system to meet cathodic protection requirements is prohibited unless owners and/or operators obtain written approval from the fire marshal prior to the application of the internal lining. The addition of

internal lining in the field to UST systems for purposes other than for cathodic protection is allowed provided that owners and/or operators comply with the Ohio Fire Code and give written notice to the fire marshal prior to the application of the internal lining. Owners and operators shall comply with any conditions imposed by the fire marshal on the use of internal lining.

(2) Existing underground piping that routinely contains regulated substances shall be equipped, operated and maintained pursuant to the new piping requirements defined in paragraph (B)(2) through (B)(2)(b) of this rule except that:

(a) Existing underground piping associated with UST systems installed prior to March 1, 2005, is not required to be equipped to meet secondary containment requirements of paragraph (B)(2) of this rule except those piping components undergoing work pursuant to paragraph (C)(7)(b) of this rule;

(b) Existing underground piping that conveys petroleum under suction is not required to be equipped to meet secondary containment requirements of paragraph (B)(2) this rule;

(c) Existing suction manifolds between tanks are not required to be equipped to meet the secondary containment requirements of paragraph (B)(2) of this rule; and

(d) Existing UST systems installed prior to March 1, 2005, are not required to be equipped with isolation valves between the piping and the tank as described in paragraph (D)(3)(b) of this rule.

(3) Existing UST systems shall be equipped, operated and maintained with containments as specified in paragraphs (D)(5) and (D)(6) of this rule except that:

(a) Existing UST systems installed prior to March 1, 2005, are not required to be equipped with containments except for those UST systems undergoing work pursuant to paragraph (C)(7)(c) of this rule.

(4) Existing UST systems shall be equipped with spill and overflow equipment meeting the requirements of paragraph (D)(7) of this rule except that:

(a) Existing UST systems installed prior to March 1, 2005, that were filled with transfers of no more than twenty-five gallons at one time are not required to be equipped to meet the spill and overflow requirements of this rule except USTs undergoing work pursuant to paragraph (C)(7)(a) of this rule; and

(b) Existing UST systems installed prior to March 1, 2005, are not required to be equipped with extractor valves as part of overflow prevention as described in paragraph (D)(7)(b) of this rule except USTs undergoing work pursuant to paragraph (C)(7)(a) of this rule.

(5) Existing UST systems containing hazardous substances as defined in rule 1301:7-9-03 of the Administrative Code shall be equipped, operated and maintained pursuant to the new UST system requirements defined in paragraph (B) of this rule except that:

(a) Existing UST systems installed prior to March 1, 2005, are not required to be equipped with containments in all of the locations described in paragraph (B)(3) of this rule. UST

systems shall have sufficient containments to demonstrate that the UST system is fully secondarily contained;

(b) Existing UST systems installed prior to March 1, 2005, are not required to be equipped with isolation valves between the piping and the tank pursuant to paragraph (D)(3)(b) of this rule;

(c) Existing UST systems installed prior to March 1, 2005, are not required to be equipped with extractor valves as part of overfill prevention pursuant to paragraph (D)(7)(b) of this rule;

(d) Existing UST systems installed prior to March 1, 2005, that are filled with transfers of no more than twenty-five gallons at one time are not required to be equipped to meet the spill and overfill requirements of paragraph (D)(7) of this rule; and

(e) Existing underground piping and manifolds that convey hazardous substance under suction shall be equipped with full secondary containment pursuant to paragraph (B)(2) of this rule.

(6) Existing UST systems located in sensitive areas as defined in rule 1301:7-9-09 of the Administrative Code shall be equipped, operated and maintained pursuant to the new UST system requirements defined in paragraph (B) of this rule except that:

(a) Existing UST systems installed prior to March 1, 2005, are not required to be equipped with containments in all of the locations described in paragraph (B)(3) of this rule. UST systems shall have sufficient containments to demonstrate that the UST system is fully secondarily contained;

(b) Existing UST systems that were internally lined but were not equipped with supplemental cathodic protection systems shall be taken out of service by January 1, 2011, unless the UST system is modified to meet the cathodic protection requirements of paragraphs (D)(1) through (D)(2)(d)(iv)(b) of this rule,

(c) Existing UST systems installed prior to March 1, 2005, are not required to be equipped with isolation valves between the piping and the tank pursuant to paragraph (D)(3)(b) of this rule;

(d) Existing UST systems installed prior to March 1, 2005, are not required to be equipped with extractor valves as part of overfill prevention pursuant to paragraph (D)(7)(b) of this rule;

(e) Existing UST systems installed prior to March 1, 2005, that were filled with transfers of no more than twenty-five gallons at one time are not required to be equipped to meet the spill and overfill requirements of paragraph (D)(7) of this rule.

(f) Existing UST systems that were installed in sensitive areas before the effective dates listed in paragraphs (C) to (E) of rule 1301:7-9-09 of the Administrative Code shall be equipped, operated and maintained pursuant to the existing UST requirements of paragraph (C)(1) through (C)(4)(b) of this rule.

(7) Any work performed on an existing UST system that requires a permit pursuant to rule 1301:7-9-10 of the Administrative Code, shall meet the following requirements:

(a) Work that cause an existing UST to be moved or shifted from its bedding shall require the UST and all piping, containments and ancillary equipment associated with the UST to be equipped, operated and maintained pursuant to the new UST system secondary containment requirements defined in paragraph (B) of this rule;

(b) Work that affects more than fifty percent (50%) of an existing piping run that routinely contains regulated substances shall require the piping and associated containments to be equipped, operated and maintained pursuant to the new piping and containment requirements defined in paragraphs (B)(2) and (B)(3) of this rule; and

(c) If a motor fuel dispensing system is installed at an existing site and work is also performed on the piping, flex connector or shear valve associated with the dispenser, then the fuel dispensing system shall be equipped, operated and maintained pursuant to the new containment requirements defined in paragraph (B)(3) of this rule.

(8) If an owner and/or operator elects to equip an UST system in a manner that exceeds the requirements of this rule, the owner and/or operator is only required to maintain the UST system to the extent required by this rule.

**(D) Design, construction, operation and maintenance of UST systems.**

(1) USTs shall be designed and constructed pursuant to one of the following:

(a) The tank is constructed of fiberglass-reinforced plastic in compliance with "Underwriters Laboratories Standard 1316-94; Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products";

(b) The tank is constructed of metal in compliance with "Underwriters Laboratories Standard 58-96; Standard for Steel Underground Tanks for Flammable and Combustible Liquids", coated with a suitable dielectric material and cathodically protected using:

(i) Field-installed cathodic protection systems that are designed by a corrosion expert; or

(ii) The tank and cathodic protection system comply with the requirements of one of the following:

(a) "Underwriters Laboratories Standard 1746-93; External Corrosion Protection Systems for Steel Underground Storage Tanks";

(b) "National Association of Corrosion Engineers Standard RP-0285-02; Corrosion Control of Underground Storage Tank Systems by Cathodic Protection"; or

(c) "Steel Tank Institute Specification for STI-P3 System of External Corrosion Protection of Underground Steel Storage Tanks" and related Steel Tank Institute specifications.

(c) The tank is constructed of a steel-fiberglass-reinforced-plastic composite in compliance with "Underwriters Laboratories Standard 1746-93; Corrosion Protection Systems for Underground Storage Tanks" or "Steel Tank Institute STI-F894; Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks" and related Steel Tank Institute specifications.

(d) The addition of internal lining in the field to a metal UST system to meet cathodic protection requirements is prohibited unless owners and/or operators obtain written approval from the fire marshal prior to the application of the internal lining. The addition of internal lining in the field to UST systems for purposes other than for cathodic protection is allowed provided that owners and/or operators comply with the Ohio Fire Code and give written notice to the fire marshal prior to the application of the internal lining. Owners and/or operators shall comply with any conditions imposed by the fire marshal on the use of internal lining.

(2) USTs shall be operated and maintained pursuant to all of the following:

(a) Owners and/or operators shall use UST system components that are compatible with the regulated substance stored in the UST system.

(b) If the UST system is used to store alcohol blends, the owner and/or operator shall ensure compatibility by complying with the following applicable standards:

(i) American Petroleum Institute Publication 1626-2000; Storing and Handling Ethanol and Gasoline-ethanol Blends at Distribution Terminals and Service Stations"; and

(ii) Petroleum Institute Publication 1627-2000; Storage and Handling of Gasoline-methanol/cosolvent Blends at Distribution Terminals and Service Stations."

(c) Owners and operators shall inspect all accessible UST and piping components at least once a year for evidence of degradation and shall correct any deficiencies that could cause a release or prevent release detection equipment from working properly. At a minimum, USTs and piping shall be monitored for any visible corrosion, peeling, cracking or excessive distortion of the UST and piping components.

(d) Operation and maintenance of corrosion protection;

(i) All corrosion protection systems shall be operated and maintained to continuously provide corrosion protection to the metal components of those portion of the tank and piping that routinely contain regulated substances and are in contact with the ground or frequently submerged in water.

(ii) All UST systems equipped with cathodic protection systems shall be inspected for proper operation by a qualified cathodic protection tester in compliance with the following requirements:

(a) All cathodic protection systems shall be tested within six months of installation and at least every three years thereafter; and

(b) The criteria to determine that cathodic protection is adequate shall be pursuant to "National Association of Corrosion Engineers Standard RP-0285-02; Corrosion Control of Underground Storage Tank Systems by Cathodic Protection".

(iii) UST systems with impressed current cathodic protection systems shall be inspected every sixty days by the owner and/or operator to ensure that the equipment is operating properly.

(iv) For UST systems using cathodic protection, records of the inspections of the cathodic protection system shall be maintained in compliance with this chapter to demonstrate compliance with the standards in paragraphs (D)(1) and (D)(2) of this rule. These records shall provide the following:

(a) The results of testing from the last two inspections required in paragraph (D)(2)(d)(ii)(a) of this rule; and

(b) The results of the last six inspections required by paragraph (D)(2)(d)(iii) of this rule.

(e) UST systems internally lined to meet cathodic protection requirements shall comply with the following:

(i) Within ten years after lining, and every five years thereafter, the lined tank shall be internally inspected to determine if it is structurally sound with the lining still performing in accordance with "American Petroleum Institute Publication 1631-01; Interior Lining and Period Inspection of Underground Storage Tanks"; and

(a) Internal inspections shall be performed by a person listed by the fire marshal to provide UST lining services;

(b) A modification permit shall be obtained prior to performing work in accordance with paragraph (D)(2)(d)(v) of this rule; and

(c) Video camera inspections shall not be used to meet the requirements of paragraph (D)(2)(d)(v) of this rule.

(ii) Any UST system internally lined that fails to meet the criteria described in paragraph (D)(2)(e) of this rule shall be removed in accordance with rule 1301:7-9-12 of the Administrative Code unless owner and/or operators obtain written approval from the fire marshal to modify or repair the internally lined UST system. Owners and/or operators shall comply with any conditions imposed by the fire marshal on the use of internal lining.

(iii) UST systems internally lined that also have cathodic protection that meets the requirements of paragraphs (D)(1) through (D)(2)(d)(iv)(b) of this rule do not have to comply with paragraph (D)(1)(e) of this rule.

(f) All corrosion protection systems on UST systems shall be installed, operated and maintained in a manner that minimizes any adverse effects on adjacent underground metallic structures, including but not limited to, natural gas pipe lines, telecommunication cables and water and sewage pipelines. If at any time a corrosion protection system on an UST system

is believed to have adversely affected an adjacent underground metallic structure, owners and operators shall immediately participate in the testing and remediation of any such adverse effects.

(3) Piping that routinely contains regulated substances shall be designed and constructed pursuant to the following:

(a) Piping in contact with the ground or frequently submerged in water shall be protected from corrosion in one of the following manners:

(i) The piping is constructed of fiberglass-reinforced plastic or flexible plastic technology piping in compliance with "Underwriters Laboratories Standard 971-95; Nonmetallic Underground Piping for Flammable Liquids" and "Underwriters Laboratories Standard 567-03; Pipe Connectors for Petroleum Products and LP Gas"; or

(ii) The piping is constructed of metal in compliance with "National Fire Protection Association Standard 30-03; Flammable and Combustible Liquids Code" and "American National Standards Institute B31.3-02; American National Standard Code for Pressure Piping", coated with a suitable dielectric material and cathodically protected using:

(a) Field-installed cathodic protection systems that are designed by a corrosion expert; or

(b) The piping and cathodic protection systems meet the requirements of "American Petroleum Institute Publication 1632-02; Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems", "National Association of Corrosion Engineers Standard RP-0169-02; Control of External Corrosion on Underground or Submerged Metallic Piping Systems", or "Steel Tank Institute R892; Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems" and related Steel Tank Institute specifications; and

(b) Piping that routinely contains regulated substances shall be installed with an isolation valve to allow for the separation of the piping from the UST. The isolation valve shall be easily accessible.

(4) Piping that routinely contains regulated substances shall be operated and maintained pursuant to all of the following:

(a) Owners and/or operators shall use piping system components that are compatible with the regulated substance stored in the UST system pursuant to paragraphs (D)(2)(a) through (D)(2)(b)(ii) of this rule.

(b) Owners and/or operators shall inspect all accessible piping components at least once a year for evidence of degradation and shall correct any deficiencies that could cause a release or prevent release detection equipment from working properly pursuant to paragraphs (D)(2)(c) through (D)(2)(c)(ii) of this rule.

(c) All corrosion protection systems shall be operated and maintained to continuously provide corrosion protection to the metal components of those portion of the piping that routinely

contain regulated substances and are in contact with the ground or frequently submerged in water pursuant to paragraphs (D)(2)(d) through (D)(2)(d)(vi) of this rule.

(5) Containment systems shall be properly designed and constructed pursuant to all of the following:

- (a) Each containment system shall be large enough to allow for the visible inspection and access of all components within the containment system;
- (b) Each penetration through a containment system shall be water tight while allowing for any forces that may act on the penetration;
- (c) Each containment system shall be designed to minimize the infiltration of surface water into the containment area; and
- (d) Covers for containments system shall be designed or managed to allow access to the containment system within four hours of a request by the fire marshal or local fire official.

(6) Containment equipment shall be properly operated and maintained pursuant to the following:

- (a) All containments shall be inspected at least once a year for proper operation and for the presence of water, regulated substances and debris in accordance with the following:
  - (i) Containments shall be inspected for evidence of excessive distortion, cracking or gross failure of the containments and any penetration fittings;
  - (ii) All water and debris shall be removed and properly disposed; and
  - (iii) All regulated substances shall be removed and properly disposed.
- (b) Containment systems shall be tightness tested pursuant to paragraph (E)(3)(d) of rule 1301:7-9-07 of the Administrative Code.

(7) Spill and overfill prevention equipment shall be designed and constructed pursuant to all of the following:

- (a) To prevent spilling and overflowing associated with regulated substance transfer to the UST system, owners and/or operators shall install the following spill and overfill prevention equipment:
  - (i) Spill prevention equipment with a capacity of at least five gallons that will prevent the release of product into the environment when the transfer hose is detached from the fill pipe; and
  - (ii) Overfill prevention equipment that will achieve one of the following:
    - (a) Automatically shut off flow into the tank when the tank is no more than ninety-five per cent full; or
    - (b) Alert the transfer operator when the tank is no more than ninety per cent full by restricting the flow into the tank or triggering a high-level alarm; or

(c) Restrict flow thirty minutes prior to overfilling, alert the operator with a high level alarm one minute before overfilling, or automatically shut off flow into the tank so that none of the fittings located on top of the tank are exposed to product due to overfilling.

(b) Float vent valves for overflow prevention, when used, shall be installed with an extractor fitting to allow for the testing and maintenance of the UST system; and

(c) Float vent valves for overflow prevention shall not be allowed on any type of suction system.

(8) Spill and overflow equipment shall be properly operated and maintained pursuant to all of the following:

(a) Owners and/or operators of all UST systems shall ensure that releases due to spilling or overfilling do not occur. The owner and/or operator shall ensure that the volume available in the tank is greater than the volume of product to be transferred to the tank before the transfer is made and that the transfer operation is monitored constantly to prevent overfilling and spilling;

(b) The owner and/or operator of all UST systems shall report, investigate and clean up any spills and overfills in compliance with rule 1301:7-9-13 of the Administrative Code;

(c) Owners and/or operators shall visually inspect all spill prevention equipment after each delivery and shall promptly remove and properly dispose of any water, regulated substances and/or debris from the spill prevention equipment; and

(d) Owners and operators shall inspect all spill and overflow prevention equipment annually for proper operation and evidence of deterioration.

**(E) General performance standards, permits, certified UST installers and inspectors.**

(1) All UST systems shall be properly installed, modified and repaired in accordance with the manufacturer's instructions, Petroleum Equipment Institute Publication RP100-2000; "Recommended Practices for Installation of Underground Liquid Storage Systems", American Petroleum Institute Publication 1615-01; "Installation of Underground Petroleum Storage Systems", National Fire Protection Association Publication NFPA 30-03 "Flammable and Combustible Liquids Code", National Fire Protection Association Publication NFPA 30A-03 "Motor Fuel Dispensing Facilities and Repair Garages", National Fire Protection Association Publication NFPA 407-01 "Standard for Aircraft Fuel Servicing", and applicable Steel Tank Institute installation instructions. Where there is a conflict between requirements the more protective requirement shall prevail.

(2) Owners and/or operators shall maintain records of each installation, modification or major repair to the UST system that demonstrate compliance with the requirements of this chapter for the remaining operating life of the UST system and for two years after the closure of the UST system.

(3) Performing work pursuant to this rule does not relieve a person engaged in underground storage tank activity from the obligation of complying with any other applicable federal, state, or local laws and regulations, including but not limited to, the Ohio Fire Code or the Ohio Building Code, etc.

(4) Any person performing work in accordance with this rule shall obtain a permit as required in paragraph (C) of rule 1301:7-9-10 of the Administrative Code prior to performing the work. All work performed in accordance with this rule shall be overseen by a certified UST installer and a certified UST inspector as required in paragraph (D) of rule 1301:7-9-10 of the Administrative Code.

(5) A tightness test shall be performed on any new or existing UST system component that undergoes work requiring an installation, modification or major repair permit under paragraph (E)(4) of this rule prior to placing the UST system into operation. No UST system shall be placed into operation until a passing tightness test result is obtained for the UST system component undergoing work.

(6) Other design, construction, installation, operation and maintenance methods may be used in place of any requirements or methods described in this rule if an owner and operator demonstrates that the alternative method is no less protective of human health and the environment than the method or requirement specified in this rule, and the fire marshal approves the alternative method in writing prior to the use of the method. If the alternative method is approved, the owner and operator shall comply with any terms and conditions imposed on its use by the fire marshal.

HISTORY: Eff 6-6-85; 5-9-88; 11-5-90; 1-1-97; 3-31-99; Replaces: 1301:7-9-06, eff. 3-1-05

Rule promulgated under: RC [119.03](#)

Rule authorized by: RC [3737.88](#)

Rule amplifies: RC [3737.88](#)

R.C. [119.032](#) review dates: 03/01/2010

1301:7-9-07 Release detection methods and requirements for UST systems.

**(A) Purpose and scope.**

For the purpose of prescribing rules pursuant to section 3737.88 of the Revised Code, the fire marshal hereby adopts this rule to establish release detection requirements and methods for underground storage tanks containing petroleum or other regulated substances. This rule is adopted by the fire marshal in compliance with Chapter 119. of the Revised Code and shall not be considered a part of the "Ohio Fire Code." The following UST systems are exempt from this rule:

- (1) Wastewater treatment tank systems;
- (2) Any UST systems containing radioactive material that are regulated under the Atomic Energy Act of 1954 (42 U.S.C.A. 2014 and following);
- (3) Any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the United States nuclear regulatory commission;
- (4) Airport hydrant fuel distribution systems; and
- (5) UST systems with field-constructed tanks.

**(B) Release detection requirements for new UST systems.**

- (1) New USTs shall be equipped and monitored for releases every thirty days using interstitial monitoring pursuant to paragraph (D)(1)(d) of this rule.
- (2) Underground piping that routinely contains regulated substances that is part of a new UST system shall be equipped and monitored for releases pursuant to paragraph (D)(2)(b) through (D)(2)(c) of this rule except that:
  - (a) Underground piping that conveys petroleum under suction shall be equipped and monitored for releases pursuant to paragraph (D)(2)(d) of this rule; and
  - (b) A manifold that conveys petroleum under suction between tanks does not have to meet the interstitial monitoring requirements as described in paragraph (D)(2)(b) of this rule.
- (3) Containments that are part of a new UST system shall be equipped and monitored for releases pursuant to paragraph (D)(3) of this rule.
- (4) New UST systems containing motor or aviation petroleum fuels are not required to be monitored using product inventory control as described in paragraph (D)(1)(a) of this rule.
- (5) New UST systems that store fuel for use by emergency power generators shall comply with release detection requirements pursuant to paragraphs (B)(1) through (B)(3) of this rule.

(6) If a method of UST release detection authorized in paragraph (B)(1) of this rule is found to be defective, owners and operators shall immediately repair or replace the method of release detection.

(a) While the method of release detection is being repaired or replaced, owners and operators may use product inventory control or automatic tank gauging in accordance with paragraph (D)(1)(a) or (D)(1)(c) of this rule in order to meet the requirements of paragraphs (B)(1) of this rule.

(b) Owners and operators may use product inventory control or automatic tank gauging in accordance with paragraph (D)(1)(a) or (D)(1)(c) of this rule for a period of up to sixty days after the last passing result obtained in accordance with paragraphs (B)(1) of this rule. Afterwards, owners and operators shall take the UST system out of service in accordance with rule 1301:7-9-12 of the Administrative Code until such time that the release detection method is repaired or replaced.

(7) If an owner and/or operator elects to equip an UST system in a manner that exceeds the requirements of this rule, the owner and/or operator is only required to maintain the UST system to the extent required by this rule.

(8) Other methods of release detection may be used for tanks, piping and containments pursuant to paragraph (D)(4) of this rule.

**(C) Release detection requirements for existing UST systems.**

(1) Existing UST systems shall be equipped and monitored for release in accordance with the following:

(a) Existing USTs shall be equipped and monitored for releases every thirty days pursuant to paragraphs (D)(1)(c) and (D)(1)(d) of this rule except that:

(i) Existing tanks with a capacity of five hundred fifty gallons or less may use manual tank gauging in compliance with paragraphs (D)(1)(b) of this rule as the sole method of release detection; and

(ii) Existing tanks with a capacity of five hundred fifty-one to two thousand gallons that contain new or used oil may use manual tank gauging in compliance with paragraphs (D)(1)(b) of this rule as a method of release detection provided that a tank tightness test is performed in accordance with paragraph (F)(1)(a) of this rule once every five years.

(b) Existing underground piping that routinely contains regulated substances shall be equipped and monitored for releases pursuant to paragraph (D)(2)(a) through (D)(2)(d)(ii)(b) of this rule except that:

(i) Existing piping associated with UST systems installed prior to March 1, 2005, does not have to meet the interstitial monitoring requirements as described in paragraph (D)(2)(b) of this rule.

(ii) Existing underground piping that conveys regulated substances under suction shall be equipped and monitored for releases pursuant to paragraph (D)(2)(d) of this rule; and

- (iii) An existing suction manifold between tanks does not have to meet the interstitial monitoring requirements as described in paragraph (D)(2)(b) of this rule.
- (c) Existing containment systems shall be equipped and monitored for releases pursuant to paragraph (D)(3) of this rule except that:
- (i) Existing containments associated with UST systems installed prior to March 1, 2005, are not required to meet the release detection requirements of paragraph (D)(3) of this rule and shall instead be equipped and monitored pursuant to paragraph (D)(6) of rule 1301:7-9-06 of the Administrative Code.
- (2) Existing UST systems containing hazardous substances as defined in rule 1301:7-9-03 of the Administrative Code shall be equipped and monitored for releases pursuant to the new UST system requirements defined in paragraph (B) of this rule except that:
- (a) Existing containments originally configured with one release detection sensor located at the lowest point of the secondary containment system are not required to have sensors in every containment; and
- (e) Existing underground piping and manifolds that convey hazardous substance under suction shall be equipped and monitored for releases pursuant to paragraph (B)(2) of this rule.
- (3) Existing UST systems located in sensitive areas as defined in rule 1301:7-9-09 of the Administrative Code shall be equipped and monitored for releases pursuant to the new UST system requirements defined in paragraph (B) of this rule except that:
- (a) Automatic line leak detectors are no longer required to be designed with a limited restart capability that automatically prevents the operator from restarting the flow of regulated substances more than once.
- (b) Existing containments originally configured with one release detection sensor located at the lowest point of the secondary containment system are not required to have sensors in every containment.
- (c) Existing UST systems that were installed in sensitive areas before the effective dates listed in paragraphs (C) to (E) of rule 1301:7-9-09 of the Administrative Code shall be equipped to be monitored for releases pursuant to the existing UST requirements of paragraph (C)(1) of this rule.
- (4) Owners and operators using soil gas monitoring or ground water monitoring as the sole method of release detection for USTs and piping were required to comply with one of the release detection methods as provided in paragraphs (D)(1)(c) or (D)(1)(d) of this rule by December 31, 2005. Owners and operators may request to continue using said methods of release detection or request to use an alternative method provided that the owner and operator receives written approval from the fire marshal pursuant to paragraph (D)(4) of this rule.
- (5) Existing UST systems containing motor or aviation petroleum fuels are no longer required to be monitored daily using product inventory control as described in paragraph (D)(1)(a) of this rule.

(6) Existing UST systems that store fuel for use by emergency power generators are not required to be equipped with release detection pursuant to paragraphs (B)(1) through (B)(3) of this rule unless the UST systems undergoes work pursuant to paragraph (C)(7) of rule 1301:7-9-06 of the Administrative Code.

(7) If a method of UST release detection authorized in paragraph (C)(1)(a) of this rule is found to be defective, owners and operator shall abide with paragraph (B)(6)(a) through (B)(6)(b) of this rule and may use product inventory control as a method of UST release detection.

(8) If work is performed on an existing UST system in order to meet the requirements of paragraph (C)(7) of rule 1301:7-9-06 of the Administrative Code, then the UST, piping or containments equipment affected by the work shall meet the release detection requirements for new UST systems as described in paragraphs (B)(1) through (B)(3) of this rule.

(9) If an owner and/or operator elects to equip an UST system in a manner that exceeds the requirements of this rule, the owner and/or operator is only required to maintain the UST system to the extent required by this rule.

(10) Other methods of release detection may be used for tanks, piping and containments pursuant to paragraph (D)(4) of this rule.

**(D) Methods, operation and maintenance of release detection systems on UST systems.**

(1) UST release detection.

Owners and/or operators should carefully review the release detection requirements described in paragraphs (B) and (C) of this rule in order to determine which of the following methods apply to their UST system.

(a) Daily product inventory control shall be conducted as described in "American Petroleum Institute 1621-01; Recommended Practice for Bulk Liquid Stock Control of Retail Outlets

(i) Inventory from UST systems shall be reconciled monthly. If the reconciliation for any month indicates an overage or shortage equal to or greater than one per cent of flow-through plus one hundred thirty gallons, owners and operators shall investigate the inventory discrepancy as described in "American Petroleum Institute 1621-01 Recommended Practice for Bulk Liquid Stock Control of Retail Outlets".

(ii) If inventory discrepancies occur for two consecutive months, owners and operators shall perform an investigation in accordance with all of the following:

(a) Conduct a tightness test of the UST system in accordance with paragraph (F) of this rule within seven days of discovery of the discrepancy; and

(b) Report any failure of a tightness test to BUSTR as a suspected release. A release is suspected and subject to the reporting requirements of sections 3737.88 and 3737.882 of the Revised Code and this chapter of the Administrative Code if a tightness test leak rate exceeds the amount designated for the testing method. Passing tightness test results do not have to be reported to the fire marshal.

(iii) Gauging sticks and charts used in the performance of daily product inventory control as described in paragraphs (D)(1)(a) of this rule shall be designed for the UST being measured and shall be maintained in working order.

(b) Manual tank gauging shall be conducted weekly and comply with the following requirements:

(i) Tank liquid level measurements shall be taken at the beginning and end of a time period of at least thirty-six hours during which no liquid is added to or removed from the tank;

(ii) Level measurements are based on an average of two consecutive stick readings at both the beginning and ending of the period;

(iii) The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch; and

(iv) A release is suspected and subject to the reporting requirements of sections 3737.88 and 3737.882 of the Revised Code and this chapter of the Administrative Code if the variation between the beginning and ending measurements exceeds the weekly or monthly standards in the following table:

Tank Capacity	Weekly Standard (One test)	Monthly Standard (Average of four tests)
550 gallons or less	10 gallons	5 gallons
551-1,000 gallons	13 gallons	7 gallons
1,001-2,000 gallons	26 gallons	13 gallons

(v) Gauging sticks and charts used in the performance of manual tank gauging as described in paragraphs (D)(1)(b) of this rule shall be designed for the UST being measured and shall be maintained in working order.

(c) Equipment for automatic tank gauging that tests for the loss of regulated substance and conducts inventory control shall comply with the following requirements:

(i) Equipment for automatic tank gauging shall perform a test at least once every thirty days.

(ii) The automatic product level monitor test shall be able to detect a two-tenth of a gallon per hour leak rate from any portion of the tank; and

(iii) A release is suspected and subject to the reporting requirements of sections 3737.88 and 3737.882 of the Revised Code and this chapter of the Administrative Code if a two-tenth of a gallon per hour leak rate is detected from any portion of the tank.

(iv) Equipment for automatic tank gauging, including probes, sensors and monitoring units, shall be evaluated annually by a qualified person as described in paragraph (D)(5) of this rule to confirm proper calibration and operation in accordance with the manufacturer's requirements.

(d) Equipment for the monitoring of the interstice of secondarily contained UST systems shall comply with the following requirements:

(i) Equipment for interstitial monitoring shall perform a test at least once every thirty days;

(ii) Secondarily contained UST systems shall have an interstitial monitoring method that can detect a release through the inner wall or a failure of the outer wall in any portion of the tank that routinely contains a regulated substance;

(iii) A release is suspected and subject to the reporting requirements of sections 3737.88 and 3737.882 of the Revised Code and this chapter of the Administrative Code if any regulated substance is detected between the inner and outer wall, or if the outer wall fails; and

(iv) Equipment for interstitial monitoring, including probes, sensors and monitoring units, shall be evaluated annually by a qualified person as described in paragraph (D)(5) of this rule to confirm proper calibration and operation in accordance with the manufacturer's requirements.

(2) Piping release detection.

Owners and/or operators should carefully review the release detection requirements described in paragraphs (B) and (C) of this rule in order to determine which of the following methods apply to their UST system.

(a) Single wall piping that routinely contains regulated substances shall be monitored pursuant to paragraph (D)(2)(c) through (D)(2)(d)(ii)(b) of this rule.

(b) Secondarily contained piping that routinely contains regulated substances shall be monitored pursuant to paragraphs (D)(2)(c) through (D)(2)(d)(ii)(b) of this rule, and the interstice of the secondarily contained piping shall be continuously monitored for releases using one of the following methods:

(i) The sampling or testing method can detect a two-tenth of a gallon per hour leak rate from any portion of the inner or outer wall of the piping that routinely contains a regulated substance. A release is suspected and subject to the reporting requirements of sections 3737.88 and 3737.882 of the Revised Code and this chapter of the Administrative Code if a two-tenth of a gallon per hour leak rate is detected from any portion of the piping, or

(ii) The piping is contiguous with the containment system and the sampling or testing method can detect a release from any portion of the inner wall of the piping that routinely contains a regulated substance pursuant to paragraph (D)(3) of this rule.

(c) Requirements for pressure piping:

(i) Underground piping that conveys regulated substances under pressure shall be equipped with an automatic line leak detector attached to the piping that will alert the operator to the presence of a leak by restricting or shutting off the flow of regulated substances through the piping or triggering an audible or visual alarm if the automatic

line leak detector detect a leak of three gallons per hour at ten pounds per square inch line pressure within one hour. The owner and operator is permitted to restart the flow of regulated substances only once to verify the presence of a piping leak or an equipment malfunction. If the flow of regulated substance is restricted or shut off or in the event of an audible or visual alarm within two hours of a restart by an operator, a release is suspected and subject to the reporting requirements of sections 3737.88 and 3737.882 of the Revised Code and this chapter of the Administrative Code.

(ii) Automatic line leak detectors shall be tested annually by a qualified person pursuant to paragraph (D)(5) of this rule to confirm proper calibration and operation in accordance with the following:

(a) Automatic line leak detectors shall be tested in a manner that introduces a simulated leak into the product line between the tank and the dispenser, and the automatic line leak detector functions within design specifications and the flow of product is restricted, stopped or an alarm is activated; and

(b) Automatic line leak detectors that fail a test method shall undergo routine maintenance, modification or major repair, as appropriate, to restore the automatic line leak detectors to working order.

(iii) Underground piping that conveys regulated substances under pressure shall meet one of the following:

(a) Have an annual tightness test conducted in compliance with paragraph (F)(2)(a) of this rule;

(b) Have a monthly tightness test conducted by the on-site electronic line testing unit as described in paragraph (D)(2)(c) of this rule provided that the unit can detect a two-tenth of a gallon per hour leak rate at operating pressure; or

(c) Be a part of secondarily contained piping system where by the interstice of the piping is continuously monitored pursuant to (D)(2)(b)(i) or (D)(2)(b)(ii) of this rule.

(d) Requirements for suction piping:

(i) Underground piping that conveys regulated substances under suction shall be checked monthly for indications of a loss of prime that would suggest that a release has occurred. If a loss of prime is evident, a release is suspected and subject to the reporting requirements of sections 3737.88 and 3737.882 of the Revised Code and this chapter of the Administrative Code.

(ii) Underground piping that conveys regulated substances under suction shall meet one of the following:

(a) Have a tightness test conducted every thirty-six month period in compliance with paragraph (F)(2)(a) of this rule; or

(b) Demonstrate compliance with safe suction requirements of paragraph (B)(54?) of rule 1301:7-9-02 of the Administrative Code.

(e) Above ground piping that routinely contains regulated substances that is fully visible to inspection is not required to be equipped with release detection. If a portion of the above ground piping is located below ground and the piping can not be easily accessed for visual inspection, then the piping must be equipped and monitored for releases pursuant to paragraph (D)(2) of this rule.

(3) Release detection methods for containment systems:

Owners and/or operators should carefully review the release detection requirements described in paragraphs (B) and (C) of this rule in order to determine which of the following methods apply to their UST system.

(a) Containment systems shall be continuously monitored with sensors capable of detecting a release of a regulated substance before the release reaches the lowest penetration in the containment system. Sensors shall be located in every containment.

(b) Any alarm from a sensor in any containment system shall be evaluated within twenty four hours to confirm proper operation or to confirm the presence of a release. A release is suspected and subject to the reporting requirements of sections 3737.88 and 3737.882 of the Revised Code and this chapter of the Administrative Code if any regulated substance is detected in the containment sump.

(c) The following containment systems shall be tested for tightness every three years in accordance with paragraph (F)(3)(a) of this rule.

(i) All containment systems installed on new UST systems after March 1, 2005;

(ii) As of December 31, 2005, all containment systems associated with UST systems containing hazardous substances pursuant to rule 1301:7-9-03 of the Administrative Code; and

(iii) As of December 31, 2005, all containment systems associated with UST systems that were installed in areas designated as sensitive areas after the effective dates listed in paragraphs (C) to (E) of rule 1301:7-9-09 of the Administrative Code.

(d) Release detection equipment for containment systems, including probes, sensors and monitoring units, shall be evaluated annually by a qualified person as described in paragraph (D)(5) of this rule to confirm proper calibration and operation in accordance with the manufacturer's requirements.

(4) Any other type of release detection method, or combination of methods, can be used if approved in writing by the fire marshal pursuant to the following:

(a) The method can detect a two-tenths of a gallon per hour leak rate with a probability of detection of 0.95 and a probability of falsely indicating a release of 0.05; or the owner and operator can demonstrate the method can detect a release as effectively as any of the corresponding methods allowed in paragraphs (D)(1)(c) through (D)(3)(d) of this rule. In comparing methods, the fire marshal shall consider the size of release that the method can detect and the frequency and reliability with which it can be detected. The fire marshal may approve, deny or rescind the method at his discretion. If the method is approved, the owner

and operator shall comply with any terms and conditions imposed by the fire marshal on its use;

(b) A release is suspected and subject to the reporting requirements of sections 3737.88 and 3737.882 of the Revised Code and this chapter of the Administrative Code if a release exceeds the leak rates established for the method approved by the fire marshal; and

(c) Any method of release detection allowed by paragraph (D)(4) of this rule detection shall be properly monitored, operated and maintained in accordance with any terms and conditions imposed by the fire marshal on its use. At a minimum, the method shall produce a result at least every thirty days and the method shall be maintained and operated in accordance with the manufacturer's requirements unless the fire marshal specifies otherwise.

(5) Release detection methods described in paragraphs (D)(1)(c) through (D)(4)(c) of this rule shall be evaluated for proper operation by a qualified person who is:

(a) Recognized by the manufacturer of the release detection method to be proficient in the evaluation of the release detection method;

(b) Recognized by an accredited third party to be proficient in the evaluation of the release detection method; or

(c) Recognized by the fire marshal as proficient in the evaluation of the release detection method.

(6) All methods of release detection shall be properly installed in accordance with the manufacturer's instructions and either "Petroleum Equipment Institute Publication RP100-2000; Recommended Practices for Installation of Underground Liquid Storage Systems" or "American Petroleum Institute Publication 1615-01; Installation of Underground Petroleum Storage Systems." Where there is a conflict between requirements the more protective requirement shall prevail.

**(E) Release detection recordkeeping.**

(1) UST system owners and operators shall maintain records demonstrating compliance with this chapter, and these records shall be maintained pursuant to the following:

(a) All written performance claims pertaining to any release detection system used, and the manner in which these claims have been justified or tested by the equipment manufacturer or installer, shall be maintained for the life of the UST system and for two years after the closure of the UST system in compliance with this chapter;

(b) The results of any sampling, testing, or monitoring shall be maintained for at least two years;

(c) Written documentation of all calibration, maintenance, and repair of release detection equipment permanently located at the facility, and any schedules of required calibration and maintenance provided by the release detection equipment manufacturer shall be retained for the life the equipment and for two years there after;

(d) Owners and operators shall provide the fire marshal access to all records with twenty-four hours of a request; and

(e) Within thirty days of transfer of ownership of an UST system, the transferor shall provide the transferee with all records identified in section (E) of this rule or with equivalent copies of said records.

**(F) Testing methods for UST systems.**

(1) Tightness testing for underground storage tanks.

(a) Tank tightness testing of the primary shell of both single wall and secondarily contained tanks shall be capable of detecting a one tenth of a gallon per hour leak rate from any portion of the tank while accounting for the effects of thermal expansion or contraction of the regulated substance, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table.

(b) Tightness testing of the interstice of secondarily contained tanks shall follow the manufacturers testing requirements.

(2) Tightness testing for piping.

(a) Piping tightness testing of the primary piping of both single wall and secondarily contained pressure piping may be conducted only if it can detect a one-tenth of a gallon per hour leak rate at one and one-half times the operating pressure.

(b) Tightness testing of suction and other non-pressurized piping shall be conducted as follows:

(i) Piping that can be isolated from the UST shall be tested using a method capable of detecting a one-tenth of a gallon per hour leak rate at a minimum of fifteen pounds per square inch pressure.

(ii) Piping that can not be isolated from the UST shall be tested using a method capable of detecting a one-tenth of a gallon per hour leak rate.

(c) Tightness testing of the interstice of secondarily contained piping shall follow the manufacturers testing requirements.

(3) Testing of containment systems

(a) Testing of containment systems shall be performed as follows:

(i) For new containments, all penetrations must be completed prior to testing, including electrical;

(ii) The containment system shall be filled with water or other approved liquid to a height that covers the highest penetration; and

(iii) The test duration shall be sixty minutes with no drop in liquid levels or the method shall be capable of detecting a one tenth of a gallon per hour leak rate from the containment.

(4) All testing methods listed in paragraphs (F)(1) through (F)(3)(a)(iii) of this rule shall be third party approved to perform in a manner where the method can detect a release at the designated release rate with a probability of detection of 0.95 and a probability of falsely indicating a release of 0.05. A release is suspected and subject to the reporting requirements of sections 3737.88 and 3737.882 of the Revised Code and this chapter of the Administrative Code if a leak rate exceeds the amount designated for the testing method.

(5) Testing shall be performed in accordance with the manufacturer's instructions, petroleum equipment institute publication RP100-2000; "Recommended Practices for Installation of Underground Liquid Storage Systems", American petroleum institute publication 1615-01; "Installation of Underground Petroleum Storage Systems", national fire protection association publication NFPA 30-03 "Flammable and Combustible Liquids Code", and national fire protection association publication NFPA 30A-03 "Motor Fuel Dispensing Facilities and Repair Garages". Where there is a conflict between requirements the more protective requirement shall prevail.

(6) No pressure testing with air shall be performed on a component of an UST system that has contained a flammable regulated substance or flammable vapors. The manufacturers instructions for the testing method shall be followed when using gases for the test method.

(7) All testing methods defined in paragraphs (F) to (F)(3)(a)(iii) of this rule shall be performed by a person who is:

(a) Recognized by the manufacturer of the tightness testing method to be proficient in performing the testing method;

(b) Recognized by an accredited third party to be proficient in performing the tightness testing method; or

(c) Recognized by the fire marshal to be proficient in performing the tightness testing method.

**(G) General performance standards, permits, certified UST installers and inspectors.**

(1) Any person performing work in accordance with this rule shall obtain a permit as required in paragraph (C) of rule 1301:7-9-10 of the Administrative Code prior to performing the work. All work performed pursuant to this rule shall be overseen by a Certified UST Installer and a Certified UST Inspector as required in paragraph (D) of rule 1301:7-9-10 of the Administrative Code.

(2) Prior to going into operation, a functionality test shall be performed on any new or existing UST system component that undergoes work requiring a permit under paragraph (G)(1) of this rule. The UST system shall not be placed into operation until a passing functionality result is obtained for the UST system component undergoing work.

(3) Performing work pursuant to this rule does not relieve a person engaged in underground storage tank activity from the obligation to comply with any other applicable federal, state, or local laws and regulations, including but not limited to, the Ohio Fire Code and the Ohio Building Code, etc.

(4) Other release detection requirements and methods may be used in place of any requirements or methods described in this rule if an owner and operator demonstrates that the alternative method is no less protective of human health and the environment than the method or requirement specified in this rule, and the fire marshal approves the alternative method in writing prior to the use of the method. If the alternative method is approved, the owner and operator shall comply with any terms and conditions imposed on its use by the fire marshal.

HISTORY: Eff 6-6-85; 5-9-88; 11-5-90; 1-1-97; 3-31-99; 3-1-05; 12-31-05

Rule promulgated under: RC [119.03](#)

Rule authorized by: RC [3737.88](#)

Rule amplifies: RC [3737.88](#)

R.C. [119.032](#) review dates: 12/31/2010

Draft for Discussion

**1301:7-9-18 Delivery prohibition for underground storage tank systems.**

**(A) Purpose and scope.**

For the purpose of prescribing rules pursuant to section 3737.88 of the Revised Code, the fire marshal hereby adopts this rule to establish delivery prohibition for underground storage tank (UST) systems containing regulated substances. This rule is adopted by the fire marshal in accordance with Chapter 119. of the Revised Code and shall not be considered a part of the "Ohio Fire Code." The following underground storage tank systems are exempt from this rule:

- (1) Wastewater treatment tank systems;
- (2) Any UST systems containing radioactive material that are regulated under the Atomic Energy Act of 1954 (42 U.S.C.A. 2014 and following);
- (3) Any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the United States nuclear regulatory commission;
- (4) Airport hydrant fuel distribution systems; and
- (5) UST systems with field constructed tanks.

**(B) Delivery prohibition.**

After the effective date of this rule, it shall be unlawful for any person to deliver to, deposit into, or accept a regulated substance into an underground storage tank system at a site which has been identified by the fire marshal to be ineligible for such delivery, deposit, or acceptance.

**(C) Identifying ineligible underground storage tank systems.**

(1) The fire marshal shall classify an underground storage tank system as ineligible for delivery, deposit, or acceptance of a regulated substance as soon as practicable after the fire marshal determines one or more of the following conditions exist:

- (a) Required spill prevention equipment is not installed pursuant to rule 1301:7-9-06 of the Ohio Administrative Code;
- (b) Required overfill protection equipment is not installed pursuant to rule 1301:7-9-06 of the Ohio Administrative Code;
- (c) Required corrosion protection equipment is not installed pursuant to rule 1301:7-9-06 of the Ohio Administrative Code; or
- (d) Required leak detection equipment is not installed pursuant to rule 1301:7-9-07 of the Ohio Administrative Code.

(2) The fire marshal may classify an underground storage tank system as ineligible for delivery, deposit, or acceptance of a regulated substance if the owner or operator of the underground storage tank system has been issued a written Notice of UST Violation for any of the following

violations, and the owner or operator fails to initiate corrective action within thirty (30) days of the issuance of the Notice of UST Violation:

- (a) Failure to properly operate or maintain spill prevention equipment pursuant to rule 1301:7-9-6 of the Ohio Administrative Code;
- (b) Failure to properly operate or maintain overflow protection equipment pursuant to rule 1301:7-9-6 of the Ohio Administrative Code;
- (c) Failure to properly operate or maintain corrosion protection equipment pursuant to rule 1301:7-9-6 of the Ohio Administrative Code; or
- (d) Failure to properly operate or maintain leak detection equipment pursuant to rule 1301:7-9-7 of the Ohio Administrative Code.

**(D) Notification and red tag procedures.**

(1) If the fire marshal classifies an underground storage tank system as ineligible for delivery, deposit, or acceptance of a regulated substance pursuant to paragraph (C) of this rule, the fire marshal shall issue an order to the owner or operator prior to prohibiting the delivery, deposit, or acceptance of a regulated substance. The order is considered properly served by the fire marshal in any of the following ways:

- (a) The order is personally delivered to the owner or operator; or
- (b) The order is clearly posted at an entrance to the site where the underground storage tank system is located, and a copy of the order is also sent by certified mail to the last known address of the owner or operator.

(2) The written order described in paragraph (D)(1) of this rule shall include:

- (a) The specific reasons or violations that led to the ineligible classification;
- (b) A statement notifying the owner and operator that the underground storage tank system is ineligible for delivery and it is unlawful for any person to deliver to, deposit into, or accept a regulated substance into the underground storage tank system;
- (c) The effective date the underground storage tank system is deemed ineligible for delivery;
- (d) The name and address of the fire marshal representative to whom a written request for re-inspection can be made, if a re-inspection is necessary; and
- (e) A statement addressing the right to appeal the fire marshal's order pursuant to paragraph (D) of section 3737.882 of the Revised Code.

(3) Once service of the order is complete pursuant to paragraph (D)(1) of this rule, the fire marshal shall perform the following procedures in order to attach a red tag to the underground storage tank system and to clearly identifying to the public that the underground storage tank system is ineligible for delivery or deposit:

(a) For sites with one or multiple underground storage tank systems, a separate red tag shall be attached to each accessible fill pipe of each underground storage tank system in violation of this rule;

(b) The red tag shall include the following wording in at least 16 point type: “Delivery Prohibited. Delivering petroleum or other regulated substance to this underground storage tank system, or removing, defacing, altering, or otherwise tampering with this tag may result in civil penalties of up to \$10,000 per day;”

(c) The fire marshal shall attempt to document the level and/or volume of regulated substance in the underground storage tank system at the time that red tag is attached; and

(d) The fire marshal shall maintain a list of all underground storage tank systems that are classified as ineligible for delivery, deposit, or acceptance of a regulated substance. The fire marshal shall make updates to the list available to the public by posting the list on the fire marshal’s website in a timely manner.

(4) Owners or operators may continue to operate an underground storage tank system that is determined to be ineligible pursuant to paragraph (D)(1) of this rule until the underground storage tank system is empty. The underground storage tank system shall not receive delivery, deposit, or acceptance of a regulated substance during this time.

(5) The classification of a underground storage tank system as ineligible shall remain in effect until the conditions cited in the order no longer exist as determined by the fire marshal. If the fire marshal determines that an ineligible storage tank system has returned to compliance and is now eligible for delivery, deposit, or acceptance of a regulated substance, the fire marshal or an authorized designee shall, as soon as practicable, remove the red tag from the underground storage tank system and also remove the underground storage tank system from the ineligible list posted on the fire marshal’s website. The fire marshal will also send a written notice to the owner and operator that the ineligible storage tank system has returned to compliance and is now eligible for delivery, deposit, or acceptance of a regulated substance.

**(E) Product delivery.**

(1) Any person delivering or depositing regulated substances into an ineligible underground storage tank system shall be in violation of paragraph (B) of this rule unless both of the following conditions can be demonstrated:

(a) The delivery or deposit was made prior to notice of the ineligible underground storage tank being posted on the fire marshal’s web site as described in paragraph (D)(3)(d) of this rule; and

(b) The red tag was not affixed to the fill pipe at the time of delivery or deposit.

**(F) Additional conditions.**

(1) It shall be unlawful for any person to tamper with and/or remove the red tag without the fire marshal’s approval.

(2) The fire marshal may delay the classification an underground storage tank system as ineligible for delivery, deposit or acceptance of regulated substances if the fire marshal determines that

prohibiting delivery to the underground storage tank system would jeopardize health and safety or the availability of fuel to the community.

(3) Nothing in this rule shall affect or preempt the authority of the fire marshal or any other authority with jurisdiction to prohibit the delivery, deposit, or acceptance of a regulated substance to an underground storage tank system under other existing regulations.

Draft for Discussion

1301:7-9-19 Underground storage tank operator training.

**(A) Purpose and scope.**

For the purpose of prescribing rules pursuant to section 3737.881 of the Revised Code, the fire marshal hereby adopts this rule to establish underground storage tank operator training requirements. This rule is adopted by the fire marshal in accordance with Chapter 119. of the Revised Code and shall not be considered part of the "Ohio Fire Code".

(1) The owner or operator of an underground storage tank system must designate a Class A, Class B, and Class C operator for the tank system. Either a Class A, or Class B, or Class C operator must be present on site during the operation of the tank system. The owner and operator of an underground storage tank system are responsible for ensuring that the Class A, Class B, and Class C operators fulfill their responsibilities under chapter 1301:7-9 of the Administrative Code.

(a) At the owner or operator's discretion, one person may be designated as the Class A, Class B, and Class C operator for a facility.

(b) The owner or operator of unattended facilities are not required to designate a Class C operator or have a Class A, Class B, or Class C operator present on site during the operation of the tank system.

**(B) Classes of operators.**

(1) A Class A operator has primary responsibility to operate and maintain the UST system. The Class A operator's responsibilities include managing resources and personnel, such as establishing work assignments, to achieve and maintain compliance with regulatory requirements. The general and minimum requirements for a Class A operator are as follows:

(a) General Requirements: This individual focuses on the broader aspects of the statutory and regulatory requirements and standards necessary to operate and maintain the UST system. For example, this individual typically ensures that appropriate individual(s):

(i) Properly operate and maintain the UST system.

(ii) Maintain appropriate records.

(iii) Are trained to operate and maintain the UST system and keep records.

(iv) Properly respond to emergencies caused by releases or spills from UST systems at the facility.

(v) Make financial responsibility documents available to the fire marshal as required.

(b) Minimum Requirements: The Class A operator must be trained in the following:

(i) A general knowledge of UST system requirements so he or she can make informed decisions regarding compliance and ensure appropriate individuals are fulfilling

operation, maintenance, and recordkeeping requirements and standards of these regulations regarding:

- (a) Spill prevention
  - (b) Overfill prevention
  - (c) Release detection of USTs, piping and containments
  - (d) Corrosion protection
  - (e) Emergency response
  - (f) Product compatibility
- (ii) Financial responsibility documentation requirements.
  - (iii) Notification requirements.
  - (iv) Release and suspected release reporting.
  - (v) Temporary and permanent closure requirements.
  - (vi) Class C operator training requirements.

(2) A Class B operator implements applicable UST regulatory requirements and standards in the field. This individual implements day-to-day aspects of operating, maintaining, and recordkeeping for USTs at one or more facilities. The general and minimum requirements for a Class B operator are as follows:

- (a) General Requirements: This individual typically monitors, maintains, and ensures:
  - (i) Release detection method, recordkeeping, and reporting requirements are met.
  - (ii) Release prevention equipment, recordkeeping, and reporting requirements are met.
  - (iii) All relevant equipment complies with performance standards.
  - (iv) Appropriate individuals are trained to properly respond to emergencies caused by releases or spills from UST systems at the facility.
- (b) Minimum Requirements: Compared with training for the Class A operator, training for the Class B operator will provide a more in-depth understanding of operation and maintenance aspects, but may cover a more narrow breadth of applicable regulatory requirements. The Class B operators training must encompass the following:
  - (i) Components of UST systems.
  - (ii) Design, construction and compatibility of UST system components.

- (iii) Methods of release detection and release prevention applied to UST components.
- (iv) Operation and maintenance requirements of these regulations that apply to UST systems and include:
  - (a) Spill prevention
  - (b) Overfill prevention
  - (c) Release detection of USTs, piping and containments
  - (d) Corrosion protection
  - (e) Emergency response
  - (f) Product compatibility
- (v) Reporting and recordkeeping requirements.
- (vi) Class C operator training requirements.

(3) A Class C operator is an employee and is, generally, the first line of response to events indicating emergency conditions. This individual is responsible for responding to alarms or other indications of emergencies caused by spills or releases from UST systems. This individual notifies the Class B or Class A operator and appropriate emergency responders when necessary. Not all employees of the facility are necessarily Class C operators.

- (a) General Requirements: This individual typically:
  - (i) Controls or monitors the dispensing or sale of regulated substances, or
  - (ii) Is responsible for initial response to alarms or releases.
- (b) Minimum Requirements: At a minimum, the Class C operator must be trained to:
  - (i) Take action in response to emergencies (such as, situations posing an immediate danger or threat to the public or to the environment and that require immediate action) or alarms caused by spills or releases from an UST system.

**(C) Training and certification deadlines and schedules.**

- (1) Owners and operators of storage tank systems shall post at each facility owned a list of designated and certified Class A and B operators, by the following deadlines:
  - (a) July 1, 2011: all owners of more than 12 facilities;
  - (b) December 31, 2011: all owners of three to 12 facilities;
  - (c) July 1, 2012: all owners of one or two facilities.

(2) Owners shall submit the names of designated Class A and B operators to the fire marshal on a form prescribed by the fire marshal. When requested and at any inspection conducted by the fire marshal, owners and operators shall provide to the fire marshal a list of designated certified Class A and B operators for each facility owned.

(3) Owners shall maintain documentation identifying designated and certified Class C operators, with proof of training, at each facility or at a central location.

(4) Unattended facilities must have a legible sign posted in a conspicuous place with the name and address of the facility and the telephone number of the facility owner, operator, or local emergency response.

(5) No later than the deadlines established in paragraph (C)(1) of this rule, all designated certified Class A, B and C operators shall be trained by a trainer approved pursuant to paragraph (D) of this rule.

(a) Trainers approved pursuant to paragraph (D) of this rule shall administer an evaluation to Class A, B and C operators at the start of training and a second evaluation to Class A, B and C operators at the end of training.

(i) All evaluations shall be in a format approved by the fire marshal.

(iii) Trainers shall retain copies of all evaluations administered pursuant to this rule for a period of two years and shall submit copies of the evaluations to the fire marshal within twenty-four hours of a request by the fire marshal.

(b) Trainers approved pursuant to paragraph (D) of this rule shall issue a certificate, on a form designated by the fire marshal, to Class A, B and C operators who demonstrate successful completion of training.

(6) After the deadlines established in paragraph (C)(1) of this rule, new operators shall be trained and certified within the following timeframes:

(a) Class A and Class B operators shall be trained and certified within 60 days of assuming full operation and maintenance responsibilities at a storage tank system.

(b) Class C operators shall be trained before assuming responsibility for responding to emergencies and before dispensing a regulated substance.

(7) Class A and/or Class B operators must be retrained if an in-service UST system is found to have any of the following violations:

(a) Delivery prohibition violations as defined in paragraph AAA of rule 1301:7-9-18 of the Administrative Code, or

(b) Other violations of rule 1301:7-9-06 or rule 1301:7-9-07 of the Administrative Code persisting beyond 60 days following an inspection by the fire marshal.

(8) Training and/or certifications issued by entities not approved pursuant to paragraph (D)(4) of this rule may not be used to meet the requirements of paragraph (C)(5) of this rule.

**(D) Approval of Class A and B trainers and training.**

(1) The following topics shall be covered in approved training courses for Class A and Class B operators:

- (a) General overview of department UST program and administrative requirements, including:
  - (i) Registration forms, and process for filing and modifying the form;
  - (ii) Notification process and general technical requirements for new installations, repairs, replacements and modifications;
  - (iii) Confirmed and suspected releases (including confirmation steps for suspected releases), monthly monitoring, release detection test failures, and other system failures that may indicate a release of regulated substance has or is occurring;
  - (iv) Annual tank fees and invoicing process;
  - (v) General requirements for maintaining and demonstrating financial responsibility;
  - (vi) Fire marshal processes for inspections and technical assistance resources available, including forms required by paragraph (C) of this rule; and
  - (vii) Enforcement process for violations;
- (b) General overview of other regulations pertaining to USTs, including but not limited to, fire codes, occupational health and safety, and any related industry practices pertaining to safety;
- (c) Spill prevention and overfill protection:
- (d) Release detection for each type of release detection method allowed in rule 1301:7-9-07 of the Administrative Code for USTs, piping and containment systems:
- (e) Corrosion protection:
- (f) Classes of operators and operator training requirements, including designation and certification;
- (g) Out-of-service and permanent closure requirements:
- (h) General requirements for tank installer certification:

(2) Any person wishing to sponsor a Class A or B operator training program shall submit an application to the fire marshal, on a form prescribed by the fire marshal, accompanied by a non-

refundable fee of two hundred dollars. All applications shall include, without limitation, all of the following:

- (a) A program description and syllabus;
- (b) Lesson plans for each Classroom and hands-on session;
- (c) Study materials and hand-outs;
- (d) Names, addresses, and qualifications of all faculty;
- (e) Pre-test and post-test examinations; and
- (f) The method of attendance verification;

(3) The fire marshal may amend or require the applicant to modify any aspect of a program prior to certifying the program sponsor.

(4) The fire marshal may certify a person to sponsor an operator training program if all of the following requirements are met:

- (a) The person has complied with paragraphs (D)(2) through (D)(2)(f) of this rule; and
- (b) The program, as amended by the fire marshal or modified by the applicant pursuant to paragraph (D)(3) of this rule, complies with the requirements of paragraph (D)(1) through (D)(1)(h) of this rule.

(5) Fire marshal personnel shall be allowed access to all operator training program sessions certified under paragraph (D)(4) of this rule.

(6) Certifications issued by the fire marshal pursuant to paragraph (D)(4) of this rule and renewals issued by the fire marshal pursuant to paragraph (D)(7) of this rule shall be valid for one year, beginning on the first day of September of each year.

(7) Persons seeking to renew a certificate to sponsor an operator training program shall submit an application no later than the first day of July of each year to the fire marshal, on a form prescribed by the fire marshal, accompanied by a non-refundable fee of one hundred fifty dollars. The application shall include, without limitation, a description of any changes in the certified program proposed by the sponsor. The fire marshal may amend or require the sponsor to modify any aspect of a program prior to issuing an operator training program certificate renewal to the sponsor. All programs for which a sponsor obtains an operator training program certificate renewal shall comply with paragraph (D)(1) through (D)(1)(h) of this rule.

(8) An application to sponsor an operator training program or renewal thereof shall be denied by the fire marshal pursuant to Chapter 119. of the Revised Code when any of the following occur:

- (a) The applicant failed to provide all the information required by the application form prescribed by the fire marshal;
- (b) The applicant failed to provide the fee required for application;

(c) The applicant made a misrepresentation or submitted false statements with the application;

(d) The training program submitted by the sponsor is determined by the fire marshal to not comply with a provision of paragraphs (D)(2) through (D)(7) of this rule; or

(e) The applicant failed to submit a renewal application on or before the expiration date of their certification.

(9) After expiration of a certification, any application for renewal will be considered as a new application and the applicant shall be required submit all information required by paragraph (D) of this rule.

(10) The fire marshal may grant a variance from the timely submittal of a renewal application if the applicant provides good cause as determined by the fire marshal.

(11) Owners shall retain copies of Class A and B operator instructional materials for a period of two years and shall submit copies of the instructional materials to the fire marshal within twenty-four hours of a request by the fire marshal.

(12) The fire marshal may conduct operator training programs. Such programs shall be closely related to those topics listed in paragraph (D)(1) of this rule or related technical information.

**(E) Approval of Class C trainers and training.**

(1) The following topics shall be covered in training courses for Class C operators

(a) Action to be taken in response to emergencies such as:

(i) Situations posing an immediate danger or threat to the public or to the environment

(ii) Alarms caused by spills or releases from an UST system.

(iii) Reports from the public of damaged equipment or unusual operating conditions

(2) Class C operator trainer and training Class.

(a) Owners are responsible for ensuring that all Class C operators have completed operator training pursuant to this rule.

(b) Trainers of Class C operators are not required to obtain approval from the fire marshal prior to providing training.

(c) Trainers of Class C operators may be the owner or by a person designated by the owner.

(d) Trainers of Class C operators shall use instructional materials meeting the requirements of paragraph (E)(1) of this rule.

(e) Owners shall retain copies of Class C operator instructional materials for a period of two years and shall submit copies of the instructional materials to the fire marshal within twenty-four hours of a request by the fire marshal.

**(F) Revocation or suspension of certification.**

A certificate or renewal issued to sponsors of Class A and B training pursuant to this rule may be suspended or revoked by the fire marshal pursuant to Chapter 119. of the Revised Code. Such suspension or revocation may occur for any of the following reasons:

- (1) The person obtained his certification through fraud or misrepresentation; or
- (2) The training program offered by the sponsor is determined by the fire marshal to not comply with a provision of paragraphs (D) through (D)(7) or (D)(11) of this rule.

**(G) Alternative options.**

Other operator training requirements and methods may be used in place of any requirements or methods described in this rule if an owner and operator demonstrates that the alternative method meets the intent of the methods or requirements specified in this rule, and the fire marshal, at his discretion, approves the alternative method in writing prior to the use of the method. If the alternative method is approved, the owner and operator shall comply with any terms and conditions imposed on its use by the fire marshal.

Draft for Discussion