

1301:7-9-10 UST SYSTEMS LOCATED IN SENSITIVE AREAS.

(A) Purpose.

For the purpose of prescribing rules pursuant to division (A)(2) of section 3737.88 of the Revised Code, the fire marshal hereby adopts this rule to prescribe alternative release containment and release detection methods for petroleum UST systems located in areas designated as sensitive areas in rule 1301:7-9-09 of the Administrative Code. 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."

(B) Scope.

- (1) Except as otherwise provided in this rule, owners and operators of all petroleum UST systems located in those areas designated as sensitive areas in rule 1301:7-9-09 of the Administrative Code shall comply with this rule in lieu of complying with rules 1301:7-9-06 and 1301:7-9-07 of the Administrative Code.
- (2) The following UST systems are exempted from this rule:
 - (a) Any UST system holding hazardous wastes listed or identified under Chapter 3745-51 of the Administrative Code, or a mixture of such hazardous waste and other regulated substances;
 - (b) Any wastewater treatment tank system that is part of a wastewater treatment facility regulated under section 402 or 307(B) of the Federal Water Pollution Control Act (33 U.S.C.A. 1251 and following);
 - (c) Equipment or machinery that contains regulated substances for operational purposes such as hydraulic lift tanks and electrical equipment tanks;
 - (d) Any UST system whose capacity is one hundred ten gallons or less;
 - (e) Any UST system that contains a *de minimis* concentration of regulated substances;
 - (f) Any emergency spill or overflow containment UST system that is expeditiously emptied after use;
 - (g) Wastewater treatment tank systems;
 - (i) Any UST systems containing radioactive material that are regulated under the Atomic Energy Act of 1954 (42 U.S.C.A. 2014 and following);
 - (j) Any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the United States nuclear regulatory commission;
 - (k) Airport hydrant fuel distribution systems; and
 - (l) UST systems with field-constructed tanks.
- (3) Paragraphs (C)(3), (C)(4), (C)(5), (D)(1), (D)(2), (D)(3), (E)(3), (E)(4), (E)(5), and (E)(6) of this rule do not apply to UST systems that store fuel solely for use by emergency power generators.

(C) New UST systems located in a sensitive area.

Owners and operators of UST systems or portions thereof that are located in areas designated as sensitive areas in paragraph (C) of rule 1301:7-9-09 of the Administrative Code for which installation has commenced after September 1, 1992, or owners or operators of UST systems or portions thereof that are located in areas designated as sensitive areas in paragraph (D) of rule 1301:7-9-09 of the Administrative Code on or after the effective date of this rule shall comply with the following requirements:

- (1) In order to prevent releases due to structural failure, corrosion, or spills and overfills for as long as the UST system is used to store regulated substances, owners and operators shall comply with paragraphs (D) to (D)(2) of rule 1301:7-9-08 of the Administrative Code and with paragraphs (B)(1) to (B)(3)(b)(ii) of rule 1301:7-9-06 of the Administrative Code.
- (2) Owners and operators shall provide secondary containment for the UST system and shall meet the following applicable requirements:
 - (a) Secondary containment systems, including double-walled tanks, external liners, and vaults, shall be designed, constructed and installed to:
 - (i) Completely contain regulated substances released from the UST system until they are detected and removed;
 - (ii) Prevent the release of regulated substances to the environment at any time during the operational life of the UST system; and
 - (iii) Be checked for evidence of a release at least every thirty days.
 - (b) Double-walled tanks shall be designed, constructed, and installed to:
 - (i) Completely contain a release from any portion of the inner tank within the outer wall; and
 - (ii) Detect the failure of the inner or outer wall.
 - (c) External liners and vaults shall be designed, constructed, and installed to:
 - (i) Contain one hundred per cent of the capacity of the largest tank within its boundary;
 - (ii) Prevent the interference of precipitation or ground water intrusion with the ability to contain or detect a release of regulated substances; and
 - (iii) Surround the tank completely such that it is capable of preventing lateral as well as vertical migration of regulated substances.
 - (d) Underground piping shall be equipped with secondary containment that complies with the requirements of paragraphs (C)(2)(a) to (C)(2)(a)(iii) of this rule, including, without limitation, trench liners, jacketing of single-walled pipe, and double-walled pipe. In addition, underground piping that conveys regulated substances under pressure shall be equipped with an automatic line leak

- detector in compliance with paragraph (F)(1) of rule 1301:7-9-07 of the Administrative Code.
- (e) Other methods of secondary containment may be used for the UST system if the owners and operators:
 - (i) Demonstrate to the bureau chief that the alternate method of secondary containment is at least as protective of human health and the environment as those that comply with paragraphs (C)(2) to (C)(2)(d) of this rule;
 - (ii) Provide information to the bureau chief on effective corrective action technologies, health risks, and chemical and physical properties of the regulated substance, and the characteristics of the UST site; and
 - (iii) Obtain written approval from the bureau chief to use the alternate method of secondary containment before the installation and operation of the new UST system. If the alternate method of secondary containment is approved by the bureau chief, the owner and operator shall comply with any conditions imposed by the bureau chief on its use.
- (3) Owners and operators shall provide a method of release detection that complies with all of the following criteria:
- (a) Can detect a release from any portion of the tank and the connected underground piping that routinely contains regulated substances;
 - (b) Is installed, calibrated, operated, and maintained in compliance with the manufacturer's instructions, including routine maintenance and service checks for operability or running condition; and
 - (c) Meets the performance requirements in paragraphs (E)(7) to (E)(7)(c) and paragraphs (F)(1) to (F)(2) of rule 1301:7-9-07 of the Administrative Code, and shall be capable of detecting the presence of petroleum as specified in paragraph (E)(7)(a) or (E)(7)(b)(vii) of rule 1301:7-9-07 of the Administrative Code with a probability of detection of 0.95 and a probability of falsely indicating a release of 0.05.
 - (d) Other methods of release detection may be used for new UST systems if owners and operators:
 - (i) Demonstrate to the bureau chief that the alternate method can detect a release of the regulated substance as effectively as any of the methods allowed in paragraphs (E)(4) to (E)(8)(b) and (F) to (F)(3) of rule 1301:7-9-07 of the Administrative Code can detect a release of petroleum;
 - (ii) Provide information to the bureau chief on effective corrective action technologies, health risks, and chemical and physical properties of the regulated substance, and the characteristics of the UST site; and,
 - (iii) Obtain written approval from the bureau chief to use the alternate release detection method before the installation and operation of the new UST system. If the method is approved by the bureau chief, the owner and operator shall comply with any conditions imposed by the bureau chief

on its use.

- (4) Owners and operators shall monitor tanks at least every thirty days for releases using the methods listed in paragraphs (E)(7) to (E)(7)(c) and paragraph (F)(1) of rule 1301:7-9-07 of the Administrative Code.
- (5) When a release detection method operated in compliance with the performance standards in paragraphs (C)(2) to (C)(4) of this rule indicates that a release has occurred, owners and operators shall report a release to the fire marshal and the local fire department within twenty-four hours of discovery by the owner or operator.

(D) Upgrading of existing UST systems located in a sensitive area installed on or after December 22, 1988.

Owners and operators of UST systems or portions thereof that are located in areas designated as sensitive areas in paragraph (C) of rule 1301:7-9-09 of the Administrative Code and which were installed on or after December 22, 1988, but prior to September 1, 1992, or owners and operators of UST systems or portions thereof that are located in areas designated as sensitive areas in paragraph (D) of rule 1301:7-9-09 of the Administrative Code and which were installed on or after December 22, 1988, but prorate the effective date of this rule, shall comply with the following requirement:

- (1) On or before December 22, 1998, owners and operators shall provide release detection for underground piping that routinely contains regulated substances in compliance with the following, except that owners and operators of UST systems or portions thereof that are located in areas designated as sensitive areas pursuant to paragraph (D) of rule 1301:7-9-09 of the Administrative Code shall have until on or before December 22, 1999 to comply with the following:
 - (a) Underground piping that conveys regulated substances under pressure shall be monitored for releases and shall:
 - (i) Be equipped with an automatic shut off line leak detector which alerts the operator to the presence of a leak by shutting off the flow of regulated substance through piping and triggering an audible or visual alarm when a leak of three gallons per hour at ten pounds per square inch pressure within one hour occurs. The automatic shut off line leak detector shall be designed and installed in such a manner that will permit the operator to restart the flow of regulated substance only one time to verify the presence of a piping leak or an equipment malfunction. If the automatic shut off line leak detector is activated after a restart by the operator the flow of regulated substance through the attached underground piping shall automatically be stopped until the piping and the automatic shut off line leak detector is inspected under the supervision of an installer certified pursuant to rule 1301:7-9-11 of the Administrative Code. Owners and operators shall report a release to the fire marshal and the local fire department within twenty-four hours of the automatic shut off line leak detector being activated after a restart by the operator as described in this paragraph, unless an installer certified pursuant to rule 1301:7-9-11 of the Administrative Code determines that an equipment malfunction occurred.
 - (ii) Have an annual test of the automatic line leak detector conducted, including an annual test of the

detector's capability to prevent more than one attempt by the operator to restart the flow of regulated substance, in compliance with the manufacturer's requirements.

- (iii) Have an annual line tightness test conducted in compliance with paragraph (F)(2) of rule 1301:7-9-07 of the Administrative Code.
- (b) Underground piping that routinely contains regulated substance and conveys regulated substance under suction shall be monitored for releases and shall have a line tightness test conducted at least once every twelve month period and in compliance with paragraph (F)(2) of rule 1301:7-9-07 of the Administrative Code. Release detection is required for suction piping unless the owner and operator can readily demonstrate that the suction piping is designed and constructed to meet all of the following standards:
 - (i) The underground piping operates at less than atmospheric pressure;
 - (ii) The underground piping is sloped so that the contents of the pipe will drain back into the tank if suction is released;
 - (iii) Only one check valve is included in each suction line; and
 - (iv) The check valve is located directly below and as close as practical to the suction pump.
- (2) Other methods of release detection may be used for the UST systems if owners and operators:
 - (a) Demonstrate to the bureau chief that the alternate method can detect a release of the regulated substance as effectively as any of the methods allowed in paragraphs (E)(4) to (E)(8)(b) and (F) to (F)(3) of rule 1301:7-9-07 of the Administrative Code can detect a release of regulated substance;
 - (b) Provide information to the bureau chief on effective corrective action technologies, health risks, and chemical and physical properties of the regulated substance, and the characteristics of the UST site; and,
 - (c) Obtain written approval from the bureau chief to use the alternate release detection method before upgrading the UST system. If the method is approved by the bureau chief, the owner and operator shall comply with any conditions imposed by the bureau chief on its use.
- (3) When a release detection method operated in compliance with the performance standards in rule 1301:7-9-07 of the Administrative Code indicates that a release has occurred, owners and operators shall report a release to the fire marshal and the local fire department within twenty-four hours of discovery by the owner or operator.

(E) Upgrading of existing UST systems installed prior to December 22, 1988, located in a sensitive area.

Owners and operators of UST systems or portions thereof that are located in areas designated as sensitive areas in rule 1301:7-9-09 of the Administrative Code and which were installed prior to December 22, 1988,

shall comply with the following requirements:

- (1) On or before December 22, 1998, in order to prevent releases due to spills and overfills for as long as the UST system is used to store regulated substances, owners and operators shall comply with paragraph (B)(3) of rule 1301:7-9-06 of the Administrative Code.
- (2) On or before December 22, 1998, owners and operators shall provide release detection for tanks and tanks shall be monitored at least every thirty days for releases using one of the methods listed in paragraphs (E)(4) to (E)(8)(b) of rule 1301:7-9-07 of the Administrative Code.
- (3) On or before December 22, 1998, owners and operators shall provide release detection for underground piping that routinely contains regulated substances in compliance with the following, except that owners and operators of UST systems or portions thereof that are located in areas designated as sensitive areas pursuant to paragraph (D) of rule 1301:7-9-09 of the Administrative Code shall have until on or before December 22, 1999 to comply with the following:
 - (a) Underground piping that conveys regulated substances under pressure shall be monitored for releases and shall:
 - (i) Be equipped with an automatic shut off line leak detector which alerts the operator to the presence of a leak by shutting off the flow of regulated substance through piping and triggering an audible or visual alarm when a leak of three gallons per hour at ten pounds per square inch pressure within one hour occurs. The automatic shut off line leak detector shall be designed and installed in such a manner that will permit the operator to restart the flow of regulated substance only one time to verify the presence of a piping leak or an equipment malfunction. If the automatic shut off line leak detector is activated after a restart by the operator the flow of regulated substance through the attached underground piping shall automatically be stopped until the piping and the automatic shut off line leak detector is inspected under the supervision of an installer certified pursuant to rule 1301:7-9-11 of the Administrative Code. Owners and operators shall report a release to the fire marshal and the local fire department within twenty-four hours of the automatic shut off line leak detector being activated after a restart by the operator as described in this paragraph, unless an installer certified pursuant to rule 1301:7-9-11 of the Administrative Code determines that an equipment malfunction occurred.
 - (ii) Have an annual test of the automatic line leak detector conducted, including an annual test of the detector's capability to prevent more than one attempt by the operator to restart the flow of regulated substance, in compliance with the manufacturer's requirements.
 - (iii) Have an annual line tightness test conducted in compliance with paragraph (F)(2) of rule 1301:7-9-07 of the Administrative Code.
 - (b) Underground piping that routinely contains regulated substance and conveys regulated substance under suction shall be monitored for releases and shall have a line tightness test conducted at least

- once every twelve month period and in compliance with paragraph (F)(2) of rule 1301:7-9-07 of the Administrative Code. Release detection is required for suction piping unless the owner and operator can readily demonstrate that the suction piping is designed and constructed to meet all of the following standards:
- (i) The underground piping operates at less than atmospheric pressure;
 - (ii) The underground piping is sloped so that the contents of the pipe will drain back into the tank if suction is released;
 - (iii) Only one check valve is included in each suction line; and
 - (iv) The check valve is located directly below and as close as practical to the suction pump.
- (4) Prior to the requirements of paragraphs (E)(2) or (E)(3) of this rule applying, owners and operators shall comply with all UST system release detection requirements of rule 1301:7-9-07 of the Administrative Code.
- (5) Other methods of release detection may be used for the UST systems if owners and operators:
- (a) Demonstrate to the bureau chief that the alternate method can detect a release of the regulated substance as effectively as any of the methods allowed in paragraphs (E)(4) to (E)(8)(b) and (F) to (F)(3) of rule 1301:7-9-07 of the Administrative Code can detect a release of regulated substance;
 - (b) Provide information to the bureau chief on effective corrective action technologies, health risks, and chemical and physical properties of the regulated substance, and the characteristics of the UST site; and,
 - (c) Obtain written approval from the bureau chief to use the alternate release detection method before upgrading the UST system. If the method is approved by the bureau chief, the owner and operator shall comply with any conditions imposed by the bureau chief on its use.
- (6) When a release detection method operated in compliance with the performance standards in rule 1301:7-9-07 of the Administrative Code indicates that a release has occurred, owners and operators shall report a release to the fire marshal and the local fire department within twenty-four hours of discovery by the owner or operator.
- (7) On or before December 22, 1998, in order to prevent releases due to structural failure or corrosion for as long as the tank is used to store regulated substances, owners and operators shall comply with one of the following:
- (a) The performance standards for new UST systems in paragraphs (B) to (B)(2) and (B)(4) to (B)(5) of rule 1301:7-9-06 of the Administrative Code;

- (b) The performance standards for new UST systems in paragraphs (C) to (C)(2)(c)(iii) and (C)(2)(e) to (C)(5) of this rule;
 - (c) The permanent abandonment requirements in rule 1301:7-9-12 of the Administrative Code; or
 - (d) The permanent removal requirements in rule 1301:7-9-12 of the Administrative Code;
- (8) On or before December 22, 1998, in order to prevent releases due to structural failure or corrosion for as long as the piping that routinely contains regulated substances is used to contain regulated substances, owners and operators shall comply with one of the following:
- (a) The performance standards for new UST systems in paragraphs (B)(2) to (B)(2)(d) of rule 1301:7-9-06 of the Administrative Code;
 - (b) The performance standards for new UST systems in paragraphs (C)(2)(d) to (C)(3)(d)(iii) and paragraph (C)(5) of this rule;
 - (c) The permanent abandonment requirements in rule 1301:7-9-12 of the Administrative Code; or
 - (d) The permanent removal requirements in rule 1301:7-9-12 of the Administrative Code.
- (F)** Owners and operators of UST systems that are located in areas designated as sensitive areas pursuant to paragraphs (C) and (D) of rule 1301:7-9-09 of the Administrative Code which were installed prior to the area being designated as sensitive shall, within five years of the area being designated as a sensitive area, comply with the applicable UST system requirements listed in this rule, except for UST systems installed after the effective date of this rule owners and operators of such systems shall comply with paragraphs (D) to (D)(3) of this rule.

(G) Installation.

All tanks and piping shall be properly installed in accordance with the manufacturer's instructions and "Petroleum Equipment Institute Publication RP100-97; Recommended Practices for Installation of Underground Liquid Storage Systems", or American Petroleum Institute Publication 1615-86; Installation of Underground Petroleum Storage Systems.@

(H) All owners of newly installed UST systems shall obtain the signature of the installer, who shall be certified pursuant to rule 1301:7-9-11 of the Administrative Code, on either the new facility registration application or the modified registration application required by rule 1301:7-9-04 of the Administrative Code whereby the installer certifies that the installation of the UST system is in compliance with this rule and that all work listed in the manufacturer's installation checklist has been completed.

(I) Installation and upgrading permits.

- (1) Except where the owner or operator obtains an installation or upgrade permit from a certified fire safety

inspector authorized by the fire marshal to conduct inspections of UST systems pursuant to rule 1301:7-9-15 of the Administrative Code, owner and operator shall prior to beginning either an installation or upgrading of a tank or piping comprising an UST system submit an installation or upgrading permit application to the fire marshal for each location where such installation or upgrading is to occur.

- (2) The permit application shall be submitted on a form prescribed by the fire marshal and shall be accompanied by any drawings or additional information required on the prescribed application form and by the applicable permit fee described in either paragraph (I)(3) or (I)(4) of this rule.
- (3) If a tank is being installed or upgraded, the permit fee shall be thirty-five dollars for each location described in the permit application. Installation and upgrade inspections conducted by a fire marshal employee shall be billed at a rate of sixty dollars per hour or fraction thereof spent at the inspection location.

No owner or operator shall operate any UST system or portion thereof upon which there are past due permit fees or inspection fees. Inspection fees will be considered past due if they are not actually received by the fire marshal within thirty days of the date of the invoice. Nothing in this paragraph shall be construed to establish inspection fees charged by certified UST inspectors.

- (4) If only piping is being installed or upgraded, the permit fee shall be thirty-five dollars for each location described in the permit application. Installation and upgrade inspections conducted by a fire marshal employee shall be billed at a rate of sixty dollars per hour or fraction thereof spent at the inspection location.

No owner or operator shall operate any UST system or portion thereof upon which there are past due permit fees or inspection fees. Inspection fees will be considered past due if they are not actually received by the fire marshal within thirty days of the date of the invoice. Nothing in this paragraph shall be construed to establish inspection fees charged by certified UST inspectors.

- (5) The fire marshal may allow applications to be submitted less than thirty days prior to beginning the installation or upgrade in emergency situations.
 - (6) The fire marshal shall review the permit application and, if the fire marshal determines that the proposed installation or upgrade is in compliance with this rule and that the appropriate fee has been paid, the fire marshal shall issue the permit. The fire marshal may place upon the permit such conditions as the fire marshal determines to be necessary to bring the proposed installation or upgrade into compliance with this rule. Any permit issued by the fire marshal under this paragraph shall not be construed as authority to violate any provision of this chapter. The fire marshal may revoke any permit issued pursuant to paragraphs (I) to (I)(6) of this rule if upon inspection any violation of this rule exists, if conditions of a permit have been violated, or if there has been any false statement or misrepresentation as to a material fact on the permit application or supporting documentation.
- (J) No owner or operator shall install or upgrade any UST system unless such installation or upgrading is supervised by an installer certified pursuant to rule 1301:7-9-11 of the Administrative Code. No owner or operator shall install or upgrade any UST system unless such installation or upgrading performed by an

installer certified pursuant to rule 1301:7-9-11 of the Administrative Code is inspected by an employee of the fire marshal, a certified fire safety inspector whose local fire agency has been delegated authority to conduct such inspections pursuant to rule 1301:7-9-15 of the Administrative Code, or a certified UST inspector who has been certified by the fire marshal to conduct such inspections pursuant to paragraphs (O) to (W)(3)(I) of rule 1301:7-9-11 of the Administrative Code, as appropriate, for activities the permit or this chapter require be inspected.

(K) Nothing in this rule shall exempt owners and operators of UST systems from complying with rule 1301:7-7-28 of the Administrative Code.

Effective: March 31, 1999

R.C. 119.032 Review dates: 03/31/99, 03/31/04

Promulgated under: 119.03

Rule authorized by: 3737.02 and 3737.88

Rule amplifies: 3737.02 and 3737.88

Prior effective date: 9/1/92

1/1/97