

1301:7-9-12 **Out-of-service, closure-in-place, permanent removal, change-in-service, and closure assessment of UST systems.**

(A) Purpose and scope.

For the purpose of prescribing rules pursuant to section 3737.88 of the Revised Code, the state fire marshal hereby adopts this rule to establish requirements for underground storage tank (~~UST~~) systems containing regulated substances that are changed-in-service, out-of-service, closed-in-place, or permanently removed. This rule is adopted by the state 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 exempt from this rule: USTs listed in paragraph (E) of rule 1301:7-9-01 of the Administrative Code 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) Applicability.

- (1) Any person who holds a legal, possessory, or equitable interest in a parcel of real property on which an underground storage tank system is located, regardless of that person's status as an "owner" or "operator" as those terms are defined in section 3737.87 of the Revised Code, shall comply with paragraphs (A) to (H) of this rule. The owner and operator shall comply with the entire rule.
- (2) In carrying out any activity under this rule, owners and operators shall comply with the provisions of rules 1301:7-9-13, ~~and~~ 1301:7-9-16, and 1301:7-9-17 of the Administrative Code.

(C) Handling of regulated materials associated with an UST site.

The handling, transportation, and disposal of any regulated substance removed from an UST system, regulated soil, backfill materials, ~~ground water~~groundwater, wash water, or other similar materials removed from the system or facility shall be managed in accordance with all applicable federal, state, and local regulations in

effect for the type, volume, constituent concentration, and classification of the material.

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

- (1) Any person performing work pursuant to paragraphs (E)(3) to (H) of this rule shall obtain a permit pursuant to paragraph (C) of rule 1301:7-9-10 of the Administrative Code, prior to performing work, from the local fire agency that has been given delegated authority pursuant to rule 1301:7-9-15 of the Administrative Code and has jurisdiction over the area where the UST system is located, or, if the local fire agency does not have such authority, the state fire marshal.
- (2) Unless stated otherwise, all work performed pursuant to paragraphs (E)(3) to (H) of this rule shall be supervised by a certified UST installer and inspected by a certified UST inspector as required in paragraph (D) of rule 1301:7-9-10 of the Administrative Code.

(E) Out-of-service requirements of UST systems.

- (1) Out-of-service UST systems shall comply with the applicable requirements of this chapter including, but not limited to, the following:
 - (a) The UST system shall comply with registration requirements pursuant to rule 1301:7-9-04 of the Administrative Code;
 - (b) The UST system shall comply with the financial responsibility requirements pursuant to rule 1301:7-9-05 of the Administrative Code; and
 - (c) The UST system shall comply with the construction and operational requirements for cathodic protection pursuant to paragraphs (D)(1) to (D)(4) of rule 1301:7-9-06 of the Administrative Code.
- (2) UST systems that have been taken temporarily out-of-service for ninety days or less shall have the fill line, gauge opening, and dispensing unit secured against tampering. Vent lines shall remain open and functioning.
 - (a) Regulated substances may remain in the UST system provided that release detection is performed pursuant to rule 1301:7-9-07 of the Administrative Code. Release detection is not required if the UST system is empty.

- (b) An UST system shall be considered empty when all regulated substances have been removed so that no more than one inch of residue, or 0.3 per cent by volume of the total capacity of the UST system, remains in the UST system.
- (3) If an UST system is out-of-service for more than ninety days, the UST system shall be maintained in the following manner:
 - (a) The vent lines shall be left open and functioning;
 - (b) All other lines, pumps, manways, and ancillary equipment shall be capped and secured; and
 - (c) The UST system shall be emptied. The UST system shall be considered empty when all regulated substances have been removed so that no more than one inch of residue, or 0.3 per cent by volume of the total capacity of the UST system, remains in the UST system.
- (4) An out-of-service permit shall be obtained for a UST system out-of service for more than ninety days in accordance with paragraph ~~(C)~~(D) of rule 1301:7-9-10 of the Administrative Code.
 - (a) As a condition of the out-of-service permit:
 - (i) an inspection of the out-of-service UST system shall be performed as required by paragraph (D) of rule 1301:7-9-10 of the Administrative Code; and
 - (ii) the state fire marshal or the certified fire safety inspector with delegated authority pursuant to rule 1301:7-9-15 of the Administrative Code for the jurisdiction where the UST system is located may require the owner or operator to submit copies of release detection records pursuant to paragraph (E) of rule 1301:7-9-07 of the Administrative Code.
 - (b) Prior to the expiration date of an out-of-service permit, a renewal of the out-of-service permit may be requested by submitting a new permit application pursuant to rule 1301:7-9-10 of the Administrative Code to the state fire marshal or the certified fire safety inspector with delegated authority pursuant to rule 1301:7-9-15 of the Administrative Code for the jurisdiction where the UST system is located ~~prior to the expiration~~

~~of the out-of-service permit.~~

- (i) Neither a certified UST installer nor a certified UST inspector are required for the renewal of an out-of-service permit.
 - (ii) Any previously approved out-of-service permit for which a renewal application is submitted shall be extended until the state fire marshal or the certified fire safety inspector with delegated authority pursuant to rule 1301:7-9-15 of the Administrative Code for the jurisdiction where the UST system is located acts upon the renewal application.
- (c) The out-of-service permit or renewal permit shall be effective until the expiration date listed on the permit as issued by the state fire marshal or the certified fire safety inspector with delegated authority pursuant to rule 1301:7-9-15 of the Administrative Code for the jurisdiction where the UST system is located. If no expiration date is listed on the permit, the out-of-service permit shall extend for twelve months commencing from the issuance date of the permit.
- (d) The out-of-service permit application or renewal application shall be approved at the discretion of the state fire marshal or the certified fire safety inspector with delegated authority pursuant to rule 1301:7-9-15 of the Administrative Code for the jurisdiction where the UST system is located.
- (e) A variance from the timely submittal of an out-of-service permit application or renewal application may be granted provided that the person making the request demonstrates good cause as determined by the state fire marshal or the certified fire safety inspector with delegated authority pursuant to rule 1301:7-9-15 of the Administrative Code for the jurisdiction where the UST system is located.
- (5) An UST system that is out-of-service more than ninety days as part of a scheduled seasonal discontinuation of use is not required to obtain the out-of-service permit required in paragraph (E)(4) of this rule if all of the following conditions are met:
- (a) Written approval is obtained from the state fire marshal or the certified fire safety inspector with delegated authority pursuant to rule 1301:7-9-15 of the Administrative Code for the jurisdiction where the UST system is located;

- (b) The UST system is located at a marina, golf course, amusement park, or other seasonal facility as approved by the state fire marshal or the certified fire safety inspector with delegated authority pursuant to rule 1301:7-9-15 of the Administrative Code for the jurisdiction where the UST system is located;
 - (c) The UST system is maintained in accordance with paragraph (E)(3) of this rule; and
 - (d) The UST system has not been out-of-service for a period exceeding twelve months.
- (6) If an UST system or portions of an UST system are out-of-service for more than twelve months or more than the time period approved in the out-of-service permit or renewal permit granted pursuant to paragraph (E)(4) of this rule, owners and operators and any person who holds a legal, possessory, or equitable interest in a parcel of real property on which an UST system is located, regardless of that person's status as an "owner" or "operator" as those terms are defined in section 3737.87 of the Revised Code shall ~~conduct one of the following~~ manage the UST system as follows:
- (a) For a UST system which meets the performance standards pursuant to paragraphs (D)(1) to (D)(4) of rule 1301:7-9-06 of the Administrative Code:
 - ~~(a)~~(i) Within ~~thirty~~ ninety days, place the UST system back into service pursuant to paragraph (E)(7) of this rule;
 - ~~(b)~~(ii) Within ~~thirty~~ ninety days, permanently remove, close-in-place, or perform a change-in-service of the UST system in accordance with this rule; or
 - ~~(c)~~(iii) Obtain a variance from the timely submittal of an out-of-service permit application or renewal application in accordance with paragraph (E)(4)(e) of this rule and request an out-of-service-permit or renewal permit by submitting a permit application form pursuant to paragraph (E)(4) of this rule.
 - (b) For a UST system which does not meet the performance standards pursuant to paragraphs (D)(1) to (D)(4) of rule 1301:7-9-06 of the Administrative Code:
 - (i) Within ninety days, permanently remove or close-in-place the UST

system in accordance with this rule, unless an out-of-service permit or a renewal permit is granted; or

(ii) Obtain a variance from the timely submittal of an out-of-service permit application or renewal application in accordance with paragraph (E)(4)(e) of this rule. Prior to applying for the out-of-service or renewal permit, a closure assessment shall be performed in accordance with this rule and a closure assessment report shall be submitted to the state fire marshal pursuant to paragraph (J) of this rule.

(7) An UST system that has been out-of-service may be placed back into service at any time provided that the UST system meets the following requirements:

- (a) The UST system is equipped to meet the performance standards for existing UST systems pursuant to rules 1301:7-9-06 of the Administrative Code and release detection requirements pursuant to rule 1301:7-9-07 of the Administrative Code;
- (b) For an UST system out-of-service more than twelve months, the UST and primary pipe that routinely contains regulated substances passes a tightness test in accordance with paragraph (F) of rule 1301:7-9-07 of the Administrative Code within seven days of going back into service;
- (c) Within thirty days of bringing the UST system back into service, the owner or operator submits a modified registration application to the state fire marshal pursuant to rule 1301:7-9-04 of the Administrative Code;
- (d) The UST system is in compliance with financial responsibility requirements pursuant to rule 1301:7-9-05 of the Administrative Code; and
- (e) The state fire marshal has not issued an order prohibiting the UST system from going back into service.

(F) Closure-in-place requirements for UST systems.

- (1) An UST system shall not be closed-in-place unless approved in writing by the state fire marshal or a certified fire safety inspector with delegated authority pursuant to rule 1301:7-9-15 of the Administrative Code for the jurisdiction where the UST system is located. An UST system may be closed-in-place for any of the following reasons:

- (a) The UST system is located adjacent to or under equipment or structures that will likely be damaged or weakened if the UST system is removed;
 - (b) The UST system is situated in a location where the removal is physically impossible; or
 - (c) Removal of the UST system may expose people or the environment to unreasonable hazards.
- (2) Cost shall not be used as the sole reason to justify closure-in-place of an UST system.
- (3) An UST system shall be closed-in-place in accordance with "American Petroleum Institute Recommended Practice ~~1604-2001~~ RP 1604-96 (reaffirmed 2010); "Closure of Underground Petroleum Storage Tanks." The solid inert material used to fill an UST shall have a density that is greater than the density of water.

(G) Permanent removal requirements for UST systems.

- (1) Permanent removal of an UST system shall be conducted in accordance with the following:
- (a) All UST systems or any part of an UST system permanently closed shall be removed from the ground unless certified fire safety inspector with delegated authority pursuant to rule 1301:7-9-15 of the Administrative Code or the state fire marshal for jurisdictions where such authority has not been delegated authorizes the closure-in-place of the UST system or any part of the UST system pursuant to paragraph (F)(1) of this rule;
 - (b) All UST systems being permanently removed shall comply with the cleaning, removal, and safety requirements of "American Petroleum Institute Recommended Practice ~~1604-2001~~ RP 1604-96 (reaffirmed 2010); "Closure of Underground Petroleum Storage Tanks," "~~American Petroleum Institute Publication 2015-2001; Safe Entry and Cleaning Petroleum Storage Tanks,~~" and "The National Institute for Occupational Safety and Health Publication 80-106 (1979); "Criteria for a Recommended Standard: Working In Confined ~~Space~~ Spaces";
 - (c) The UST shall be maintained in a safe condition by regularly monitoring the UST to ensure that an accumulation of explosive vapors does not

occur;

- (d) All liquid and residue shall be removed from the UST before the UST leaves the site and handled in accordance with paragraph (C) of this rule;
- (e) The UST shall be rendered unusable and free of explosive vapors before the UST leaves the site by cutting up or crushing the UST or by perforating the UST with numerous holes using explosion-proof non-sparking tools. No UST shall be reused for any purpose unless written approval is obtained from the state fire marshal prior to the removal activity;
- (f) All backfill from the tank cavity excavation, piping trenches, dispensing unit areas, and remote fill pipe trenches shall be removed;
- (g) No more than twelve inches of native soil shall be removed from the side walls and bottom of the tank cavity excavation, piping trenches, dispensing unit areas, and remote fill pipe trenches. Where bedrock is encountered within the first twelve inches, remove native soil to bedrock. Further removal of soil from the tank cavity, piping trenches, dispensing unit areas, and remote fill pipe trenches for purposes of corrective action shall not be conducted without prior approval of the state fire marshal; and
- (h) Backfill and native soil removed from the tank cavity excavation, piping trenches, dispensing unit areas, and remote fill pipe trenches may be stored on site in a stockpile for a period not to exceed one hundred twenty days, provided that it has been placed on a concrete pad, asphalt pad, or impermeable synthetic liner, covered to prevent infiltration of rain water, and has been surrounded with a berm to minimize the run off water. Storage on site beyond one hundred twenty days shall only occur if prior approval has been granted by the state fire marshal. Backfill and native soil shall be handled in accordance with paragraph (C) of this rule.
- (i) If free product is discovered during removal of any portion of an UST system, owners and operators shall report a suspected release to the state fire marshal within twenty-four hours and proceed to conduct corrective action in accordance with paragraph (F) of rule 1301:7-9-13 of the Administrative Code.

(H) Change-in-service requirements for UST systems.

Change-in-service of an UST system shall be conducted in accordance with the following:

~~(1) Change in service of an UST system as defined in rule 1301:7-9-02 of the Administrative Code shall be conducted in accordance with the following:~~

~~(a)(1) The UST shall be completely emptied and cleaned; and~~

~~(b)(2) All piping and ancillary equipment that is not part of the change-in-service shall be closed-in-place or removed pursuant to paragraphs (F) and (G) of this rule.~~

(I) Closure assessment.

(1) Activities subject to closure assessment.

(a) Owners and operators of UST systems shall conduct a closure assessment in accordance with this rule when the UST system, or any portion of the UST system:

(i) Is permanently removed, including removals resulting from modifications of product piping and associated components that routinely contain a regulated substance;

(ii) Is closed-in-place;

(iii) Undergoes a change-in-service;

(iv) Is out-of-service for more than twelve months without an approved permit extending the out-of-service period in accordance with paragraph (E)(4) of this rule; or

(v) Is out-of-service for more than the approved out-of-service period pursuant to paragraph (E)(4) of this rule unless a variance has been requested and approved in accordance with paragraph (E)(4)(e) of this rule.

(b) For those portions of the UST systems being assessed in a corrective action program under rule 1301:7-9-13 of the Administrative Code, a closure assessment ~~is~~ is required unless a demonstration is made to show that those portions of the UST system requiring a closure

assessment have been adequately assessed in accordance with rule 1301:7-9-13 of the Administrative Code or an alternative sampling plan is approved by the state fire marshal.

- (c) Closure assessment activities listed in paragraphs (I)(2)(b) to (I)(2)(h), (I)(3), (I)(4), (J)(1) and (J)(2) of this rule are not required for piping and piping components, such as flex connectors and other underground ancillary equipment, that meet the performance standards for corrosion protection pursuant to paragraphs (D)(3) to ~~(D)(4)(e)~~ and (D)(4) of rule 1301:7-9-06 of the Administrative Code and are not located in a ~~designated sensitive area as defined in rule 1301:7-9-09 of the Administrative Code~~ sole source aquifer, or in a drinking water source protection area as defined in paragraph (C) of rule 1301:7-9-13 of the Administrative Code, under the following conditions:
- (i) Permanently out-of-service piping is located in a common trench with piping associated with an operating UST system and the owner or operator demonstrates that the piping that is permanently out-of-service has passed a tightness test conducted pursuant to paragraphs (F)(2)(a) and (F)(2)(b) of rule 1301:7-9-07 of the Administrative Code within sixty days prior to being closed-in-place until closure assessment activities are conducted on the remaining piping in the trench under paragraphs (I)(1)(a)(i) to (I)(1)(a)(iii) of this rule;
 - (ii) Modifications to piping and piping components located beneath dispensers or over USTs that are not contained in a ~~secondary~~ containment sump and the owner or operator demonstrates that the piping components have passed a tightness test conducted pursuant to rule 1301:7-9-07 of the Administrative Code within sixty days prior to modification of the piping components; or
 - (iii) Piping and piping components that are modified in order to install under dispenser containment and the owner or operator demonstrates that the piping components have passed a tightness test conducted pursuant to rule 1301:7-9-07 of the Administrative Code within sixty days prior to the installation.
- (d) Closure assessment activities listed in paragraphs (I)(2)(b) to (I)(2)(h), (I)(3), (I)(4), (J)(1) and (J)(2) of this rule are not required for modifications to piping and piping components, such as flex connectors and other underground ancillary equipment, contained in a ~~secondary~~ containment sump beneath dispensers or over USTs that meet the performance standards for corrosion protection for product piping

pursuant to paragraphs (D)(3) to ~~(D)(4)(e)~~(D)(4) of rule 1301:7-9-06 of the Administrative Code and the owner or operator demonstrates the UST system has passed one of the following:

- (i) A tightness test of the piping components conducted pursuant to rule 1301:7-9-07 of the Administrative Code within sixty days prior to modification of the piping components, or
 - (ii) A tightness test of the containment sump conducted pursuant to rule 1301:7-9-07 of the Administrative Code within sixty days prior to modification of the piping components.
- (e) Notwithstanding the testing requirements of paragraph (I)(1)(c) or (I)(1)(d) of this rule, if free product is present in soil or backfill or if there is evidence that a component is leaking or has leaked to the soil or backfill, a site check must be performed pursuant to paragraph (F)(3) of rule 1301:7-9-13 of the Administrative Code. If there is evidence that a component is leaking or has leaked and appears to be contained within the containment sump, then a tightness test of the containment sump may be performed in accordance with paragraph (F) of rule 1301:7-9-07 of the Administrative Code. If the tightness test of the containment sump passes, a Site Check is not required.
- (f) All activities conducted pursuant to paragraph (I)(1)(c) or (I)(1)(d) of this rule shall be documented on a form prescribed by the state fire marshal and submitted to the state fire marshal within ninety days of the completion of the activities. The form shall include, but not be limited to, the following:
- (i) A site map which accurately depicts property boundaries, street locations, above ground ~~structure(s)~~structures, and the UST ~~system(s)~~systems including the number of USTs, adjacent properties and their use, and the portions of the UST system being modified;
 - (ii) Results from a tightness test of the piping components or of the containment sump;
 - (iii) A description of the visual site evaluation required by paragraph (I)(2)(a) of this rule including the UST components being modified and the area immediately adjacent to the components being modified;

- (iv) Copy of any permit required to be obtained in accordance with paragraph (D)(1) of this rule; and
- (v) Documentation demonstrating compliance with corrosion protection.

(2) The closure assessment shall consist of the following:

- (a) Owners and operators shall perform a visual site evaluation of the UST site to identify all evidence of past or present operational problems, including but not limited to, surface soil staining, concrete staining, concrete patchwork, areas where piping and pump islands existed, and all potential sources of contamination.
- (b) Soil samples for the UST system or portion of the UST system required to undergo a closure assessment pursuant to paragraph (I)(1) of this rule shall be biased towards the area of greatest suspected contamination and collected from all of the following locations:
 - (i) Under both ends of each UST. If an UST is longer than thirty-five feet an additional sample shall be collected from under the middle of the UST;
 - (ii) Each side wall of the UST cavity excavation on a ten foot by ten foot grid system;
 - (iii) Every ten feet along piping runs that routinely contain regulated substances and under joints unless the sample location is within two linear feet of another sample collected in accordance with this paragraph. If the piping run is less than ten feet in length, no sample is required to be collected for the piping, but soil samples are still required for joints, couplings and elbows. If the piping run is associated with an airport hydrant system, an alternate sampling plan shall be submitted for approval by the state fire marshal prior to conducting the closure assessment;
 - (iv) Underneath each dispensing unit where joints, elbows, and flex connectors are located. If the dispensing unit is located directly above the UST, no sample is required to be collected, provided the UST is being removed; and

- (v) From below any remote fill pipe area located more than ten feet from the UST cavity excavation.
- (c) Water samples for permanent removal shall be collected in the following manner:
- (i) Water in the UST system excavation shall be completely evacuated and disposed of in accordance with all federal, state, and local laws and regulations. If water cannot be completely evacuated from the UST system excavation or if upon recharge of water from surrounding soil into the UST system excavation to a level sufficient for sample collection, a water sample shall be collected within a period not to exceed twenty-four hours following the evacuation.
 - (ii) Soil samples required ~~under~~ pursuant to paragraph (I)(2)(b)(i) of this rule need not be collected if a water sample is obtained in accordance with paragraph (I)(2)(c)(i) of this rule.
- (d) When the UST system or portion of the UST system is required to undergo a closure assessment pursuant to paragraph (I)(1)(a)(i) of this rule, the following samples shall be collected and sent to an accredited laboratory for analysis:
- (i) The two soil samples with the highest field screening readings from each UST cavity excavation including side wall samples. If the UST cavity excavation contained more than three USTs, an additional soil sample for each multiple or fraction of three USTs. If no field screening readings are exhibited, the samples submitted shall be biased toward the area(s) of greatest suspected contamination;
 - (ii) For product piping:
 - ~~(ii)(a) The One soil sample with the highest field screening reading from each piping run excavation for every five samples collected, or fraction thereof, from underneath all product piping, and If no field screening readings are exhibited, the sample submitted shall be biased toward the area(s) of greatest suspected contamination;~~
 - (b) Notwithstanding the one-to-five ratio, at least one sample

from each distinct piping run that leads to a separate dispensing area or remote fill shall be submitted.

The samples submitted for analysis shall be those with the highest field screening readings from each distinct piping run. The remaining samples shall be those with the highest field screening readings, regardless of location. If no field screening readings are exhibited, the sample submitted shall be biased towards the area of greatest suspected contamination;

- (iii) The soil sample with the highest field screening reading from each remote fill pipe area. If no field screening readings are exhibited, the sample submitted shall be biased toward the area(s) of greatest suspected contamination;
 - (iv) The soil sample with the highest field screening reading from each dispenser island. If more than three dispensing units are present at the island, an additional sample shall be submitted for each multiple or fraction of three dispensing units. If no field screening readings are exhibited, the sample submitted shall be biased toward the area(s) of greatest suspected contamination; and
 - (v) Any water samples that were collected.
- (e) When the UST system or portion of the UST system is required to undergo a closure assessment pursuant to paragraphs (I)(1)(a)(ii) to (I)(1)(a)(v) of this rule, soil and water samples shall be collected by installing a minimum of three soil boring and monitoring wells in the area most likely to contain chemical(s) of concern above action levels. The soil borings and monitoring wells shall be installed, sampled, and analyzed in accordance with paragraph (H)(1)(d)(ii) of rule 1301:7-9-13 of the Administrative Code. Soil boring and monitoring well locations shall be selected to ensure the evaluation of soil and ~~ground water~~ groundwater surrounding the UST system and be biased towards areas most likely to contain chemical(s) of concern. Soil borings and monitoring wells shall be installed and sampled within ninety days of the following:
- (i) When an UST system is closed-in-place as described by paragraph (F) of this rule;
 - (ii) When an UST system is undergoing a change-in-service as described by paragraph (H) of this rule; or

- (iii) When an UST system is out-of-service as described by paragraph (E)(6) of this rule for greater than twelve months without a permit or upon the expiration of an out-of-service permit.
- (f) All soil samples collected shall be split into two components. One shall be packaged for field screening, and the other packaged for potential laboratory analysis. The sampling and packaging shall be in accordance with procedures established by the state fire marshal.
- (i) Soil samples collected for field screening shall be screened on the UST site using equipment calibrated in accordance with manufacturer's instructions and procedures approved by the state fire marshal.
- (ii) All samples shall be collected within twenty-four hours of completing the excavation.
- (g) With prior approval from the state fire marshal, owners and operators may use the sampling procedures described in paragraph (I)(2)(e) of this rule in place of the sampling procedures described in paragraphs (I)(2)(b) to (I)(2)(d) of this rule to meet the sampling requirements for the removal of an UST system.
- (h) If site conditions interfere with the collection of any samples required by paragraphs (I)(2)(b) to (I)(2)(e) of this rule, owners and operators shall obtain approval in writing from the state fire marshal for an alternative sampling protocol.
- (i) If an UST system or portion of the UST system was permanently removed, closed-in-place, or underwent a change-in-service on or after September 1, 1992, and a closure assessment was not conducted in accordance with the closure assessment rules in effect at the time or a closure assessment report was not submitted, the state fire marshal may direct the owner or operator to collect soil and ~~ground-water~~ groundwater samples by ~~installing~~ advancing a minimum of three soil borings ~~and monitoring wells~~ in the area most likely to contain chemical(s) of concern above action levels. If groundwater is encountered, monitoring wells shall be installed in the soil borings. The soil borings and monitoring wells shall be installed and sampled in accordance with paragraph (H)(1)(d)(ii) of rule 1301:7-9-13 of the Administrative Code. Soil boring and monitoring well locations shall be selected to ensure the evaluation of soil and ~~ground-water~~ groundwater surrounding the UST system and be biased towards areas most likely to contain chemical(s)

of concern.

(3) Samples sent to the laboratory for analysis pursuant to paragraph (I)(2)(d) or (I)(2)(e) of this rule shall be analyzed for the appropriate chemical(s) of concern. The chemical(s) of concern shall be identified as follows:

(a) For UST systems that contained petroleum products classified as analytical group 1, 2, 3, or 4 as defined in paragraph (H)(1)(c) of rule 1301:7-9-13 of the Administrative Code, the appropriate chemical(s) of concern and analytical methods shall be identified using table 1 of paragraph (H)(1)(c) of rule 1301:7-9-13 of the Administrative Code.

(b) For UST systems that contained petroleum products classified as analytical group 5 in paragraph (H)(1)(c) of rule 1301:7-9-13 of the Administrative Code, chemical(s) of concern and analytical methods must be identified, as appropriate, based on reasonably available information related to typical additives, impurities and/or degradation products of the petroleum product stored or handled at the UST site. Chemical(s) of concern shall also be identified based on their toxicity, mobility, and persistence in the environment. The owner and operator shall consult with and obtain written approval from the state fire marshal for all chemical(s) of concern identified for analysis, the analytical methods to be used to measure the presence of those chemical(s) of concern, and the action levels established for all chemical(s) of concern.

(c) For UST systems that contained a hazardous substance(s) as described in paragraph ~~(D)~~(E) of rule 1301:7-9-03 of the Administrative Code, additional chemical(s) of concern and analytical methods must be identified, as appropriate, based on substance(s) stored in the UST system and reasonably available information related to typical additives, impurities, and/or degradation products. In addition, chemical(s) of concern shall be identified based on their toxicity, mobility, and persistence in the environment. The owners and operators shall consult with and obtain written approval from the state fire marshal for all appropriate chemical(s) of concern identified for analysis, the analytical methods to be used to measure the presence of those chemical(s) of concern, and the action levels established for all chemicals of concern.

(4) Action level development and comparison shall be conducted as follows:

(a) Action level assumptions.

- (i) Assume the soil to be soil class 1 as defined in paragraph (H)(2) of rule 1301:7-9-13 of the Administrative Code or submit laboratory analysis of the soil class that best represents the soil under the UST site in accordance with ASTM D2488-09a "Standard Practice for Description and Identification of Soils (Visual-Manual Procedures)" or the "Unified Soil Classification System." Bedrock shall be assumed to be soil class 1 for the purposes of this rule.
- (ii) Assume ~~ground-water~~ groundwater exists, and that ~~ground-water~~ groundwater is drinking water.
- (iii) Assume residential land use.

(b) Action level determination.

- (i) For UST systems that contained petroleum products classified as analytical group 1, 2, or 3 as defined in paragraph (H)(1)(c) of rule 1301:7-9-13 of the Administrative Code, action levels must be obtained from table 1 of this rule.
- (ii) For UST systems that contained petroleum products classified as analytical group 4 as defined in paragraph (H)(1)(c) of rule 1301:7-9-13 of the Administrative Code, action levels must be obtained from table 1 of this rule. For chemicals of concern not listed in table 1 of this rule, action levels shall be developed by the owner and operator using the same methodologies and assumptions used to determine the action levels set forth in the tables found in paragraph (J)(3) of rule 1301:7-9-13 of the Administrative Code.
- (iii) For UST systems that contained petroleum products classified as analytical group 5 as defined in paragraph (H)(1)(c) of rule 1301:7-9-13 of the Administrative Code, action levels shall be developed by the owner and operator using the same methodologies and assumptions used to determine the action levels set forth in the tables found in paragraph (J)(3) of rule 1301:7-9-13 of the Administrative Code.

(c) Action level comparison.

- (i) For UST systems that contained petroleum products classified as

analytical group 1, 2, 3, 4, or 5 as defined in paragraph (H)(1)(c) of rule 1301:7-9-13 of the Administrative Code, soil and groundwater laboratory analytical results shall be compared to the action levels determined in paragraph (I)(4)(b) of this rule as follows:

- (a) If laboratory analytical results exceed the action levels established for the petroleum UST site, owners and operators shall report a confirmed release to the state fire marshal within twenty-four hours of receiving the results and proceed to conduct corrective action in accordance with paragraph (H) of rule 1301:7-9-13 of the Administrative Code.
- (b) If laboratory analytical results are at or below all applicable action levels, then no further action is required.
- (ii) For UST systems that contained hazardous substances, if soil or groundwater analytical results indicate the presence of chemical(s) of concern identified in paragraph (I)(3)(c) of this rule, owners and operators shall proceed to conduct corrective action in accordance with requirements of sections 9003 and 9005 of the Resource Conservation and Recovery Act of 1976, 42 U.S.C.A. 6991b and 6991e, as amended. If laboratory analytical results indicate no chemical(s) of concern are detected in subsurface soil or ~~ground-water~~groundwater, then no further action is required.

Table 1 Closure Action Levels

Drinking Water Action Levels*	Chemical of Concern	Soil Action Levels*		
		Class 1	Class 2**	Class 3**
0.005	Benzene	0.1490.246	0.2520.437	0.9371.63
1.0	Toluene	49.170.7	70.8168	86.0850
0.7	Ethylbenzene	45.584.5	83.0130	282.0130
10.0	Total Xylenes	15.742.7	18.051.8	21.763.5
<u>0.0014</u>	<u>Naphthalene</u>	<u>0.511</u>	<u>1.12</u>	<u>4.99</u>

<u>0.015</u>	<u>1,2,4 Trimethyl benzene</u>	<u>2.37</u>	<u>5.89</u>	<u>7.99</u>
0.04 <u>0.12</u>	Methyl tertiary butyl ether (MTBE)	0.47 <u>1.58</u>	0.78 <u>2.67</u>	3.44 <u>11.5</u>
<u>0.00005</u>	<u>1,2-Dibromoethane (EDB)</u>	<u>0.000982</u>	<u>0.00177</u>	<u>0.00734</u>
<u>0.005</u>	<u>1,2-Dichloroethane (EDC)</u>	<u>0.101</u>	<u>0.177</u>	<u>0.714</u>
0.00026 <u>0.00092</u>	Benzo(a)anthracene	11.0 <u>12</u>	11.0 <u>12</u>	11.0 <u>12</u>
0.0002	Benzo(a)pyrene	1.1 <u>1.2</u>	1.1 <u>1.2</u>	1.1 <u>1.2</u>
0.00017 <u>0.00092</u>	Benzo(b)fluoranthene	11.0 <u>12</u>	11.0 <u>12</u>	11.0 <u>12</u>
0.0017 <u>0.0092</u>	Benzo(k)fluoranthene	110.0 <u>120</u>	110.0 <u>120</u>	110.0 <u>120</u>
0.047 <u>0.092</u>	Chrysene	1,100.0 <u>1,200.0</u>	1,100.0 <u>1,200.0</u>	1,100.0 <u>1,200.0</u>
0.00020 <u>0.00092</u>	Dibenz(a,h)anthracene	1.1 <u>1.2</u>	1.1 <u>1.2</u>	1.1 <u>1.2</u>
0.00022 <u>0.00092</u>	Indeno(1,2,3-cd)pyrene	11.0 <u>12</u>	11.0 <u>12</u>	11.0 <u>12</u>
0.14	Naphthalene	39.8	54.0	54.0
N/A <u>N/A</u>	TPH C ₆ - C ₁₂	1,000.0	5,000.0	8,000.0
N/A	TPH C ₁₀ - C ₂₀	2,000.0	10,000.0	20,000.0
N/A	TPH C ₂₀ - C ₃₄	5,000.0	20,000.0	40,000.0

* COC concentrations are expressed in milligrams per liter (mg/l) or milligrams per kilogram (mg/kg).

** The use of soil class 2 or 3 during the closure assessment requires geotechnical analysis to confirm the classification in accordance with paragraph (I)(4)(a)(i) of this rule.

(J) Closure assessment report.

- (1) Owners and operators shall submit one copy of the written closure report to the state fire marshal, which shall be received by the state fire marshal within ninety days from the date of ~~collecting~~ the samples are required to be collected by this rule.
- (2) Owners and operators shall prepare the information collected in accordance with paragraph (I) of this rule on a form prescribed by the state fire marshal.

The closure report shall include the following information:

(a) UST system owner, operator, and facility data.

- (i) The facility name, address, zip code, telephone number, and county.
- (ii) The facility owners' name, address, zip code, telephone number, and county.
- (iii) The UST system owners' name, address, zip code, telephone number, and county.
- (iv) The UST system operators' name, address, zip code, telephone number, and county.

(b) UST system data.

- (i) The age, capacity, use, and construction material of the UST system that has been closed-in-place, permanently removed, was out-of-service for more than twelve months, or has undergone a change-in-service.
- (ii) The substance stored in the UST system.
- (iii) Substances, other than petroleum, known to have been formerly stored in the UST system.
- (iv) The status of any UST system that is currently-in-use, permanently removed, closed-in-place, undergoes a change-in-service, or has been taken out-of-service.
- (v) ~~Unknown; BUSTR;~~ The disposition of the UST system.
- (vi) Date of last use, if known.

(c) Waste disposal data.

- (i) A description of the amount in cubic yards, the date generated, and the final disposition of any excavated soil or backfill materials. This information shall be included on a form prescribed by the

state fire marshal.

- (ii) A written description of the amount and disposition of any liquids generated from activities conducted in accordance with paragraph (I) of this rule.
- (iii) Laboratory data sheets, including the chain-of-custody form(s), for any analysis performed on any liquids and excavated soil or backfill materials generated in accordance with paragraph (I) of this rule.

(d) Sampling data.

- (i) Description of the sample collection procedures, sample preservation techniques, sample containers, and decontamination procedures associated with the closure assessment conducted in accordance with paragraph (I) of this rule.
- (ii) Details of any field screening conducted, including the instrument readings, location and depth of sampling points, sampling methodology, instrument used, and instrument calibration associated with the closure assessment conducted in accordance with paragraph (I) of this rule.
- (iii) A copy of the chain-of-custody form(s) documentation.
- (iv) Date of sample collection.
- (v) Name and affiliation of the person(s) collecting the samples.
- (vi) Identify all ~~samples~~ sample locations and depths submitted for laboratory analysis.

(e) Laboratory data.

- (i) Laboratory analytical sample analysis results required as part of the closure assessment conducted in accordance with paragraph (I) of this rule, presented in tabular form, with laboratory data sheets attached.
- (ii) Name, address, and telephone number of the laboratory.

- (iii) Name(s) of the sample analyst(s).
 - (iv) Instrument calibration information.
 - (v) Sample analysis method used.
 - (vi) Laboratory detection and quantitation limits used.
 - (vii) Description of whether the sample analyzed is soil or water.
 - (viii) Date the samples were received by the laboratory.
 - (ix) Date the samples were analyzed by the laboratory.
 - (x) Laboratory analysis summary form as prescribed by the state fire marshal.
- (f) Miscellaneous data.
- (i) A site map which accurately depicts the sample locations, property boundaries, street locations, above ground structure(s), the UST system(s) including the number of UST's, adjacent properties and their use, any known water wells located on the site, any known monitoring wells located on the site, any utilities uncovered as part of the excavation process, and the location(s) of any other known UST system(s) or portions thereof known to have been closed-in-place or permanently removed.
 - (ii) A description of the native soil encountered.
 - (iii) A description of the visual site evaluation required by paragraph (I)(2)(a) of this rule.
 - (iv) Name, address, telephone number of the UST inspector certified pursuant to rule 1301:7-9-15 of the Administrative Code who was present during the closure-in-place, permanent removal, or change-in-service.
 - (v) Name of the local fire department with jurisdiction over the UST site.

- (vi) Date that the UST system(s) was closed-in-place, permanently removed, underwent a change-in-service, or was out-of-service for more than twelve months.
- (vii) Copy of any permit required to be obtained in accordance with paragraph (D)(1) of this rule.
- (viii) A completed copy of the closure form as provided by the state fire marshal.
- (ix) A copy of the inspection field report signed by the certified installer and inspector.

(K) Previously closed UST systems.

When directed by the state fire marshal, the owner and operator of an UST system that was permanently removed, closed-in-place, or underwent a change-in-service before December 22, 1988, shall assess the excavation zone and close the UST system in accordance with this rule if releases from the UST system, in the judgement of the state fire marshal, pose a current or potential threat to human health and the environment.

(L) Requests for extensions.

If owners and operators desire an extension of time because they are unable to comply with paragraphs (I) to (K) of this rule, the owner and operator shall:

- (1) Prepare a written request on a form prescribed by the state fire marshal, signed by the owners and operators, setting forth the following:
 - (a) The date the information was to be submitted;
 - (b) The reasons for requesting the extension;
 - (c) The length of time for which the extension is requested;
 - (d) The name and complete address of the UST site that is the subject of the extension request; and
 - ~~(e) The name of the state fire marshal employee that is assigned to monitor the corrective actions activities at the UST site; and~~

~~(f)~~(e) The release number, assigned by the state fire marshal, for the UST site that is the subject of the extension request.

- (2) Submit a written request in accordance with paragraph (L)(1) of this rule to the state fire marshal prior to the expiration of the time period that is the subject of the extension request. Submission of the written request required by paragraph (L)(1) of this rule is accomplished only upon the actual receipt of the request by the state fire marshal. The state fire marshal may grant, modify, or deny any extension request at his sole discretion.

Effective:

Five Year Review (FYR) Dates: 05/17/2017

Certification

Date

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