Title 10—DEPARTMENT OF NATURAL RESOURCES

Division 26—Petroleum and Hazardous Substance Storage Tanks

Chapter 2—Underground Storage Tanks—Technical Regulations

10 CSR 26-2.010 Applicability

PURPOSE: This rule defines the underground storage tanks that are subject to the requirements of this chapter. This rule contains the technical standards for underground storage tanks. This rule is designed specifically to protect the quality of groundwater in the state as well as to protect human health and the overall quality of the environment. This rule is promulgated on the authority of sections 319.100–319.137, RSMo, and, as directed by this law, are based upon federal rules 40 CFR 280.10–40 CFR 280.74.

(1) The requirements of this chapter apply to all owners and operators of an underground storage tank (UST) system as defined in 10 CSR 26-2.012, except as otherwise provided in sections (2)–(4) of this rule. Any UST system listed in section (3) of this rule must meet the requirements of 10 CSR 26-2.011.

(2) The following UST systems are excluded from the requirements of this chapter:

(A) Any UST system holding hazardous wastes listed or identified in the Missouri Hazardous Waste Management Law, sections 260.350–260.434, RSMo, and the rules promulgated thereunder or a mixture of hazardous waste and other regulated substances, except for ~~waste~~ used oil as defined in 10 CSR 25-11.279;

(B) Any wastewater treatment tank system that is part of a wastewater treatment facility regulated under Section 402 or 307(b) of the Clean Water Act (33 U.S.C. 1251);

(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 (110) gallons or less;

(E) Any UST system that is installed within a vault, if all exterior surface areas of the tank may be visually inspected without removal of backfill, gravel, sand, or other fill material;

(F) Any UST system that contains a *de minimis* concentration of regulated substances; and

(G) Any emergency spill or overflow containment UST system that is expeditiously emptied after use.

(3) ~~Deferrals~~Partial Exclusions. Rules 10 CSR 26-2.020–10 CSR 26-2.053 and closure requirements in 10 CSR 26-2.060–10 CSR 26-2.064 do not apply to any of the following types of UST systems:

(A) Wastewater treatment tank systems not covered in subsection (2)(B) above;

(B) Any UST systems containing radioactive material that are regulated under the Atomic Energy Act of 1954 (42 U.S.C. 2011 and following);

(C) Any UST system that is part of an emergency generator system at nuclear power generation facilities ~~regulated~~ licensed by the Nuclear Regulatory Commission and subject to the Nuclear Regulatory Commission requirements regarding design and quality criteria, including but not limited to ~~under~~ 10 CFR Part 50~~, Appendix A~~;

(D) Aboveground tanks associated with Airport hydrant fuel distribution systems; and

(E) Aboveground tanks associated with ~~UST systems with~~ field-constructed tanks.

(4) Previously deferred UST systems.

Previously deferred airport hydrant fuel distribution systems tank systems and field constructed tanks systems must meet one of the following options for compliance:

(A) Option 1. Owners and operators must document that the previously deferred UST is appropriate for continued use by providing proof of compliance with 10 CSR 26-2.020 through 10 CSR 26-2.048, or

(B) Option 2. Permanent closure of the UST system no later than July 1, 2019.

(C) New UST systems installed after January 1, 2017 must meet all requirements at installation.

AUTHORITY: sections 319.100, 319.105, 319.107, 319.111, and 319.114, RSMo 2000, and sections 319.109 and 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.010. Original rule filed April 2, 1990, effective Sept. 28, 1990. Amended: Filed Jan. 2, 1996, effective Aug. 30, 1996. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.100, RSMo 1989, amended 1991, 1993, 1996, 1998; 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; 319.109, RSMo 1989, amended 1995, 2004, 2008; 319.111, RSMo 1989; 319.114, RSMo 1989; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.011 Interim Prohibition for Deferred Underground Storage Tank Systems

PURPOSE: This rule establishes minimum performance standards for the installation of deferred underground storage tanks.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) No person may install an underground storage tank (UST) system listed in 10 CSR 26-2.010(3) for the purpose of storing regulated substances unless the UST system (whether of single- or double-wall construction)—

(A) Will prevent releases due to corrosion or structural failure for the operational life of the UST system;

(B) Is cathodically protected against corrosion, constructed of noncorrodible material, steel-clad with a noncorrodible material, or designed in a manner to prevent the release or threatened release of any stored substance; and

(C) Is constructed or lined with material that is compatible with the stored substance.

~~(2) Notwithstanding section (1) of this rule, a UST system without corrosion protection may be installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life. Owners and operators must maintain records that demonstrate compliance with the requirements of this section for the remaining life of the tank.~~

~~(3) The determination in section (2) of this rule should comply with the following recommended practice: NACE International RP 0285-2002, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, revised 2002. This document is incorporated by reference without any later amendments or modifications. To obtain a copy contact NACE International, Box 218340, Houston, TX 77218-8340, (713) 492-0535, www.nace.org.~~

AUTHORITY: section 319.105, RSMo 2000 and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.011. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989 and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.012 Definitions

PURPOSE: This rule defines specific words used in this chapter.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) Many definitions relevant to this rule are set forth in the underground storage tank (UST) law in section 319.100, RSMo. ~~The regulations set forth in 40 CFR part 280.12, July 1, 2010, as published by the Office of the Federal Register, National Archives and Records Administration, Superintendent of Documents, Pittsburgh, PA 15250-7954, are incorporated by reference. This rule does not incorporate any subsequent amendments or additions. The definitions set forth in 40 CFR 280.12, are subject to the following additions, modifications, substitutions, or deletions in the subsections:~~

(A) Definitions beginning with the letter A.

1. "Aboveground release" means any release to the surface of the land or to surface water. This includes, but is not limited to, releases from the aboveground portion of an UST system and aboveground releases associated with overfills and transfer operations as the regulated substance moves to or from an UST system.

2. "Airport hydrant fuel distribution system" (also called airport hydrant system) means an UST system which fuels aircraft and operates under high pressure that typically terminates into one or more hydrants (fill stands). The airport hydrant system begins where fuel enters one or more tanks from an external source such as a pipeline, barge, rail car, or other motor fuel carrier.

3. "Ancillary equipment" means any devices used to distribute, meter, or control the flow of regulated substances to and from a UST including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps.

4~~1~~. "Annual" means recurring, done, or performed every three hundred sixty-five (365) days.

5~~2~~. "Annually" means at least once every three hundred sixty-five (365) days;

(B) Definitions beginning with the letter B. ~~*(Reserved)*;~~

1. "Belowground release" means any release to the subsurface of the land or to groundwater. This includes, but is not limited to, releases from the belowground portions of an UST system and belowground releases associated with overfills and transfer operations as the regulated substances move to or from an UST.

2. "Beneath the surface of the ground" means beneath the ground surface or otherwise covered with earthen materials.

3. "Biannually" or "biannual" means recurring, done, or performed every six (6) months.

(C) Definitions beginning with the letter C.

1. "Cathodic protection" is a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. For example, a tank system can be cathodically protected through the application of either galvanic anodes or impressed current.

2. "Cathodic protection tester" means a person who can demonstrate an understanding of the principles and measurements of all common types of cathodic protection systems as applied to buried or submerged metal piping and tank systems. At a minimum, such persons must be certified by NACE International, the Steel Tank Institute or the International Code Council.

3~~1~~. "CERCLA"~~ at 40 CFR 280.12, incorporated in this rule, add the words "~~ means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986~~" after the words "as amended"~~;

4. "Compatible" means the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the UST.

5. "Connected piping" means all piping including valves, elbows, joints, flanges, and flexible connectors attached to a UST system through which regulated substances flow. For the purpose of determining how much piping is connected to any individual UST system, the piping that joins two UST systems should be allocated equally between them.

6. "Consumptive use" with respect to heating oil means consumed on the premises for heating purposes, typically in the operation of heating equipment, boilers, and furnaces.

7. "Containment sump" means a liquid-tight container that protects the environment by containing leaks and spills of regulated substances from piping, dispensers, pumps and related components in the containment area.

8. "Corrosion expert" means a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be certified by NACE International as a CP Technologist, CP Specialist, or Senior Corrosion Technologist, or for sti-P3® tanks, a Steel Tank Institute certified Cathodic Protection Inspector.

(D) Definitions beginning with the letter D.

1. "*De minimus*" means—

A. Any volume of regulated substance(s) contained in a tank with a capacity of less than one hundred ten (110) gallons; or

B. A very low concentration of regulated substances; or

C. Any volume of regulated substance(s) contained in an emergency backup tank that holds regulated substances for only a short period of time and is expeditiously emptied after use. (Comment: *De minimus* tanks include: swimming pools, permitted wastewater treatment facilities, and chlorinated, potable water storage tanks. An oil-water separator is not a *de minimus* system unless the tank has a less than one hundred ten (110) gallon capacity.)

2. "Department," unless otherwise stated, means the Missouri Department of Natural Resources;

3. "Dielectric material" means a material that does not conduct direct electrical current. Dielectric coatings are used to electrically isolate UST systems from the surrounding soils. Dielectric bushings are used to electrically isolate portions of the UST system (e.g., tank from piping).

4. "Dispenser" means equipment located aboveground that dispenses regulated substances from the UST system.

5. "Dispenser system" means the dispenser and the equipment necessary to connect the dispenser to the underground storage tank system.

6. "Double-walled piping" is a pipe within a pipe, where the outer wall and inner walls are separated, the inner pipe is completely contained within the outer pipe, except for any single wall fittings or ends, which must be open to a leak-tight containment sump, and the space between the two (2) pipes can be used to monitor the integrity of both the inner and outer pipes.

(E) Definitions beginning with the letter E.

~~1. In the definition for "existing tank system" in 40 CFR 280.12 incorporated in this rule, substitute the date "September 28, 1990" for the date "December 22, 1988";~~

1. "Electrical equipment" means underground equipment that contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable.

2. "Excavation zone" means the volume containing the tank system and backfill material bounded by the ground surface, walls, and floor of the pit and trenches into which the UST system is placed at the time of installation.

(F) Definitions beginning with the letter F. ~~*(Reserved)*;~~

1. "Farm tank" is a tank located on a tract of land devoted to the production of crops or raising animals, including fish, and associated residences and improvements. A farm tank must be located on the farm property. Farm includes fish hatcheries, rangeland and nurseries with growing operations.

2. "Field-constructed tank" means an underground tank constructed in the field or location where it will be used to store a regulated substance. For example, a tank constructed of concrete that is poured on-site or a steel erected tank. This does not include field modifications to a factory-built tank.

3. "Flow-through process tank" is a tank that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. Flow-through process tanks do not include tanks used for the storage of materials prior to their introduction into the production process or for the storage of finished products or by-products from the production process.

4. "Free product" refers to a regulated substance that is present as a non-aqueous phase liquid (e.g., liquid not dissolved in water.)

(G) Definitions beginning with the letter G. ~~*(Reserved)*~~;

1. "Gathering lines" means any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operations.

(H) Definitions beginning with the letter H.

1. ~~This definition shall apply in lieu of the definition of "hazardous substance UST system" in 40 CFR 280.12 incorporated in this rule.~~ "Hazardous substance UST system" means an UST system that contains a hazardous substance defined in Section 101(14) of the CERCLA (but not including any substance regulated as a hazardous waste under the Missouri Hazardous Waste Management Law, sections 260.350–260.434, RSMo) or any mixture of these substances and petroleum, and which is not a petroleum ~~UST system~~storage tank;

2. "Heating oil" means petroleum that is No. 1, No. 2, No. 4--light, No. 4--heavy, No. 5--light, No. 5--heavy, and No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers, or furnaces.

3. "Hydraulic lift tank" means a tank holding hydraulic fluid for a closed-loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices.

(I) Definitions beginning with the letter I.

1. ~~The definition for "implementing agency" in 40 CFR 280.12 is not incorporated into this rule.~~

1~~2~~. The term "in-operation" means input or output that occurs on a regular basis for the tank's intended purpose.

2~~3~~. The terms "in-service" and "in-use" are equivalent and mean that the tank system contains more than one inch (1") of a regulated substance or residue or three-tenths percent (0.3%) by weight of the total capacity of the UST system of regulated substance. A tank is considered to be in-service and in-use beginning with the first input of a regulated substance into the tank system.

3~~4~~. The term "installer" means any person, partnership, corporation, company, business, firm, society, or association that installs part or all of an underground storage tank system;

(J) Definitions beginning with the letter J. *(Reserved)*;

(K) Definitions beginning with the letter K. *(Reserved)*;

(L) Definitions beginning with the letter L. ~~*(Reserved)*;~~

1. "Liquid trap" means sumps, well cellars, and other traps used in association with oil and gas production, gathering, and extraction operations (including gas production plants), for the purpose of collecting oil, water, and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream.

(M) Definitions beginning with the letter M.

1. "Maintenance" means the normal operational upkeep to prevent an underground storage tank system from releasing regulated substances.

2~~1~~. "Month," unless otherwise stated, means thirty (30) days.

3~~2~~. "Monthly" means at least once every thirty (30) days;

4. "Motor fuel" means a complex blend of hydrocarbons typically used in the operation of a motor engine, such a motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any blend containing one (1) or more of these substances (for example: motor gasoline blended with alcohol).

(N) Definitions beginning with the letter N.

~~1. In the definition for "new tank system" in 40 CFR 280.12 incorporated in this rule, substitute the date "September 28, 1990" for the date "December 22, 1988";~~

1. "Noncommercial purposes" with respect to motor fuel means not for resale.

(O) Definitions beginning with the letter O.

1. "On the premises where stored" with respect to heating oil means UST systems located on the same property where the stored heating oil is used.

2~~1~~. "Operational life" refers to the period beginning when installation of the tank system has commenced until the time the tank system is properly closed under ~~In the definition for "operational life" in 40 CFR 280.12 incorporated in this rule, substitute "~~10 CSR 26-2.060–10 CSR 26-2.064.~~" for "Subpart G."~~

3. "Operator" means any person in control of, or having responsibility for, the daily operation of a tank;

4~~2~~. The terms "out-of-service" and "out-of-use" are equivalent and mean that the tank system has been emptied so that no more than one inch (1") of regulated substance or residue or three-tenths percent (0.3%) by weight of the total capacity of the UST system remains.

5. "Overfill release" is a release that occurs when a tank is filled beyond its capacity, resulting in the discharge of the regulated substance to the environment.

6. "Owner" means any person who owned an underground storage tank immediately before the discontinuation of its use if not in use on August 28, 1989, or any person who owns an underground storage tank in use on or after August 28, 1989, excluding secured interest or lienholders exempted under section 319.100(9) RSMo.

~~3. The definition for "owner" in 40 CFR 280.12 is not incorporated in this rule, and the definition in section 319.100(9), RSMo, shall be used instead;~~

(P) Definitions beginning with the letter P.

~~1. The definition for "person" in 40 CFR 280.12 is not incorporated in this rule and the definition in section 319.100(11), RSMo, shall be used instead;~~

1. "Person" means any individual, trust, firm, joint stock company, corporation, including a government corporation, partnership, association, the state and its political subdivisions, or any interstate body. "Person" also includes any consortium, joint venture, commercial entity, and the government of the United States.

2. "Petroleum" means gasoline, kerosene, diesel, lubricants and fuel oil. This definition includes motor fuels, aviation gas, jet fuels, distillate fuel oils, residual fuel oils, and petroleum solvents.

3. "Petroleum storage tank", in this chapter, means an underground storage tank system used to contain an accumulation of petroleum.

4. "Pipe or piping" means a hollow cylinder or tubular conduit that is constructed of non-earthen materials.

5. "Pipeline facilities (including gathering lines)" are new and existing pipe rights-of-way and any associated equipment, facilities or buildings.

(Q) Definitions beginning with the letter Q. *(Reserved)*;

(R) Definitions beginning with the letter R.

~~1. The definition for "regulated substance" in 40 CFR 280.12 is not incorporated in this rule, and the definition in section 319.100(14), RSMo, shall be used instead.~~

1. "Regulated substance" includes:

A. Any substance defined in Section 101(14) of the federal Comprehensive Environmental Response, Compensation, and Liability Act (P.L. 96-510), as amended, but not including as substance regulated as a hazardous waste under Subtitle C of the federal Resource Conservation and Recovery Act of 1976 (P.L. 94-580), as amended; and

B. Petroleum, including crude oil or any fraction thereof, which is liquid at standard conditions of temperature and pressure, sixty degrees (60º) Fahrenheit and fourteen and seven-tenths (14 7/10) pounds per square inch absolute, respectively; and

C. Any substance adopted by rule in accordance with federal laws referenced by Section 101(14) of the federal Comprehensive Environmental Response, Compensation, and Liability Act (P.L. 96-510).

~~2. The definition for "release" in 40 CFR 280.12 is not incorporated in this rule, and the definition in section 319.100(15), RSMo, shall be used instead.~~

2. "Release" includes, but is not limited to, any spilling, leaking, emitting, discharging, escaping, leaching, or disposing from a petroleum storage tank into groundwater, surface water or subsurface soils.

3. "Release detection" means determining whether a release of a regulated substance has occurred from the UST system into the environment or a leak has occurred into the interstitial space between the UST system and its secondary barrier or secondary containment around it.

4. "Repair" means to restore to proper operating condition a tank, pipe, spill prevention equipment, overfill prevention equipment, corrosion protection equipment, release detection equipment or other UST system component that has caused a release of product from the UST system or has failed to function properly;

5. "Replaced" or "replacement" means

A. For a tank - to remove a tank and install another tank.

B. For piping - to remove fifty percent (50%) or more of piping and install other piping, excluding connectors, connected to a single tank or single compartment. For tanks with multiple piping runs, this definition applies independently to each piping run.

6. "Residential tank" is a tank located on property used primarily for dwelling purposes.

7. ~~3.~~ "Routinely contains regulated substance" means that a regulated substance regularly passes through the piping, but does not necessarily mean that the piping must continuously hold a regulated substance. Satellite lines, gravity piping, and remote fill lines, including lines from aboveground storage tank(s) to underground storage tank(s), all routinely contain a regulated substance. Vapor lines, including vent lines and vapor recovery lines, are not included;

(S) Definitions beginning with the letter S.

1. "SARA" means the Superfund Amendments and Reauthorization Act of 1986.

2. "Secondary containment" or "Secondarily contained" means a release prevention and release detection system for a tank and/or piping. This system has an inner and outer barrier with an interstitial space that is monitored for leaks. This term includes containment sumps when used for interstitial monitoring of piping.

3~~1~~. ~~In lieu of the definition for "septic tank" in 40 CFR 280.12, the definition for~~ "S~~s~~eptic tank" ~~shall~~ means ~~be~~ any watertight, covered receptacle designed and constructed to receive the discharge of sewage, separate solids from liquid, digest organic matter, store liquids through a period of detention, and allow the clarified liquids to discharge to a soil treatment system;

4. Storm-water or wastewater collection system means piping, pumps, conduits, and any other equipment necessary to collect and transport the flow of surface water run-off resulting from precipitation, or domestic, commercial or industrial wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of storm water and wastewater does not include treatment except where incidental to conveyance.

5. "Surface impoundment" is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials) that is not an injection well.

(T) Definitions beginning with the letter T.

1. "Tank" is a stationary device designed to contain an accumulation of regulated substances and constructed of non-earthen materials (e.g., concrete, steel, plastic) that provide structural support.

2~~1~~. "Triennial" means recurring, done, or performed every one thousand ninety-five (1,095) days.

3~~2~~. "Triennially" means at least once every one thousand ninety-five (1,095) days.

(U) Definitions beginning with the letter U.

1. "Under-dispenser containment sump" or "UDC" sump means a containment sump underneath a dispenser system designed to prevent dispenser system leaks from reaching soil or groundwater.

1. ~~In the definition of "upgrade" in 40 CFR 280.12 incorporated in this rule, substitute the words "regulated substance" for the word "product."~~

2. "Underground release" means any belowground release.

~~2. The definition for "underground storage tank" or "UST" found in 40 CFR 280.12 is not incorporated in this rule, and the definition in section 319.100(16), RSMo, shall be used instead;~~

3. "Upgrade" means the addition or retrofit of some systems such as cathodic protection, lining, spill and overfill controls to improve the ability of an underground storage tank system to prevent the release of regulated substance.

4. "Underground area" means an underground room, such as a basement, cellar, shaft or vault, providing enough space for physical inspection of the exterior of the tank situated on or above the surface of the floor.

5. "Underground storage tank" is defined in section 319.100, RSMo and means any one (1) or combination of tanks, including pipes connected thereto, containing regulated product, the volume of which is ten percent (10%) or more beneath the surface of the ground, except as exempted in section 319.100(16), RSMo.

6. "UST system" or "Tank system" means an underground storage tank, all connected piping, ancillary equipment, and containment system, if any.

(V) Definitions beginning with the letter V. *(Reserved)*;

(W) Definitions beginning with the letter W.

1. "Wastewater treatment tank" means a tank that is designed to receive and treat an influent wastewater through physical, chemical or biological methods. ~~*(Reserved)*~~;

(X) Definitions beginning with the letter X. *(Reserved)*;

(Y) Definitions beginning with the letter Y. *(Reserved)*;

(Z) Definitions beginning with the letter Z. *(Reserved)*.

AUTHORITY: sections 319.100, 319.105, 319.107, 319.111, and 319.114, RSMo 2000, and sections 319.109 and 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.012. Original rule filed April 2, 1990, effective Sept. 28, 1990. Amended: Filed Dec. 31, 1991, effective Aug. 6, 1992. Amended: Filed Jan. 2, 1996, effective Aug. 30, 1996. Amended: Filed Jan. 14, 1997, effective Sept. 30, 1997. Amended: Filed April 1, 1999, effective March 30, 2000. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.100, RSMo 1989, amended 1991, 1993, 1996, 1998; 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; 319.109, RSMo 1989, amended 1995, 2004, 2008; 319.111, RSMo 1989; 319.114, RSMo 1989; 319.132, RSMo 1991, amended 1995, 1996, 1998; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.013 UST Systems with Field-Constructed Tanks and Airport Hydrant Fuel Distribution Systems

(1) Applicability. This rule applies to owners and operators of field-constructed tanks and airport hydrant fuel distribution systems.

(2) Deadline for compliance. Owners and operators of existing underground storage tank (UST) systems with field-

constructed tanks or airport hydrant fuel distribution systems must comply with 10 CSR 26-2.010 through 10 CSR 26-2.083, the financial responsibility requirements in 10 CSR 26-3, and operator training in 10 CSR 100-6.

(A) Immediately upon installation for any new UST systems installed after July 1, 2017.

(B) By July 1, 2019 for existing systems, except where such requirements are specifically excluded or amended by this rule.

(3) Corrosion protection. UST System components that routinely contain product and are in contact with an electrolyte, including soil, backfill or water, must meet one (1) of the following:

(A) Performance Standards for New UST Systems, as defined by 10 CSR 26-2.020; or

(B) Be constructed of metal and cathodically protected, with the cathodic protection system complying with 10 CSR 26-2.031. Unprotected metal tanks must pass an integrity test, in accordance with 10 CSR 26-2.021 and 10 CSR 26-2.031, prior to the addition of cathodic protection. Unprotected steel piping cannot be upgraded and must be replaced.

(4) Spill and overfill prevention equipment. UST systems must be upgraded with the installation of spill and overfill prevention, in accordance with 10 CSR 26-2.020 and 10 CSR 26-2.030, except where "delivery" occurs through a dedicated pipeline permanently connected to the UST system(s). For these systems, owners and operators must have an alarm system and/or an approved plan to prevent releases due to overfill.

(5) Walkthrough inspections. In addition to the walkthrough inspections in 10 CSR 26-2.036, owners and operators must inspect the following additional areas for airport hydrant fuel distribution systems at least once every thirty (30) days if confined space entry according to the Occupational Safety and Health Administration under 29 CFR Part 1910 is not required, or at least annually if confined space entry is required, and must keep documentation of these walkthrough inspections in accordance with 10 CSR 26-2.036:

(A) Hydrant pits- visually check for any damage, remove any liquid or debris, and check for any leaks; and

(B) Hydrant piping vaults- check for any hydrant piping leaks.

(6) Applicability of closure requirements to previously closed UST systems. The department may require that the owner and operator of an UST system with a field-constructed tank system or an airport hydrant fuel distribution system permanently closed before April 30, 2017, must assess the excavation zone and close the UST system in accordance with 10 CSR 26-2.060 through 10 CSR 26-2.064 if releases from the UST system, in the judgment of the department, pose a current or potential threat to human health and the environment.

(7) Release detection. Owners and operators of existing UST systems must comply with the release detection requirements mandated in 10 CSR 26-2.040 through 10 CSR 26-2.048 no later than July 1, 2020.

10 CSR 26-2.019 New Installation Requirements

PURPOSE: This rule sets the standards that installations and installers of new underground storage tank systems must meet.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) Any installer who intends to install an underground storage tank (UST) or piping associated with a UST system for storage of a regulated substance must, at least ~~thirty~~ fourteen (14~~30~~) days before installing the tank or before piping replacement, notify the department by ~~letter or~~ approved form transmitted via email of intent to install an UST, except that this ~~thirty~~ fourteen (14~~30~~) day notice requirement may be waived by the department when a release is suspected or in other similarly urgent circumstances. The notification must provide the tank owner's name, installer name, the name and location of the facility where the UST or piping will be installed, the date that the installation is expected to commence, the date that the tank is expected to be brought in-use, UST system information, including tank material, size, manufacturer, piping material, piping type, and manufacturer, release detection equipment, and spill and overfill equipment. The installation notice is valid for one hundred eighty (180) days from receipt by the department and only for the UST system(s) listed on the notice. If installation does not commence within one hundred eighty (180) days of the date on which the department received the notice, a new installation notice must be submitted prior to commencing installation activities.

(2) Installers must document compliance with all manufacturer certification or training requirements for tank, piping, release detection equipment, and spill and overfill equipment installed.

(3) Installers and manufacturers must be properly registered with the Missouri Department of Agriculture and have a current financial responsibility mechanism that complies with the requirements of 2 CSR 90-30.085.

(4) Prior to installation of an ~~UST~~ underground tank and/or UST system piping intended to be used for storage of a regulated substance, the tank and/or ~~associated~~ piping must be tested, inspected, and measured in accordance with the manufacturer's requirements and in accordance with the pre-installation inspection, testing, and/or backfilling sections of either—

(A) American Petroleum Institute's Recommended Practice 1615, *Installation of Underground Petroleum Storage Systems*, fifth edition, 2011. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards/; or

(B) Petroleum Equipment Institute's Recommended Practice 100-2011, *Installation of Underground Liquid Storage Systems*, 2011 edition. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Petroleum Equipment Institute, Box 2380, Tulsa, OK 74101-2380, (918) 494-9696, www.pei.org.

(5) Tanks, piping, and equipment must comply with the new system requirements in 10 CSR 26-2.020. Installations shall be conducted in accordance with all manufacturers' requirements and in accordance with either—

(A) American Petroleum Institute's Recommended Practice 1615, *Installation of Underground Petroleum Storage Systems*, fifth edition, 2011. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards/; or

(B) Petroleum Equipment Institute's Recommended Practice 100-2011, *Installation of Underground Liquid Storage Systems*, 2011 edition. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Petroleum Equipment Institute, Box 2380, Tulsa, OK 74101-2380, (918) 494-9696, www.pei.org.

(6) When a new UST system is installed at a marina, the installer must comply with the Petroleum Equipment Institute's Recommended Practice 1000-2009, *Recommended Practices for the Installation of Marina Fueling Systems*, 2009 Edition or an alternative procedure approved by the Department. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Petroleum Equipment Institute, Box 2380, Tulsa, OK 74101-2380, (918) 494-9696, www.pei.org.

(~~6~~7) Should one (1) or more of a manufacturer's requirements contradict the recommended industry practice(s), the manufacturer's requirements shall be followed. Backfill materials must meet tank and piping manufacturers' specifications.

(~~7~~8) The tank and piping system must pass a one-tenth (0.1) gallon/hour system tightness test before the system is brought in~~-~~operation. The tank tightness test must be:

(A) A tank tightness test method listed and conducted in accordance with the National Work Group on Leak Detection Evaluations certificate. To obtain a copy, download the appropriate certificate from www.nwglde.org, or

(B) A one-tenth (0.1) gallon/hour third party certified test conducted using the automatic tank gauge with the tank at least ninety-five percent (95%) full.

(9) For tank system installations on or after July 1, 2017, before the UST system is brought into operation:

1. Spill and overfill prevention equipment must be tested in accordance with 10 CSR 26-2.030,
2. Secondary containment sumps must be tested in accordance with 10 CSR 26-2.035 and
3. All release detection equipment must be operability tested in accordance with 10 CSR 26-2.040 and 10 CSR 26-2.048.

(10) All new tanks must be tied down. Tie-down straps must meet the tank manufacturer's design specifications and be installed in locations and at a frequency prescribed by the tank manufacturer.

(~~8~~11) Until the installation is complete and the system is released by the installer to the owner/operator, the tank shall be monitored for leaks daily by using either—

(A) An approved release detection method, in accordance with 10 CSR 26-2.043; or

(B) Daily Inventory Liquid Measurements. Upon completion of initial post-installation tightness testing, daily measurements are based on the average of two (2) consecutive stick readings. A variation of no greater than twenty-six (26) gallons per week is allowed. Any suspected release, alarm, or inconclusive or failure result from these release detection methods must be reported and investigated in accordance with 10 CSR 26-2.050.

(~~9~~12) Upon the department's discovery of an installation that is not in compliance with the requirements of this rule, the department's authorized representative may require that the installation remain open and uncovered, or that no additional UST system work be conducted, until—

(A) The manufacturer approves the installation that deviates from their written guidelines, specifications, and instructions;

(B) The owner approves the installation; and

(C) The department approves the installation.

(13~~0~~) Any equipment repairs necessary during the installation must be manufacturer certified or approved, with supporting written documentation from the manufacturer.

(14~~1~~) Certification of Installation. All installers must ensure that one (1) or more of the following methods of certification, testing or inspection is used to demonstrate compliance with this rule by providing a certification of compliance:

(A) The installation has been inspected and approved by the department;

(B) All work listed in the manufacturer's installation checklists has been completed and submitted to the department; or

(C) The installer has complied with another method for ensuring compliance with this rule that is pre-approved~~determined~~ by the department to be no less protective of human health and the environment.

AUTHORITY: sections 319.105, RSMo 2000. Original rule filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989.*

10 CSR 26-2.020 Performance Standards for New Underground Storage Tank Systems

PURPOSE: This rule sets the standards for tanks, piping, spill and overfill prevention equipment, installation, and certification of installation that new underground storage tanks must meet.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) In order to prevent releases due to structural failure, corrosion, or spills and overfills for as long as the underground storage tank (UST) system is used to store regulated substances, all owners and operators of new UST systems must meet the following requirements:

(A) Tanks. Each tank must be properly designed and constructed, and any portion underground that routinely contains a regulated substance must be protected from corrosion, in accordance with a code of practice developed by a nationally-recognized association or independent testing laboratory as ~~follows~~specified in paragraphs 1 through 5 of this subsection. In addition, all new or replaced tanks where installation began on or after July 1, 2017 must be double-walled in accordance with paragraph 5 of this subsection:

1. The tank is constructed of fiberglass-reinforced plastic and complies with—

A. Underwriters' Laboratories Standard 1316, *Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohol and Alcohol-Gasoline Mixtures*, revised 2006. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Underwriters' Laboratories, 333 Pfingsten Road, Northbrook, IL 60062-2096, (847) 272-8800, www.ul.com; or

B. Other standards or publications approved by the department; or

2. The tank is constructed of steel and cathodically protected in the following manner:

A. The tank is coated with a suitable dielectric material;

B. Field-installed cathodic protection systems are designed by a corrosion expert;

C. Impressed current systems are designed to allow determination of current operating status as required in 10 CSR 26-2.031(1)(C);

D. Cathodic protection systems are operated and maintained in accordance with 10 CSR 26-2.031 or according to guidelines established by the department; and

E. The following codes and standards may be used to comply with paragraph (1)(A)2. of this rule:

(I) Steel Tank Institute *Specification for STI-P3 System of External Corrosion Protection of Underground Steel Storage Tanks*, revised 2010. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Steel Tank Institute, 944 Donata Court, Lake Zurich, IL 60047, (708) 438-8265, www.steeltank.com;

(II) Steel Tank Institute Standard F841, *Standard for Dual Wall Underground Steel Storage Tanks*, revised 2006. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Steel Tank Institute, 944 Donata Court, Lake Zurich, IL 60047, (708) 438-8265, www.steeltank.com;

(II~~I~~) Underwriters' Laboratories Standard 1746, *Standard for External Corrosion Protection Systems for Steel Underground Storage Tanks*, revised 2007. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Underwriters' Laboratories, 333 Pfingsten Road, Northbrook, IL 60062-2096, (847) 272-8800, www.ul.com;

(~~III~~IV) NACE International RP 0285-2002, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, revised 2002. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact NACE International, Box 218340, Houston, TX 77218-8340, (713) 492-0535, www.nace.org;

(~~I~~V) Underwriters' Laboratories Standard 58, *Standard for Steel Underground Tanks for Flammable and Combustible Liquids*, revised 1998. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Underwriters' Laboratories, 333 Pfingsten Road, Northbrook, IL 60062-2096, (847) 272-8800, www.ul.com; or

3. The tank is a composite tank with a steel inner tank and a non-metallic external thick film coating or the tank is a steel inner tank constructed with a non-metallic external jacket forming a secondary wall. Either of these tanks shall comply with one (1) of the following industry codes:

A. Underwriters' Laboratories Standard 1746, *Standard for External Corrosion Protection Systems for Steel Underground Storage Tanks*, revised 2007. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Underwriters' Laboratories, 333 Pfingsten Road, Northbrook, IL 60062-2096, (847) 272-8800, www.ul.com;

B. Steel Tank Institute's ACT-100, *Specification for External Corrosion Protection of FRP Composite Steel USTs (F894)*, revised June 2010. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Steel Tank Institute, 944 Donata Court, Lake Zurich, IL 60047, (708) 438-8265, www.steeltank.com;

C. Underwriters' Laboratories Standard 58, *Standard for Safety for Steel Underground Storage Tanks for Flammable and Combustible Liquids*, revised 1998. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Underwriters' Laboratories, 333 Pfingsten Road, Northbrook, IL 60062-2096, (847) 272-8800, www.ul.com; or

D. Steel Tank Institute's ACT-100-U, *Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks*, F961, June 2010. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Steel Tank Institute, 944 Donata Court, Lake Zurich, IL 60047, (708) 438-8265, www.steeltank.com;

E. Steel Tank Institute's Specification F922, *Steel Tank Institute Specification for Permatank*, revised 2013. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Steel Tank Institute, 944 Donata Court, Lake Zurich, IL 60047, (708) 438-8265, www.steeltank.com or

~~4. The tank is constructed of metal without additional corrosion protection measures provided that~~

~~A. The tank is installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life; and~~

~~B. Owners and operators maintain records that demonstrate compliance with the requirements of subparagraph (1)(B)4.A. of this rule for the remaining life of the tank; or~~

4~~5~~. The tank construction and corrosion protection are determined by the department to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than paragraphs (1)(A)1.–~~4~~3. of this rule;

5. Tanks installed on or after July 1, 2017 must be double-walled. A double-walled tank is a tank within a tank, where the outer walls and inner walls are separated, the inner tank is contained within the outer tank to a minimum of ninety-five percent (95%) containment and has a interstitial space capable of being monitored.

(B) Piping. The piping that routinely contains regulated substances and is in contact with an electrolyte, including but not limited to soil, backfill, and/or water, must be properly designed, constructed, and protected from corrosion ~~in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory~~ as specified in paragraphs 1 through 4 of this subsection. In addition, all new piping systems where installation began on or after July 1, 2017 must be double-walled in accordance with paragraph 5 of this subsection. If more than fifty percent (50%) of any tank system's piping is replaced within any twelve (12) month period, the entire piping run must be double-walled in accordance with paragraph 5. ~~as follows:~~

1. The piping is constructed of ~~fiberglass reinforced plastic~~ an approved, non-corrodible material;

2. The following codes and standards may be used to comply with paragraph (1)(B)1. of this rule:

A. Underwriters' Laboratories *Standard 971, UL Listed Nonmetallic Underground Piping for Flammable Liquids*, revised 2006. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Underwriters' Laboratories, 333 Pfingsten Road, Northbrook, IL 60062-2096, (847) 272-8800, www.ul.com; and

B. Underwriters' Laboratories Standard 567, *Emergency Breakaway Fittings, Swivel Connectors and Pipe Connection Fittings for Petroleum Products and LP-Gas*, revised 2003. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Underwriters' Laboratories, 333 Pfingsten Road, Northbrook, IL 60062-2096, (847) 272-8800, www.ul.com;

3. After July 1, 2017, metal piping may not be installed unless it is completely enclosed within a containment sump, except existing flexible connectors may be replaced without a containment sump if the new flexible connector is protected from corrosion by isolating it from the backfill using a manufacturer-approved isolation boot or protecting the connector from corrosion in accordance with this paragraph. For existing piping, t~~T~~he piping is constructed of steel and cathodically protected in the following manner:

A. The piping is coated with a suitable dielectric material;

B. Field-installed cathodic protection systems are designed by a corrosion expert;

C. Impressed current systems are designed to allow determination of current operating status as required in 10 CSR 26-2.031(1)(C);

D. Cathodic protection systems are operated, inspected and maintained in accordance with 10 CSR 26-2.031; and

E. The ~~following~~ codes and standards in 10 CSR 26-2.031(2) may be used to comply with paragraph (1)(B)3. of this rule.~~:~~

~~(I) National Fire Protection Association Standard 30, *Flammable and Combustible Liquids Code*, revised 2008. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the National Fire Protection Association, 1 Batterymarch Park, Box 9101, Quincy, MA 02269-9101, (617) 770-3000, www.nfpa.org;~~

~~(II) American Petroleum Institute's Recommended Practice 1615, *Installation of Underground Petroleum Storage Systems*, fifth edition, 2011. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards/;~~

~~(III) American Petroleum Institute Publication 1632, *Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems*, revised 2002. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards/;~~

~~(IV) NACE International SP-0169-2007, *Control of External Corrosion on Submerged Metallic Piping Systems*, revised 2007. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact NACE International, Box 218340, Houston, TX 77218-8340, (713) 492-0535, www.nace.org; and~~

~~(V) Steel Tank Institute's *Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems* (R892), revised 2006. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Steel Tank Institute, 944 Donata Court, Lake Zurich, IL 60047, (708) 438-8265, www.steeltank.com;~~

~~4. The piping is constructed of metal without additional corrosion protection measures provided that—~~

~~A. The piping is installed at a site that is determined by a corrosion expert to not be corrosive enough to cause it to have a release due to corrosion during its operating life; and~~

~~B. Owners and operators maintain records that demonstrate compliance with the requirements of subparagraph (1)(A)4.A. of this rule for the remaining life of the tank;~~

~~5. The following codes may be used to comply with paragraph (1)(B)4. of this rule:~~

~~A. National Fire Protection Association Standard 30, *Flammable and Combustible Liquids Code*, revised 2008. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the National Fire Protection Association, 1 Batterymarch Park, Box 9101, Quincy, MA 02269-9101, (617) 770-3000, www.nfpa.org; and~~

~~B. NACE International SP-0169-2007, *Control of External Corrosion on Submerged Metallic Piping Systems*, revised 2007. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact NACE International, Box 218340, Houston, TX 77218-8340, (713) 492-0535, www.nace.org; or~~

4~~6~~. The piping construction and corrosion protection are determined by the department to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the requirements in paragraphs (1)(B)1.–~~5~~3. of this rule;

5. After July 1, 2017, new or replaced piping must be double-walled piping, except for any single wall fittings or ends, which must be open to a leak-tight containment sump(s), except for safe suction piping that meets the requirements of 10 CSR 26-2.041(1)(B)2 A through E.

(C) Spill and Overfill Prevention Equipment.

1. Except as provided in paragraph (1)(C)2. of this rule, to prevent spilling and overfilling associated with product transfer to the UST system, owners and operators must use the following spill and overfill prevention equipment:

A. Spill prevention equipment that will prevent release of product to the environment when the transfer hose is detached from the fill pipe (for example, a spill catchment basin). All delivery hose-fill pipe connections must be tight, lock-on connections; and

B. Overfill prevention equipment that will—

(I) Automatically shut off flow into the tank when the tank is no more than ninety-five percent (95%) full;

(II) Alert the transfer operator with a high-level alarm at least one (1) minute before overfilling with an alarm audible in the delivery area; or

(III) Alert the transfer operator when the tank is no more than ninety percent (90%) full by restricting flow into the tank.

(a) Ball float valves may only be used in tank systems with gravity deliveries, in suction systems if there are no check valves, except those contained within a building, and the tank system is tight so that it does not allow vapors to be released during a delivery after the ball float valve has closed.

(b) Ball float valves are not approved for use as overfill prevention equipment in new tank systems installed after December 31, 2011~~. Ball float valves may still be used in systems equipped with manifolded vent lines and vapor recovery equipment if the ball float valve is installed no lower than at ninety-eight percent (98%) full and the functioning overfill prevention equipment is installed no higher than ninety-five percent (95%) full.~~

(c) When an overfill prevention device is replaced after July 1, 2017, a ball float valve may not be used.

IV) For pressurized deliveries, overfill prevention equipment must be compatible and approved for use with pressurized deliveries.

C. All spill and overfill prevention equipment must be installed, inspected, maintained and replaced in accordance with 10 CSR 26-2.030.

2. Owners and operators are not required to use the spill and overfill prevention equipment specified in paragraph (1)(C)1. of this rule if—

A. Alternative equipment is used that is determined by the department to be no less protective of human health and the environment than the equipment specified in subparagraph (1)(C)1.A. or B. of this rule; or

B. The owner or operator submits a written explanation that the equipment cannot be used for the UST system and their detailed fuel-delivery plan, documenting that their delivery procedures prevent spills and overfills; or

C. The UST system is filled by transfers of no more than twenty-five (25) gallons at one time.

(D)~~ All new tank systems installed after December 31, 2011, must be installed with containment sumps at each tank top suction piping or submersible turbine pump connection, each piping transition/ball valve location, and under each dispenser. The containment sumps must be designed to contain any leak from the primary UST piping system and~~. For new or replaced tanks or piping systems installed after July 1, 2017, containment sumps must be installed at each tank top suction piping or submersible turbine pump connection, each piping transition, ball valve or single walled fitting location, and under each dispenser. The containment sump must be liquid-tight on its sides, bottom, and at any penetrations, with interstitial monitoring in accordance with 10 CSR 26-2.043(1)(H) and sump testing in accordance with 10 CSR 26-2.035;

(E) Dispenser Systems. Any new dispenser system installed after July 1, 2017 must have a containment sump beneath it.

1. A dispenser system is considered new when both the dispenser and the equipment needed to connect the dispenser to the underground storage tank system are installed or replaced at an UST facility. The equipment necessary to connect the dispenser to the UST system includes check valves, shear valves, unburied risers and flexible connectors, and other transitional components that are underneath the dispenser and connect the dispenser to the underground UST system piping.

2. Under-dispenser containment sump must be liquid-tight on the sides, bottom, and at any penetrations and must allow for visual inspection and access to the components in the containment sump and be tested or monitored for leaks in accordance with 10 CSR 26-2.035.

(~~E~~F) Installation. All tanks and piping must be properly installed in accordance with a code of practice developed by a nationally-recognized association or independent testing laboratory, in accordance with all manufacturers' instructions, and in accordance with 10 CSR 26-2.019. Tank and piping system installation practices and procedures described in the following codes of practice may be used to comply with the requirements of this rule:

1. American Petroleum Institute Publication 1615, *Installation of Underground Petroleum Storage System*, revised 2011. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards/; or

2. Petroleum Equipment Institute Publication RP100, *Recommended Practices for Installation of Underground Liquid Storage Systems*, revised 2011. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Petroleum Equipment Institute, Box 2380, Tulsa, OK 74101-2380, (918) 494-9696, www.pei.org.

AUTHORITY: sections 319.105 and 319.107, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.020. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.021 ~~Upgrading of Existing~~Upgraded Underground Storage Tank Systems

PURPOSE:~~ This rule contains the options for upgrading existing underground storage tanks for continued operation after December 22, 1998~~. This rule contains requirements for UST systems that were in use on December 22, 1998 and were upgraded with release prevention equipment

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) Alternatives Allowed. All underground storage tank (UST) systems which are in-use must comply with one (1) of the following requirements:

(A) New UST system performance standards in 10 CSR 26-2.020; or

(B) The upgrading requirements in sections (3)–(5) of this rule.

(2) Any UST which was not permanently closed by being removed or filled with an inert, solid material before December 22, 1988, and that does not meet the requirements of section (1) shall be permanently closed in accordance with the requirements in 10 CSR 26-2.060 through 10 CSR 26-2.064. If the UST was taken out of operation by August 28, 1989, but is still in the ground, the person or party responsible for permanently closing the UST is/are the person(s) who owned the UST immediately before the discontinuation of its use.

(3) Tank Upgrading Requirements. Tanks must be upgraded to meet one (1) of the following requirements in accordance with a code of practice developed by a nationally-recognized association or independent testing laboratory:

(A) Interior lining or Tank Retrofit. A tank may be upgraded by internal lining or retrofit if—

1. The lining or retrofit is installed in accordance with the requirements of 10 CSR 26-2.033 and the lining or retrofit meets the following additional requirements:

A. All linings installed or repaired on or after January 1, 2020, must meet the design specifications of Underwriters Laboratories (UL) 1856 Outline of Investigation for Underground Fuel Tank Internal Retrofit Systems requirements;

B. Inspections and repairs must be conducted by a technician who is properly certified by NACE International or International Code Council (ICC);

C. The lining or retrofit is installed according to manufacturer installation requirements;

D. An approved national code or standard, including those listed in section (7) of this rule is followed;

E. For fiberglass-reinforced plastic tanks, the lining must be approved by the tank manufacturer and installed in accordance with the tank manufacturer's requirements. If the tank manufacturer is no longer available or willing to repair the tank, the tank may be lined in accordance with:

(I) The manufacturer's requirements, or

(II) The Fiberglass Tank and Piping Institute T-95-1, Remanufacturing of Fiberglass Reinforced Plastic (FRP Underground Storage Tanks, Revised 1995. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Fiberglass Tank and Piping Institute, http://www.fiberglasstankandpipe.com; and

(III) By a technician who is properly certified by NACE International, International Code Council (ICC), or the American Composites Manufacturers Association;

F. All linings must be installed, inspected, repaired and maintained in accordance with one of the following:

(I) For UL 1856 Lining systems, single-walled, co-structural systems and linings installed prior to January 1, 2020:

(a) A lining may only be repaired if the steel tank passes an integrity test, including actual steel shell thickness readings. Approved integrity test methods are included in section (7) of this rule;

(b) A replacement lining may only be installed if the new lining meets the UL 1856 specifications and the steel tank passes an integrity test, including actual steel shell thickness readings. Approved integrity test methods are included in section (7) of this rule;

(c) The lining must be internally inspected at least every five (5) years and found to be structurally sound with the lining still performing in accordance with the original design specifications.

(II) For UL 1856 Upgrade systems, double-walled, co-structural systems:

(a) A lining may only be installed or repaired if the steel tank passes an integrity test, including actual steel shell thickness readings. Approved integrity test methods are included in section (7) of this rule; and

(b) The lining must be internally inspected at least every five (5) years and found to be structurally sound with the lining still performing in accordance with the original design specifications; or

(c) The interstitial lining space is electronically monitored, with passing sensor status reports for the most recent 12 months, in accordance with 10 CSR 26-2.043(H).

(III) For UL 1856 Structural systems, double-walled, self-structural systems,

(a) The lining must be internally inspected at least every five (5) years and found to be structurally sound with the lining still performing in accordance with the original design specifications; or

(b) The interstitial lining space is electronically monitored, with passing sensor status reports for the most recent twelve (12) months, in accordance with 10 CSR 26-2.043(H); and

G. All interior lining inspection reports must include photographs of the tank bottom, a representative tank side wall and a representative tank end, and documentation of the interior lining hardness and thickness readings, in accordance with the evaluation guidance document used.

~~Interior lining. A tank may be upgraded by internal lining if—~~

~~1. The lining is installed in accordance with the requirements of 10 CSR 26-2.033 and the following:~~

~~A. Lining manufacturer installation requirements; and~~

~~B. An approved national code or standard, including those listed in section (6) of this rule; and either~~

~~C. For steel tanks, structural integrity determinations are required and must include actual steel tank thickness readings. Approved integrity test methods are included in section (6) of this rule; or~~

~~D. For fiberglass-reinforced plastic tanks, all linings must be approved by the tank manufacturer and installed in accordance with the tank manufacturer's requirements;~~

~~2. Within ten (10) years after the initial lining, and every five (5) years after that, whether relined or not, the lined tank is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications; and~~

~~3. A tank may only be relined and/or the lining may only be repaired—~~

~~A. If the fiberglass-reinforced plastic tank meets all tank manufacturer standards for repair or relining of the tank; or~~

~~B. If the steel tank passes an integrity test, including actual steel shell thickness readings. Approved integrity test methods are included in section (6) of this rule;~~

(B) Cathodic Protection. A tank may be upgraded by cathodic protection if the cathodic protection system meets the requirements of the performance standards for new UST systems in 10 CSR 26-2.020(1)(A)2.B.–D. and the integrity of the tank is ensured using one (1) of the following methods:

1. The tank is internally inspected and assessed to ensure that the tank is structurally sound and free of corrosion holes prior to installing the cathodic protection system. Structural integrity evaluations must include steel shell thickness readings and confirmation that the steel shell does not have any holes or perforations. Approved integrity test methods are included in section (7~~6~~) of this rule;

2. The tank has been installed for less than ten (10) years and is monitored monthly for releases in accordance with release detection methods in 10 CSR 26-2.043(1)(E)–(I);

3. The tank has been installed for less than ten (10) years and is assessed for corrosion holes by conducting two (2) tightness tests that meet the requirement of release detection method in 10 CSR 26-2.043(1)(D). The first tightness test must be conducted prior to installing the cathodic protection system. The second tightness test must be conducted between three and six (3–6) months following the first operation of the cathodic protection system; or

4. The tank is assessed for corrosion holes by a method that is determined by the department to prevent releases in a manner that is no less protective of human health and the environment than paragraphs (3)(B)1.–3. of this rule; and

(C) Internal Lining Combined With Cathodic Protection. A tank may be upgraded by both internal lining and cathodic protection if—

1. The lining is installed in accordance with the requirements of 10 CSR 26-2.033; and

2. The cathodic protection system meets the requirements of 10 CSR 26-2.020(1)(A)2.B.–D.

(4) Piping Upgrading Requirements. Metal piping that routinely contains regulated substances and is in contact with an electrolyte, including but not limited to soil, backfill, and/or water, must be cathodically protected ~~in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory~~ and must meet the requirements of 10 CSR 26-2.020(1)(B)3.B.~~–D~~E.

(A) New piping installed at an existing facility must comply with the requirements of 10 CSR 26-2.020.

(5) Spill and Overfill Prevention Equipment. To prevent spilling and overfilling associated with product transfer to the UST system, all existing UST systems must comply with new UST system spill and overfill prevention equipment requirements specified in 10 CSR 26-2.020(1)(C) and 10 CSR 26-2.030.~~-~~

(6) Dispenser Systems. Any new dispenser system installed after July 1, 2017 must have a containment sump beneath it, in accordance with 10 CSR 26-2.020(1)(E).

(~~6~~7) The following codes and standards may be used to comply with this rule:

(A) American Petroleum Institute Standard 1631, *Interior Lining and Periodic Inspection of Underground Storage Tanks*, revised 2001. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards/;

(B) NACE International RP 0285-2002, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, revised 2002. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact NACE International, Box 218340, Houston, TX 77218-8340, (713) 492-0535, www.nace.org;

(C) American Petroleum Institute Publication 1632, *Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems*, revised 2002. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards/;

(D) American Society for Testing and Materials G158-98 (2010) *Standard Guide for Three Methods of Assessing Buried Steel Tanks*, revised 2010, Method B only. Methods A and C may not be used to evaluate the integrity of a steel tank. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, (610) 832-9500, www.astm.org; ~~and~~

(E) National Leak Prevention Association Standard 631, *Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection*, revised 1999. This standard may only be used for interior lining application and inspection, not for inspection of the steel tank integrity. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the National Leak Prevention Association, (815) 301-2785, www.nlpa-online.org~~.~~; and

(F) Ken Wilcox Associates Recommended Practice, *Recommended Practice for Inspecting Buried Lined Steel Tanks Using a Video Camera*, September 28, 1999. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact Ken Wilcox Associates, 1125 Valley Ridge Drive, Grain Valley, MO 64029, (816)443-2494, www.kwaleak.com.

AUTHORITY: sections 319.105 and 319.107, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.021. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.022 Notification Requirements

PURPOSE: This rule specifies the registration procedures for underground storage tanks.

(1) Any owner who brings an underground storage tank (UST) system in~~-~~-operation must, within thirty (30) days of bringing the tank ~~into~~ in-operation, register the completed UST system on forms provided by the department. Note: Owners and operators of UST systems that were in the ground on or after May 8, 1986, unless taken out-of-use on or before January 1, 1974, were required to notify the state in accordance with the Hazardous and Solid Waste Amendments of 1984, P.L. 98-616, on a form published by Environmental Protection Agency (EPA) on November 8, 1985 (50 FR 46602), unless notice was given pursuant to section 103(c) of Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). Owners and operators who have not complied with the notification requirements ~~may~~ must use a form~~s provided~~ approved by the department.

(2) ~~Notices required to be submitted under section (1) of this rule must provide all of the information requested in a form approved by the department for each UST.~~No later than July 1, 2019, owners of previously deferred UST systems must register their UST system(s) on forms approved by the department.

(3) All owners and operators of new UST systems must certify in writing compliance with the following requirements:
(A) Installation of tanks and piping in 10 CSR 26-2.020(1)(E);
(B) Cathodic protection of steel tanks and piping under 10 CSR 26-2.020(1)(A) and (B);
(C) Financial responsibility in 10 CSR 26-3.090–10 CSR 26-3.115; and
(D) Release detection in 10 CSR 26-2.040–10 CSR 26-2.045.

(4) If the owner changes, the new owner or operator shall complete and file an updated registration form with the department within thirty (30) days of the change(s).

(5) The department shall issue a Certificate of Registration for any tanks which meet the requirements in sections (1) through (4) of this rule and 10 CSR 26-2.020 and 10 CSR 26-2.021. The Certificate of Registration shall be valid for five (5) years except as described in section (6) of this rule.

(6) The department shall establish effective dates and expiration dates for Certificates of Registration issued under this rule. These dates shall establish a period of from one to five (1–5) years for an initial Certificate of Registration and a period of five (5) years for subsequent Certificates of Registration.

(7) Information submitted to the department after January 1, 1990, under sections (1) through (4) of this rule for a tank brought into use before January 1, 1990, or for a tank brought into use after September 28, 1990, is an application for a Certificate of Registration and shall be accompanied by a fee as described in section (8).

(8) Fees required under section (7) of this rule shall be paid in one (1) payment of seventy-five dollars ($75). No fees shall be collected for registration of tanks which were permanently closed prior to August 28, 1989. No further fees shall be assessed upon registered USTs once permanent closure has been completed and any fees to date have been paid.

AUTHORITY: sections 319.103, 319.105, 319.107, 319.111, 319.114, and 319.123, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.022. Original rule filed April 2, 1990, effective Sept. 28, 1990. Amended: Filed June 1, 1995, effective Jan. 30, 1996. Amended: Filed Jan. 2, 1996, effective Aug. 30, 1996. Amended: Filed Jan. 14, 1997, effective Sept. 30, 1997. Amended: Filed April 1, 1999, effective March 30, 2000. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.103, RSMo 1989; 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; 319.111, RSMo 1989; 319.114, RSMo 1989; 319.123, RSMo 1989; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.030 Spill and Overfill Control for In-Use Underground Storage Tank Systems

PURPOSE: This rule is designed to prevent releases during routine filling of the underground storage tank with product.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) Owners and operators must ensure that releases due to spilling or overfilling do not occur. The owner and operator must 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.

(2) The owner and operator must report, investigate, and clean up any spills and overfills in accordance with 10 CSR 26-2.053.

(3) Owners and operators must meet one of the following requirements to ensure their spill prevention equipment is operating properly and will prevent releases to the environment:

(A) Have double-walled spill prevention equipment and monitor the space between the walls at least once every thirty (30) days; or

(B) The spill prevention equipment is tested at least triennially to ensure the spill prevention equipment is liquid tight by using vacuum, pressure or liquid testing in accordance with one of the following:

1. Requirements developed by the manufacturer (Note: This option may only be used if the manufacturer has developed testing requirements. Self-testing apparatus may only be used if approved by the department as a valid functionality test); or

2. Interstitial test (for double-walled spill basins only) or spill containment test listed by the National Work Group on Leak Detection Evaluations. To obtain copies of equipment certifications, contact the National Work Group on Leak Detection Evaluations, www.nwglde.org; or

3. Petroleum Equipment Institute RP 1200-12, *Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities*. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Petroleum Equipment Institute, Box 2380, Tulsa, OK 74101-2380, (918) 494-9696, www.pei.org; or

4. Other department methods approved by the department, which may include a code of practice developed by a nationally recognized association or independent testing laboratory, determined to be no less protective of human health and the environment than the requirements listed in paragraphs 1. and 2. of this subsection.

(4) Spill basins may not be repaired with a partial or spot, field applied repair kit or product. Repairs must either be a manufacturer designed replacement insert or a complete, factory-built, field-installed spill basin repair kit. Other repairs may be approved by the department if they are determined to be no less protective of human health and the environment.

(5) Owners and operators must ensure their overfill prevention equipment is operating properly and will prevent releases to the environment by conducting a test or inspection of the equipment at least triennially. At a minimum, the test or inspection must ensure that overfill prevention equipment is set to activate at the correct level specified in 10 CSR 26-2.020 and will activate when the regulated substance reaches that level. Tests or inspections

must be conducted in accordance with one of the following criteria:

(A) Requirements developed by the manufacturer, but only if the test or inspection confirms that all portions of the overfill device are intact and functional. (Note: This option may only be used if the manufacturer has developed testing requirements. Self-testing apparatus may only be used if approved by the department as a valid functionality test); or

(B) Petroleum Equipment Institute RP 1200-12, *Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities*. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Petroleum Equipment Institute, Box 2380, Tulsa, OK 74101-2380, (918) 494-9696, www.pei.org; or

(C) Other department methods approved by the department, which may include a code of practice developed by a nationally recognized association or independent testing laboratory, determined to be no less protective of human health and the environment than the requirements listed in paragraphs 1. and 2 . of this subsection.

(6) The first test of the spill prevention equipment and the first test or inspection of the overfill prevention equipment required by this rule is due no later than January 1, 2020.

(7) If a tank has been out of use for more than twelve (12) months, equipment must be confirmed operational with a test of the spill prevention equipment and an inspection or test of the overfill prevention equipment, prior to bringing back in-use.

(8) Owners and operators must maintain the following records, in accordance with 10 CSR 26-2.034, for spill and overfill prevention equipment:

A. Test and/or inspection records must be maintained for three (3) years; and/or

B. When using interstitial monitoring, records must be maintained for twelve (12) months.

(9) Guidance on spill and overfill prevention appears in the—

(A) American Petroleum Institute Publication 1621, *Recommended Practice for Bulk Liquid Stock Control at Retail Outlets*, revised 2001. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards/; and

(B) National Fire Protection Association Standard 30, *Flammable and Combustible Liquids Code*, revised 2008. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the National Fire Protection Association, 1 Batterymarch Park, Box 9101, Quincy, MA 02269-9101, (617) 770-3000, www.nfpa.org.

(C) Petroleum Equipment Institute RP 1200-12, *Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities*. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Petroleum Equipment Institute, Box 2380, Tulsa, OK 74101-2380, (918) 494-9696, www.pei.org.

(D) National Fire Protection Association Standard 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*, revised 2012. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the National Fire Protection Association, 1 Batterymarch Park, Box 9101, Quincy, MA 02269-9101, (617) 770-3000, www.nfpa.org

(E) American Petroleum Institute Recommended Practice 1007, *Loading and Unloading of MC 306/DOT Cargo Tank Motor Vehicles*, revised 2011. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards

AUTHORITY: sections 319.105 and 319.107, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.030. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.031 Operation and Maintenance of Corrosion Protection

PURPOSE: This rule contains the requirements for corrosion protection systems.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) All owners and operators of ~~steel~~ metal underground storage tank (UST) systems with corrosion protection must comply with the following requirements to ensure that releases due to corrosion are prevented ~~for as long as the UST system is used to store regulated substances~~until the system is permanently closed or has an out of use site assessment conducted in accordance with 10 CSR 26-2.060 through 10 CSR 26-2.064.

(A) All corrosion protection systems must be operated and maintained to continuously provide corrosion protection to the metal components of that portion of the tank and piping that routinely contain regulated substances and are in contact with an electrolyte, including but not limited to soil, backfill, and/or water.

(B) All UST systems equipped with cathodic protection systems must be inspected for proper operation by a NACE International certified, Steel Tank Institute certified, or International Code Council (ICC) appropriately certified cathodic protection tester in accordance with the following requirements:

1. Frequency. To confirm that the system is operating properly and providing adequate protection, all cathodic protection systems must be tested within six (6) months of installation and at least triennially after that, or according to another reasonable time frame established by the department; and

2. Inspection criteria. The criteria that are used to determine that cathodic protection (CP) is adequate as required by this section must be in accordance with a code of practice developed by a nationally-recognized association listed in section (2) of this rule.

A. Inspection reports must document the testing method used, the testing standard referenced, the CP tester, and the CP tester's qualifications.

B. Inspection reports must include a site sketch, potential readings, and the location where the readings were made.

C. For impressed current systems, the inspection report must document continuity data and how voltage (IR) drops other than those across the structure/electrolyte interface were considered or accounted for in determining adequate protection.

(C) UST systems with impressed current cathodic protection systems must also be inspected every sixty (60) days to ensure the equipment is running properly.

1. Rectifier log reports must include relevant system data, including but not limited to amperage readings, voltage readings, hour meter, and indicator light, where available.

2. Any indication of deviations from previous rectifier logs or rectifier readings or the most recent cathodic protection system inspection of the rectifier or cathodic protection system, such as variances in current reading or indicator light, must be appropriately investigated.

(D) For UST systems using cathodic protection, records of the operation of the cathodic protection system must be maintained ~~(~~in accordance with 10 CSR 26-2.034~~)~~ to demonstrate compliance with the performance standards in this rule. These records must provide the following:

1. The results of the last three (3) inspections required in subsection (1)(C) of this rule; and

2. The results of testing from the last two (2) inspections required in subsection (1)(B) of this rule.

(2) The following codes and standards may be used to comply with this rule:

(A) NACE International RP 0285-2002, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, revised 2002. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact NACE International, Box 218340, Houston, TX 77218-8340, (713) 492-0535, www.nace.org; ~~or~~

(B) NACE International TM0101-2001, Standard Test Method, Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Tank Systems, 2001 edition. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact NACE International, Box 218340, Houston, TX 77218-8340, (713) 492-0535, www.nace.org; ~~or~~

(C) NACE International SP-0169-2007, *Control of External Corrosion on Submerged Metallic Piping Systems*, revised 2007. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact NACE International, Box 218340, Houston, TX 77218-8340, (713) 492-0535, www.nace.org;

(D) NACE International TM0497-2012, *Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Piping Systems*, revised 2012. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact NACE International, Box 218340, Houston, TX 77218-8340, (713) 492-0535, www.nace.org

(~~C~~E) Steel Tank Institute Cathodic Protection Testing Procedures for sti-P3 USTs, R051, January 2006. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Steel Tank Institute, 944 Donata Court, Lake Zurich, IL 60047, (708) 438-8265, www.steeltank.com; ~~or~~

(~~D~~F) Steel Tank Institute Recommended Practice for the Addition of Supplemental Anodes to sti-P3 USTs, R972, December 2010. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Steel Tank Institute, 944 Donata Court, Lake Zurich, IL 60047, (708) 438-8265, www.steeltank.com;

(G) Steel Tank Institute Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems, R892, Revised January 2006. To obtain a copy, contact the Steel Tank Institute, 944 Donata Court, Lake Zurich, IL 60047, (708) 438-8265, www.steeltank.com.

(3) If cathodic protection is being used to protect all or part of a UST system from corrosion, and the electric system energizing the cathodic protection has been off, unhooked, or damaged for more than ninety (90) days, the owner/operator must—

(A) Conduct a~~n~~ tank integrity test, documenting adequate tank shell integrity and thickness, as required in 10 CSR 26-2.021(3)(B); and

(B) Have a corrosion expert or design engineer re-evaluate the UST system, cathodic protection system, and surrounding structures and design and/or make changes to the existing cathodic protection system to meet the standards in 10 CSR 26-2.020(1)(A)2.B.–D.

(C) Replace metal piping components;

(~~C~~D) The owner/operator may request an additional ninety (90) days to repair the systems by submitting a request, including the justification for the extension; or

(E~~D~~) Permanently close the tank, in accordance with 10 CSR 26-2.060 through 10 CSR 26-2.064.

(4) If a cathodic protection system test indicates that the system is not operating properly or does not provide adequate protection, as defined by the testing method used, and the system is not repaired or does not pass a re-test within ninety (90) days, or if a required cathodic protection system test is not conducted, the owner/operator must comply with the requirements outlined in section (3) of this rule.

AUTHORITY: sections 319.105 and 319.107, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.031. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.032 Compatibility

PURPOSE: This rule prevents releases caused by chemical action on the underground storage tank system by the stored regulated substance.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) Owners and operators must use an underground storage tank (UST) system made of or lined with materials that are compatible with the substance stored in the UST system. If a lining is installed for compatibility purposes, it must be maintained and inspected in accordance with 10 CSR 26-2.021(3)(A).

(2) Owners and operators must notify the department at least thirty (30) days prior to switching to a regulated substance containing greater than ten percent (10%) ethanol and/or greater than twenty percent (20%) biodiesel.

(3) Owners and operators may use one (1) or more of the following methods to demonstrate UST system compatibility with the regulated substance stored:

(A) Certification or listing of UST system components by a nationally recognized, independent testing laboratory for use with the regulated substance stored; or

(B) Equipment or component manufacturer approval. The manufacturer's approval must be in writing, indicate an affirmative statement of compatibility and functionality, specify the range of product blends with which the component is compatible, and be from the equipment or component manufacturer; or

(C) Another method determined by the department to be no less protective of human health and the environment than the methods listed in subsection (A) or (B) of this section.

(4~~2~~) Owners and operators storing alcohol blends may use the following codes to comply with this rule:

(A) American Petroleum Institute ~~Publication~~ Recommended Practice 1626, *Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations*, ~~revised 2001~~2010 Edition with 2012 Addendum. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards/; ~~or~~

~~(B) American Petroleum Institute Publication 1627, *Storage and Handling of Gasoline-Methanol/Cosolvent Blends at Distribution Terminals and Service Stations*, revised 2001. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards/; or~~

(~~C~~B) Other standards or publications approved by the department.

AUTHORITY: section 319.105, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.032. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989 and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.033 Repairs Allowed

PURPOSE: This rule describes methods for repair of underground storage tank systems.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) Owners and operators of underground storage tank (UST) systems must ensure that repairs will prevent releases due to structural failure or corrosion as long as the UST system is used to store regulated substances.

(2) The repairs must meet the following requirements:

(A) Repairs to UST systems must be properly conducted in accordance with a code of practice developed by a nationally-recognized association or an independent testing laboratory.

1. The following codes and standards may be used to comply with subsection (2)(A) of this rule:

A. National Fire Protection Association Standard 30, *Flammable and Combustible Liquids Code*, revised 2008. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the National Fire Protection Association, 1 Batterymarch Park, Box 9101, Quincy, MA 02269-9101, (617) 770-3000, www.nfpa.org;

B. National Fire Protection Association Standard 326, *Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair*, revised 2015. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the National Fire Protection Association, 1 Batterymarch Park, Box 9101, Quincy, MA 02269-9101, (617) 770-3000, www.nfpa.org

~~B~~C. American Petroleum Institute Publication 2200, *Repairing Crude Oil, Liquefied Petroleum Gas, and Product Pipelines*, revised 2001. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards/;

~~C~~D. American Petroleum Institute Standard 1631, *Interior Lining and Periodic Inspection of Underground Storage Tanks*, revised 2001. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards/; and

~~D~~E. National Leak Prevention Association Standard 631, *Spill Prevention, Minimum 10-Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection*, revised 1999. This standard may only be used for interior lining application and inspection, not for integrity testing of the steel shell. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the National Leak Prevention Association, (815) 301-2785, www.nlpa-online.org;

F. Fiberglass Tank and Piping Institute T-95-1, *Remanufacturing of Fiberglass Reinforced Plastic (FRP Underground Storage Tanks*, Revised 1995. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Fiberglass Tank and Piping Institute, http://www.fiberglasstankandpipe.com;

(B) Repairs to fiberglass-reinforced plastic tanks may be made by the manufacturer's authorized representatives or in accordance with a code of practice developed by a nationally-recognized association or an independent testing laboratory;

(C) Metal pipe sections and fittings that have released a regulated substance as a result of corrosion or other damage must be replaced. For cathodically protected metal piping, the entire length of electrically-continuous metal pipe must be replaced. ~~Fiberglass~~ Non-corrodible pipes and fittings may be repaired in accordance with the manufacturer's specifications;

(D) Repairs must be done by a person who is properly registered with the Missouri Department of Agriculture and who has a financial responsibility mechanism that complies with the requirements of 2 CSR 90-30.085;

(E) Repaired tanks and/or piping must be tightness tested in accordance with release detection methods listed in 10 CSR 26-2.043(1)(D) and 10 CSR 26-2.044(1)(B) within thirty (30) days following the date of the completion of the repair, ~~except as provided in the following paragraphs:~~unless tested using another method that is determined by the department to be no less protective of human health and the environment.

~~1. The repaired tank is internally inspected in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory;~~

~~2. The repaired portion of the UST system is monitored monthly for releases by one (1) of the release detection methods listed in 10 CSR 26-2.043(1)(B) and (E)–(I); or~~3.

(F) Repairs of UST systems, or any portion of a UST system, required to be double-walled, must be tested to confirm the integrity of both walls of the repaired tank or piping system within thirty (30) days following the completion of any repair.

(G) Repairs to any required containment sumps must be tested using a method specified in 10 CSR 26-2.035(1)(B) within thirty (30) days following the completion of any repair.

~~. Another test method is used that is determined by the department to be no less protective of human health and the environment than those listed in paragraphs (2)(E)1. and 2. of this rule;~~

(H) Within 30 days following any repair to spill or overfill prevention equipment, the repaired spill or overfill prevention equipment must be tested in accordance with 10 CSR 26-2.030 to ensure it is operating properly.

(~~F~~I) Within six (6) months following the repair of any cathodically protected UST system, the cathodic protection system must be tested with the methods for operation and maintenance of corrosion protection in 10 CSR 26-2.031(1)(B) and (C) to ensure that it is operating properly. Repair may include, but is not limited to, adjustments, maintenance, replacement, or changes to cathodic protection equipment and/or tank repairs;

(J~~G~~) If a tank is repaired by installation of an interior lining, the lining must be properly maintained and inspected, in accordance with 10 CSR 26-2.021(3)(A), for the life of the tank; and

(K~~H~~) UST system owners and operators must maintain records demonstrating compliance with this rule ~~of~~ for each repair for the remaining operating life of the UST system ~~that demonstrate compliance with the requirements of this rule~~.

AUTHORITY: sections 319.105 and 319.107, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.033. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.034 Reporting and Record Keeping

PURPOSE: This rule explains how the owner and operator must keep records demonstrating compliance with the requirements of this chapter. These records must be furnished to the department on request.

(1) Owners and operators of underground storage tank (UST) systems must cooperate fully with inspections, monitoring, and testing conducted by the department, or the department's authorized representative, as well as requests for document submission, testing, and monitoring ~~by the owner or operator~~.

(A) Reporting. Owners and operators must submit the following information to the department:

1. Notification for all UST systems ~~by~~ subject to the notification requirements in 10 CSR 26-2.022;

2. Reports of all releases including suspected releases (10 CSR 26-2.050), spills and overfills (10 CSR 26-2.053), and confirmed releases (10 CSR 26-2.071);

3. Corrective actions planned or taken including initial abatement measures (10 CSR 26-2.072), initial site characterization (10 CSR 26-2.074), free product removal (10 CSR 26-2.075), investigation of soil and groundwater cleanup (10 CSR 26-2.078), and corrective action plan (10 CSR 26-2.082); and

4. A notification before permanent closure or change in service (10 CSR 26-2.061).

(B) Record Keeping. Owners and operators must maintain the following information:

1. ~~A corrosion expert's analysis of site corrosion potential if corrosion protection equipment is not used (10 CSR 26-2.020(1)(A)4. and (1)(B)4.);~~ Installation records for secondary containment or double-walled equipment, including tanks, piping, containment sumps, and spill basins, installed after July 1, 2017.

2. Documentation of operation of corrosion protection equipment (10 CSR 26-2.031);

3. Documents demonstrating compatibility of UST systems, including tanks, piping, release detection equipment and all other ancillary equipment with the regulated substance being stored (10 CSR 26-2.032);

4~~3~~.-Documentation of UST system repairs (10 CSR 26-2.033~~(2)(H)~~);

5. Documentation demonstrating spill and overfill prevention equipment is being properly maintained, inspected and tested (10 CSR 26-2.030);

6. Documentation of containment sump testing results (10 CSR 26-2.035);

7. Documentation of periodic walkthrough inspections (10 CSR 26-2.036);

8~~4~~. Recent compliance with release detection requirements (10 CSR 26-2.048~~5~~); and

~~5~~9. Results of the site investigation conducted at permanent closure (10 CSR 26-2.064).

10. Documentation demonstrating compliance with the operator training rule (10 CSR 100-6).

(C) Availability and Maintenance of Records. Owners and operators must keep the records required either—

1. At the UST site and immediately available for inspection by the department; or

2. At a readily available alternative site and be provided for inspection to the department within three (3) working days or five (5) calendar days upon receipt of a written request. A written request shall be made in the following manner:

A. The department shall provide a written request at the time of inspection to site personnel; or

B. In the cases of unattended sites or inspections conducted after normal business hours, written notice shall be made by certified mail; or

3. If the owner or operator fails to meet the requirements of paragraph (1)(C)2., the department may order or otherwise require that owner or operator to maintain records on-site per paragraph (1)(C)1.; or

4. In the case of permanent closure records required under 10 CSR 26-2.064, owners and operators are also provided with the additional alternative of mailing closure records to the department if they cannot be kept at the site or an alternative site as indicated in this section.

AUTHORITY: sections 319.107 and 319.111, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.034. Original rule filed April 2, 1990, effective Sept. 28, 1990. Amended: Filed Aug. 3, 1993, effective April 9, 1994. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.107, RSMo 1989, amended 1994; 319.111, RSMo 1989; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.035 Testing of Containment Sumps.

(1) Owners and operators of UST systems with containment sumps required by 10 CSR 26-2.020 and/or 10 CSR 26-2.021, must ensure the continued integrity of required containment sumps by meeting one of the following requirements:

(A) The containment sump has two (2) walls and the integrity of both walls is monitored or tightness tested annually; or

(B) The containment sump is tested at least triennially to ensure the equipment is liquid tight by using vacuum, pressure or liquid testing conducted in accordance with one (1) of the following criteria:

1. Requirements developed by the manufacturer (Note: Owners and operators may use this option only if the manufacturer has developed testing requirements);

2. An interstitial test or containment sump test listed by the National Work Group on Leak Detection Evaluations. To obtain copies of equipment certifications, contact the National Work Group on Leak Detection Evaluations, www.nwglde.org; or

3. Petroleum Equipment Institute RP 1200-12, *Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities*. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Petroleum Equipment Institute, Box 2380, Tulsa, OK 74101-2380, (918) 494-9696, www.pei.org; or

4. Another method approved by the department, including code(s) of practice developed by a nationally recognized association(s) or independent testing laboratory(ies), determined to be no less protective of human health and the environment than the requirements listed in paragraphs 1. and 2. of this subsection.

(2) Owners and operators must maintain records of the required containment sump monitoring for twelve (12) months or tests required by this rule until the next test is performed.

10 CSR 26-2.036 Operation and Maintenance Walkthrough Inspections.

(1) To properly operate and maintain UST systems, owners and operators must ensure the following requirements are met by the timeframes outlined in section (2):

(A) Conduct a walkthrough inspection that, at a minimum, checks the following equipment as specified below:

1. Every thirty (30) days, owners and operators must:

A. For spill prevention equipment - visually check for any damage; remove liquid or debris; check for and remove obstructions in the fill pipe, check the fill cap to make sure it is securely on the fill pipe; and for double-walled spill prevention equipment with interstitial monitoring, check for a leak in the interstitial area;

B. For release detection systems - check to make sure the release detection system is operating with no alarms or other unusual operating conditions present; and ensure records of release detection testing are reviewed monthly and current;

2. Annually, owners and operators must:

A. For containment sumps required in 10 CSR 26-2.020 or 10 CSR 26-2.021, including tank top or submersible turbine pump, under-dispenser, and transition or intermediate containment sumps - visually check for any damage, leaks to the containment sump area, or releases to the environment; remove any liquid or debris; and for double-walled containment sumps, check for a leak in the interstitial area;

B. For hand held release detection equipment- check devices such as tank gauge sticks for operability and serviceability;

(B) Conduct operation and maintenance walkthrough inspections according to a standard code of practice developed by a nationally recognized association or independent testing laboratory that checks equipment comparable to subsection (A) of this rule or a method approved by the department.

(2) The first walkthrough inspections in section (1) are due:

(A) Immediately upon installation for new UST systems installed after July 1, 2017 or

(B) No later than January 1, 2020 for existing UST systems.

(3) Owners and operators may use the following codes to comply with this rule:

(A) Petroleum Equipment Institute RP 500-11, *Recommended Practices for Inspection and Maintenance of Motor Fuel Dispensing Equipment*. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Petroleum Equipment Institute, Box 2380, Tulsa, OK 74101-2380, (918) 494-9696, www.pei.org

(B) Petroleum Equipment Institute RP 900-08, R*ecommended Practices for Inspection and Maintenance of UST Systems*. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Petroleum Equipment Institute, Box 2380, Tulsa, OK 74101-2380, (918) 494-9696, www.pei.org

(4) Owners and operators must maintain records (in accordance with 10 CSR 26-2.034) of operation and maintenance walkthrough inspections for one year. The record must include a listing of each area checked, whether each area checked was acceptable or needed to have any action taken, and a description of any actions taken to correct an issue.

10 CSR 26-2.040 General Requirements for Release Detection for All Underground Storage Tank Systems

PURPOSE: This rule outlines the minimum requirements for leak and spill detection systems.

(1) Owners and operators of underground storage tank (UST) systems that are in use must use a method, or combination of methods, ~~or~~ of release detection that—

(A) Can detect a release from any portion of the tank and the connected underground piping that routinely contains a regulated substance, except remote fills and gravity piping;

(B) Is installed, calibrated, operated, tested and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running condition. If manufacturer's test methods are not available, the annual operability test may be conducted in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory or a method approved by the department. Operability test reports must, at a minimum, include facility name and address, components tested, model and serial number (if legible), testing date, test method, technician name and affiliation, and a certification of results;

(C) For existing sites, the first test is due no later than January 1, 2020. Electronic and mechanical release detection equipment must be tested annually for proper operation, in accordance subsection (B) of this section. A test of the proper operation must be performed at least annually and, at a minimum and as applicable to the facility, cover the following components and criteria:

1. Automatic tank gauge and other controllers: test alarm; verify system configuration; test battery backup;

2. Probes and sensors: inspect for residual buildup, ensure floats move freely; ensure shaft is not damaged; ensure cables are free of kinks, bends, and breaks; test alarm operability and communication with

controller; and

3. Vacuum pumps and pressure gauges: ensure proper communication with sensors and controller;

(D~~C~~) Meets the performance requirements for tanks in 10 CSR 26-2.043 or 10 CSR 26-2.046 for field constructed tanks, or for piping in 10 CSR 26-2.044 or 10 CSR 26-2.047 for bulk piping, with any performance claims and their manner of determination described in writing by the equipment manufacturer or installer. In addition, all release detection methods must be capable of detecting the leak rate or quantity specified for ~~that~~ the ~~tank~~ method in 10 CSR 26-2.043, ~~or piping method in~~ 10 CSR 26-2.044, 10 CSR 26-2.046, or 10 CSR 26-2.047, as appropriate, with a probability of detection of ninety-five percent (95%) and a probability of false alarm of five percent (5%).

(E~~D~~) All release detection methods and equipment must be conducted and operated in accordance with the applicable National Work Group on Leak Detection Evaluations ~~(NWGLDE) certification~~listing, unless otherwise approved by the department. To obtain copies of equipment ~~certifications~~listings, contact the National Work Group ~~for~~ on Leak Detection Evaluations, www.nwglde.org.

(2) When a release detection method for tanks in 10 CSR 26-2.043 or 10 CSR 26-2.046 or for piping in 10 CSR 26-2.044 or 10 CSR 26-2.047 indicates a release may have occurred, owners and operators must notify the department in accordance with 10 CSR 26-2.050–10 CSR 26-2.053.

AUTHORITY: sections 319.105, 319.107, and 319.111, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.040. Original rule filed April 2, 1990, effective Sept. 28, 1990. Amended: Filed Aug. 3, 1993, effective April 9, 1994. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.041 Requirements for Petroleum Underground Storage Tank Systems

PURPOSE: This rule outlines the options for leak detection at petroleum underground storage tanks.

(1) Owners and operators of petroleum underground storage tanks (UST) systems that are in use must provide release detection for tanks and piping as follows:

(A) Tanks. Tanks must be monitored at least every thirty (30) days for releases using one (1) of the methods listed in 10 CSR 26-2.043(1)(B)–(I), except that—

1. UST systems that meet new or upgraded standards in 10 CSR 26-2.020 or 10 CSR 26-2.021 and the monthly inventory control requirements in 10 CSR 26-2.043(1)(A) may use tank tightness testing (10 CSR 26-2.043(1)(D)) at least every five (5) years until December 22, 1998, or until ten (10) years after the tank is installed or upgraded under 10 CSR 26-2.021(3), whichever is later;

2. Tanks with a capacity of ~~five hundred fifty (550)~~two-thousand (2,000) gallons or less may use manual tank gauging (10 CSR 26-2.043(1)(C)); ~~and~~

3. Field-constructed tanks greater than fifty thousand (50,000) gallons may use the alternative release detection requirements in 10 CSR 26-2.046;

4. Groundwater monitoring [10 CSR 26-2.043(G)] will no longer be valid to monitor for releases after July 1, 2020;

5. Vapor monitoring [10 CSR 26-2.043(F)] will only be an acceptable monitoring method after July 1, 2020, if used with an added tracer chemical and listed by the National Work Group on Leak Detection Evaluations as a tank tightness test; and

6. Tanks installed after July 1, 2017, must be monitored for leaks at least every thirty (30) days in accordance with 10 CSR 26-2.043(H).

(B) Piping. Underground piping that routinely contains regulated substances must be monitored for releases in a manner that meets one (1) of the following requirements:

1. Pressurized piping. Underground piping that conveys regulated substances under pressure must—

A. Be equipped with an automatic line leak detector in 10 CSR 26-2.044(1)(A); ~~and~~

B. Have an annual line tightness test conducted in accordance with 10 CSR 26-2.044(1)(B) or have monthly monitoring conducted in accordance with 10 CSR 26-2.044(1)(C); and

C. New or replaced piping installed after July 1, 2017 must be monitored for releases at least every 30 days in accordance with 10 CSR 26-2.043(H).

2. Suction piping. Underground piping that conveys regulated substances under suction must either have a line tightness test conducted at least every three (3) years and in accordance with 10 CSR 26-2.044(1)(B) or use a monthly monitoring method conducted in accordance with 10 CSR 26-2.044(1)(C). New or replaced piping installed after July 1, 2017 must be monitored for releases at least every 30 days in accordance with 10 CSR 26-2.043(H). No release detection is required for suction piping that is designed and constructed to meet the following standards:

A. The below-grade piping operates at less than atmospheric pressure;

B. The below-grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released;

C. Only one (1) check valve is included in each suction line;

D. The check valve is located directly below and as close as practical to the suction pump; and

E. A method is provided that allows compliance with subparagraphs (1)(B)2.A.–D. of this rule to be readily determined (for example, the check valve can be visually inspected); and

3. Gravity piping and remote fill piping are exempt from the piping line leak detection requirements in this section.

4. Underground bulk piping associated with airport hydrant fuel distribution systems and field-constructed tanks must meet one (1) of the following release detection requirements:

A. The requirements in subsection (B) of this section; or

B. The alternative release detection requirements in 10 CSR 26-2.047.

C. Underground bulk piping installed after July 1, 2017, must meet the requirements in paragraph 1. or 2. of this subsection.

(2) High-throughput Facilities. In addition to the requirements outlined in section (1) of this rule, any owner of a tank or a multi-tank connected or manifolded system that dispenses more than eight hundred thousand (800,000) gallons of any regulated substance in one (1) calendar month must use at least one (1) of the following tank system release detection methods:

(A) Continuous, electronic interstitial monitoring for both tank and piping systems, in accordance with 10 CSR 26-2.043(1)(H), documenting passing readings at least once every thirty (30) days; or

(B) Vapor monitoring, including introduced chemical marker monitoring, ~~approved~~ listed by the National Work Group ~~for~~ on Leak Detection Evaluations (NWGLDE) for the substance stored at least once every fifteen (15) days. To obtain copies of equipment ~~certifications~~listings, contact the National Work Group ~~for~~ on Leak Detection Evaluations, www.nwglde.org; or

(C) Continuous in-tank release detection, which must include continual reconciliation of tank system inventory. Standard statistical inventory control is not acceptable. The method used must meet criteria established by the National Work Group ~~for~~ on Leak Detection Evaluations (NWGLDE) for continuous in-tank leak detection methods. To obtain copies of equipment ~~certifications~~listings, contact the National Work Group ~~for~~ on Leak Detection Evaluations, www.nwglde.org; or

(D) Another method approved by the department specifically for high-throughput UST systems.

AUTHORITY: sections 319.105 and 319.107, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.041. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.042 Requirements for Hazardous Substance Underground Storage Tank Systems

PURPOSE: This rule outlines the standards for leak detection on hazardous substance underground storage tanks.

(1) Owners and operators of in-use hazardous substance underground storage tank (UST) systems must use a release detection method that meets the requirements of 10 CSR 26-2.041 and 10 CSR 26-2.043(H), except for the electronic monitoring requirement in 10 CSR 26-2.043(H)2. with approval from the department.

(2) In addition, all in-use hazardous substance USTs must meet the following requirements:

(A) Secondary containment systems must be designed, constructed, and installed to—

1. Contain regulated substances released from the tank system until they are detected and removed; 3. Be checked for evidence of a release at least every thirty (30) days;

(B) Double-walled tanks must be designed, constructed, and installed to—

1. Contain a release from any portion of the inner tank within the outer wall; and

2. Detect the failure of the inner wall;

(C) External liners (including vaults) must be designed, constructed, and installed to—

1. Contain one hundred percent (100%) of the capacity of the largest tank within its boundary;

2. Prevent the interference of precipitation or groundwater intrusion with the ability to contain or detect a release of regulated substances; and

3. Surround the tank completely (that is, it is capable of preventing lateral as well as vertical migration of regulated substances);

(D) Underground piping must be equipped with secondary containment that satisfies the requirements of subsection (2)(A) of this rule (for example, trench liners, jacketing of double-walled pipe). In addition, underground piping that conveys regulated substances under pressure must be equipped with an automatic line leak detector in 10 CSR 26-2.044(1)(A); and

(E) Other methods of release detection may be used if owners and operators—

1. Demonstrate to the department that an alternative method can detect a release of the stored substance as effectively as any of the methods allowed in 10 CSR 26-2.043(1)(B)–(I) can detect a release of petroleum;

2. Provide information to the department on effective corrective action technologies, health risks, and chemical and physical properties of the stored substance and the characteristics of the UST site; and

3. Obtain approval from the department to use the alternate release detection method before the installation and operation of the new UST system.

(3) All new or replaced hazardous substance UST systems installed after July 1, 2017, must also comply with the containment sump testing requirements in 10 CSR 26-2.035.

AUTHORITY: sections 319.105 and 319.107, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.042. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.043 Methods of Release Detection for Tanks

PURPOSE: This rule contains the requirements that specific underground storage tank leak detection methods must meet.

(1) Methods of release detection for underground storage tanks (USTs) used to meet the requirements in 10 CSR 26-2.041 must be conducted as follows:

(A) Inventory Control. Regulated substance inventory control (or another test of equivalent performance) must be conducted monthly to detect a release of at least one percent (1%) of flow through plus one hundred thirty (130) gallons on a monthly basis in the following manner:

1. Inventory volume measurements for regulated substance inputs, withdrawals, and the amount still remaining in the tank are recorded each operating day on forms provided by the department or on forms previously approved by the department;

2. The equipment used is capable of measuring the level of regulated substance over the full range of the tank's height to the nearest one-eighth inch (1/8");

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

4. Deliveries are made through a drop tube that extends to within one foot (1') of the tank bottom;

5. Product dispensing is metered and recorded within the local standards for meter calibration or an accuracy of six (6) cubic inches for every five (5) gallons of product withdrawn;

6. The measurement of any water level in the bottom of the tank is made to the nearest one-eighth inch (1/8") at least once a month; and

7. The practices described in the American Petroleum Institute Publication 1621, *Recommended Practice for Bulk Liquid Stock Control at Retail Outlets*, revised 2001, may be used, where applicable, as guidance in meeting the requirements of this subsection;

(B) Statistical Inventory Reconciliation (SIR), which is a statistical inventory analysis method that tests for the loss of a regulated substance. SIR must meet the following requirements:

1. Report a quantitative result with a calculated leak rate;

2. Be able to detect a two-tenths (0.2) gallon-per-hour leak rate from any portion of the tank system that routinely contains a regulated substance;

3~~2~~. Must be conducted for each independent tank system;

4~~3~~. Be done in conjunction with inventory control that meets the requirements in 10 CSR 26-2.043(1)(A);

5. Use a threshold that does not exceed one-half the minimum detectible leak rate;

6~~4~~. Be conducted in accordance with the National Work Group on Leak Detection Evaluations ~~certification~~ listing and the manufacturer's requirements. To obtain copies of equipment ~~certifications~~listings, contact the National Work Group ~~for~~ on Leak Detection Evaluations, www.nwglde.org; and

5. ~~Owners and operators must maintain all supporting data, including regulated substance and water stick readings, for at least twelve (12) months.~~

7~~6~~. The SIR analysis report must ~~be completed and sent to the owner or operator within fifteen (15) days of the end of each calendar month~~include the daily data, inventory measurements of the regulated substance and water, delivery data, and analysis or reporting date. ~~;~~

(C) Manual Tank Gauging. Manual tank gauging must meet the following requirements:

1. Tank liquid level measurements are taken at the beginning and ending of a period of at least thirty-six (36) hours during which no liquid is added to or removed from the tank;

2. Level measurements are based on an average of two (2) consecutive stick readings at both the beginning and ending of the period;

3. The equipment used is capable of measuring the level of regulated substance over the full range of the tank's height to the nearest one-eighth inch (1/8");

4. A leak is suspected and subject to the requirements of 10 CSR 26-2.050–10 CSR 26-2.053 if the variation between beginning and ending measurements exceeds the following weekly or monthly standards:

A. Tanks of five hundred fifty (550)-gallon capacity or less are allowed a weekly standard of ten (10) gallons per reading and a monthly average of five (5) gallons per reading, with a minimum test duration of thirty-six (36) hours;

B. Five hundred fifty-one to one thousand (551–1,000)-gallon capacity tanks are allowed a difference of thirteen (13) gallons per week and a monthly average of seven (7) gallons, with a minimum test duration of thirty-six (36) hours, and when combined with a tank tightness test in accordance with subsection (D) of this section;

C. One thousand one to two thousand (1,001–2,000)-gallon capacity tanks are allowed a difference of twenty-six (26) gallons per week and a monthly average of thirteen (13) gallons, with a minimum test duration of thirty-six (36) hours, and when combined with a tank tightness test in accordance with subsection (D) of this section;

D. Five hundred fifty-one to one thousand (551–1,000)-gallon capacity tanks with ~~dimensions~~ a diameter no greater than sixty-four (64) inches ~~by seventy-three inches (64" × 73")~~ are allowed a difference of nine (9) gallons per week and monthly average of four (4) gallons, provided that a period of at least forty-four (44) hours during which no liquid is added to or removed from the tank is allowed to pass between tank liquid level measurements, without requiring an additional tank tightness test; and

E. Five hundred fifty-one to one thousand (551–1,000)-gallon capacity tanks with a diameter ~~One thousand (1,000) gallon capacity tanks with dimensions of~~ no greater than forty-eight (48) inches ~~by one hundred twenty-eight inches (48" × 128")~~ are allowed a difference of twelve (12) gallons per week and a monthly average of six (6) gallons, provided that a period of at least fifty-eight (58) hours during which no liquid is added to or removed from the tank is allowed to pass between tank liquid level measurements, without requiring an additional tank tightness test; and

~~5. Use of manual tank gauging must comply with the following size restrictions:~~

~~A. Tanks of five hundred fifty (550) gallons or less nominal capacity may use this as the sole method of release detection;~~

~~B. Tanks of five hundred fifty-one to one thousand (551–1,000) gallon capacity with dimensions no greater than sixty-four inches by seventy-three inches (64" × 73") and tanks of one thousand (1,000) gallon capacity with dimensions of forty-eight inches by one hundred twenty-eight inches (48" × 128") may use this as the sole method of release detection;~~

~~C. Tanks of five hundred fifty-one to two thousand (551–2,000) gallons may use the method in place of inventory control in 10 CSR 26-2.043(1)(A); and~~

F.~~D~~. Tanks of greater than two thousand (2,000) gallons nominal capacity may not use this method for release detection;

(D) Tank Tightness Testing. Tank tightness testing (or similar test) must be capable of detecting a one-tenth (0.1)-gallon-per-hour leak rate from any portion of the tank that routinely contains regulated substance 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;

(E) Automatic Tank Gauging. Equipment for automatic tank gauging that tests for the loss of regulated substance and conducts inventory control must meet the following requirements:

1. The automatic regulated substance level monitor test can detect a two-tenths (0.2)-gallon-per-hour leak rate from any portion of the tank that routinely contains a regulated substance;

2. The test must be performed with the system operating in one of the following modes:

A. In-tank static testing conducted at least once every thirty (30) days; or

B. Continuous in-tank leak detection operating on an uninterrupted basis or operating within a process that allows the system to gather incremental measurements to determine the leak status of the tank at least once every thirty (30) days; and

~~2~~3. Inventory control (or equivalent test) meeting the requirements in 10 CSR 26-2.043(1)(A) is conducted;

(F) Vapor Monitoring. Testing or monitoring for vapors within the soil gas of the excavation zone must meet the following requirements:

1. The materials used as backfill are sufficiently porous and permeable (for example, gravel, sand, or crushed rock) to readily allow diffusion of vapors from releases into the excavation area;

2. The stored regulated substance, or a tracer compound placed in the tank system, is sufficiently volatile (for example, gasoline) to result in a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a release from the tank;

3. The measurement of vapors by the monitoring device is not rendered inoperative by the groundwater, rainfall, or soil moisture or other known interferences so that a release could go undetected for more than thirty (30) days;

4. The level of background contamination in the excavation zone will not interfere with the method used to detect releases from the tank;

5. The vapor monitors are designed and operated to detect any significant increase in concentration above background of the regulated substance stored in the tank system, a component(s) of that substance, or a tracer compound placed in the tank system;

6. In the UST excavation zone, the site is assessed to ensure compliance with the requirements in paragraphs (1)(F)1.–4. of this rule and to establish the number and positioning of monitoring wells that will detect releases within the excavation zone from any portion of the tank that routinely contains a regulated substance; ~~and~~

7. Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering; and

8. After July 1, 2020, use a tracer chemical and the method is listed by the National Work Group on Leak Detection Evaluations as a tank tightness test;

(G) Groundwater Monitoring. Testing or monitoring for liquids on the groundwater may only be used as a release detection method until July 1, 2020, and must meet the following requirements:

1. The regulated substance stored is immiscible in water and has a specific gravity of less than one (1);

2. The groundwater is within twenty feet (20') from the ground surface and the hydraulic conductivity of the soil(s) between the UST system and the monitoring wells or devices is at least one hundredth centimeter per second (0.01 cm/sec) (for example, the soil should consist of gravels, coarse to medium sands, coarse silts, or other permeable materials);

3. The slotted portion of the monitoring well casing must be designed to prevent migration of natural soils or filter pack into the well and to allow entry of regulated substance on the water table into the well under both high and low groundwater conditions;

4. Monitoring wells shall be sealed from the ground surface to the top of the filter pack;

5. Monitoring wells or devices shall intercept the excavation zone or are as close to it as is technically feasible;

6. The continuous monitoring devices or manual methods used can detect the presence of at least one-eighth inch (1/8") of free product on top of the groundwater in the monitoring wells;

7. The site is assessed within and immediately below the UST system excavation zone to ensure compliance with the requirements in paragraphs (1)(G)1.–5. of this rule. The site assessment also establishes the number and positioning of monitoring wells or devices that will detect releases from any portion of the tank that routinely contains a regulated substance; and

8. Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering;

(H) Interstitial Monitoring. Interstitial monitoring must monitor between the walls of a double-walled tank or, for piping, is designed to detect a release from the primary piping, including all fittings, and contain it until it can be detected. The entire piping secondary containment must be leak tight. ~~between the UST system and a secondary barrier immediately around or beneath it may be used, but only if the system is designed, constructed, and~~Interstitial monitoring must be installed to detect a leak from any portion of the tank that routinely contains a regulated substance and also meets ~~one (1) of~~ the following requirements:

~~1. For double-walled UST systems, the sampling or testing method can detect a release through the inner wall in any portion of the tank that routinely contains a regulated substance;~~

~~2. For UST systems with a secondary barrier within the excavation zone, the sampling or testing method used can detect a release between the UST system and the secondary barrier.~~

~~A. The secondary barrier around or beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable (less than one millionth centimeter per second (10^{-6} cm/sec) for the regulated substance stored) to direct a release to the monitoring point and permit its detection.~~

~~B. The barrier is compatible with the regulated substance stored so that a release from the UST system will not cause a deterioration of the barrier allowing a release to pass through undetected.~~

~~C. For cathodically protected tanks the secondary barrier must be installed so that it does not interfere with the proper operation of the cathodic protection system.~~

~~D.~~1. The groundwater, soil moisture, or rainfall will not render the testing or sampling method used inoperative so that a release could go undetected for more than thirty (30) days~~.~~

~~E. The site is assessed to ensure that the secondary barrier is always above the groundwater and not in a twenty-five (25) year flood plain, unless the barrier and monitoring designs are for use under these conditions.~~

~~F. Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering~~;

~~3. For tanks with an internally fitted liner, an automated device can detect a release between the inner wall of the tank and the liner is compatible with the substance stored~~;

2. For new UST systems installed after July 1, 2017, interstitial monitoring must be conducted electronically by a system with report-generating capability.

3. For UST systems using continuous vacuum, pressure, or liquid-filled methods of interstitial monitoring, the method must be capable of detecting a breach in both the inner and outer walls of the tank and/or piping.~~and~~

~~4. The provisions outlined in the Steel Tank Institute's *Standard for Dual Wall Underground Storage Tanks* may be used as guidance for aspects of the design and construction of underground steel double-walled tanks; and~~

(I) Other Methods. Any other type of release detection method, or combination of methods, can be used if—

1. It can detect a two-tenths (0.2)-gallon-per-hour leak rate or a release of one hundred fifty (150) gallons within a month with a probability of detection of ninety-five percent (95%) and a probability of false alarm of five percent (5%); or

2. The department may approve another method if the owner and operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in subsections (1)(C)–(H) of this rule. In comparing methods, the department shall consider the size of release that the method can detect and the frequency and reliability with which it can be detected. If the method is approved, the owner and operator must comply with any conditions imposed by the department on its use to ensure the protection of human health and the environment.

(2) Owners and operators of field-constructed tanks may not use vapor monitoring or groundwater monitoring, described in subsections (F) and (G) of this rules as their sole method of leak detection, but may use them in conjunction with 10 CSR 26-2.046.

AUTHORITY: sections 319.105 and 319.107, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.043. Original rule filed April 2, 1990, effective Sept. 28, 1990. Amended: Filed Aug. 3, 1993, effective April 9, 1994. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.044 Methods of Release Detection for Piping

PURPOSE: This rule describes the requirements of leak detection for the piping on underground storage tanks.

(1) Each method of release detection for piping used to meet the requirements of release detection for underground storage tanks (USTs) in 10 CSR 26-2.041 must be conducted in the following manner:

(A) Automatic Line Leak Detectors. Methods which alert the operator to the presence of a leak by restricting or shutting off the flow of regulated substances through piping or triggering an audible or visual alarm may be used only if they detect leaks of three (3) gallons per hour at ten (10) pounds per square-inch line pressure within one (1) hour and are ~~certified~~ listed by the National Work Group on Leak Detection Evaluations. To obtain copies of equipment ~~certifications~~listings, contact the National Work Group ~~for~~ on Leak Detection Evaluations, www.nwglde.org. A test of the operation of the leak detector must be conducted at least annually. The annual test must be conducted in accordance with the manufacturer's approved testing procedures and ~~.~~simulate a leak of at least three (3) gallons per hour at ten (10) pounds per square inch pressure, or equivalent, in the system under normal operating conditions:

1. Line leak detectors must monitor all pressurized piping, including pressurized piping beyond the first or master dispenser but not including other piping above the shear valve inside the dispenser or dispenser hoses to the nozzle.

~~2. Line leak detector operability test reports must include facility name and address, line leak detector manufacturer, model and serial number, if legible, testing date, test method, technician name and affiliation, and a certification of results;~~

(B) Line Tightness Testing. A periodic test of piping may be conducted only if it can detect a one-tenth (0.1)-gallon-per-hour leak rate at one and one-half (1.5) times the operating pressure;

(C) Applicable Tank Methods. Any of the methods in 10 CSR 26-2.043(1)(B) and (F)-(I) may be used if they are designed to detect a release from any portion of the underground piping that routinely contains regulated substances, except:

1. Owners and operators of piping systems greater than 50,000 gallons associated with field constructed tanks or airport hydrant fuel distribution system tanks may comply with 10 CSR 26-2.047 in lieu of the methods of piping leak detection in this rule; ~~and~~

2. Groundwater monitoring [10 CSR 26-2.043(G)] can no longer be used after July 1, 2020; and

3. Vapor monitoring [10 CSR 26-2.043(F)] can no longer be used after July 1, 2020, unless used with an added tracer chemical and listed by the National Work Group on Leak Detection Evaluations as a tightness test;

(D) Emergency Generator Tanks. For a tank that stores fuel solely for use by an emergency generator, or a tank that stores fuel for an emergency generator and heating oil for consumptive use on the premises where stored, interstitial line monitoring with sump sensors, an alarm, and secondary containment may be used on pressurized lines in lieu of the automatic line leak detector, required in 10 CSR 26-2.041 and subsection (1)(A) of this rule.

AUTHORITY: sections 319.105 and 319.107, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.044. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.046 Alternative methods of release detection for field-constructed tanks.

(1) Owners and operators of field-constructed tanks with a capacity greater than fifty thousand (50,000) gallons may use one (1) or a combination of the following alternative methods of release detection:

(A) Conduct an annual tank tightness test that can detect a one-half (0.5) gallon per hour leak rate;

(B) Use an automatic tank gauging system to perform release detection at least every thirty (30) days that can detect a leak rate less than or equal to one (1) gallon per hour. This method must be combined with a tank tightness test that can detect a two-tenths (0.2) gallon per hour leak rate performed at least every three (3) years;

(C) Use an automatic tank gauging system to perform release detection at least every thirty (30) days that can detect a leak rate less than or equal to two (2) gallons per hour. This method must be combined with a bulk tank tightness test that can detect a two-tenths (0.2) gallon per hour leak rate performed at least every two (2) years;

(D) Perform vapor monitoring, with an added tracer chemical, conducted in accordance with 10 CSR 26-2.043(F), capable of detecting a one-tenth (0.1) gallon per hour leak rate at least every two (2) years;

(E) Perform inventory control, conducted in accordance with Department of Defense Directive 4140.25; *ATA Airport Fuel Facility Operations and Maintenance Guidance Manual*, at least every thirty (30) days that can detect a leak equal to or less than one-half percent (0.5%) of flow-through. When using this method, the following must also be met:

1. Perform a tank tightness test that can detect a one-half (0.5) gallon per hour leak rate at least every two (2) years; or

2. Perform vapor monitoring or groundwater monitoring in accordance with 10 CSR 26-2.043 (F) or (G), respectively, at least every thirty (30) days;

(F) Another method approved by the department if the owner and operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in paragraphs (a) through (c) of this section. In comparing methods, the department shall consider the size of release that the method can detect and the frequency and reliability of detection. If the method is approved, the owner and operator must comply with any conditions imposed by the department on its use.

10 CSR 26-2.047 Alternative methods of release detection for bulk underground piping.

(1)Owners and operators of bulk underground piping associated with any airport hydrant fuel distribution systems and field-constructed tanks greater than fifty thousand (>50,000) gallons may use one (1) or a combination of the following alternative methods of release detection:

(A) Perform a biannual or annual bulk line tightness test at or above operating pressure in accordance with the table below. Bulk piping segments greater than or equal to one hundred thousand (≥100,000) gallons not capable of meeting the maximum three (3.0) gallons per hour leak rate for the biannual test may be tested at a leak rate up to six (6.0) gallons per hour:

Maximum Detectable Leak Rate Per Test Section Volume

Test Section Volume (Gallons)	Biannual Test Maximum Detectable Leak Rate (Gallons Per Hour)	Annual Test Maximum Detectable Leak Rate (Gallons Per Hour)
< 50,000	1.0	0.5
≥ 50,000 to < 75,000	1.5	0.75
≥ 75,000 to < 100,000	2.0	1.0
≥ 100,000	3.0	1.5

(B) Perform vapor monitoring, with an added tracer chemical, conducted in accordance with 10 CSR 26-2.043(F), capable of detecting a one-tenth (0.1) gallon per hour leak rate at least every two (2) years;

(C) Perform inventory control, conducted in accordance with Department of Defense Directive 4140.25; *ATA Airport Fuel Facility Operations and Maintenance Guidance Manual*, at least every thirty (30) days that can detect a leak equal to or less than one-half percent (0.5%) of flow-through. When using this method, the following must also be met:

1. Perform a line tightness test in accordance with the biannual test threshold in subsection (A) of this section at least every two (2) years; or

2. Perform vapor monitoring or groundwater monitoring in accordance with 10 CSR 26-2.043 (F) or (G), respectively, at least every thirty (30) days;

(D) Another method approved by the department if the owner and operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in paragraphs (a) through (c) of this section. In comparing methods, the department shall consider the size of release that the method can detect and the frequency and reliability of detection. If the method is approved, the owner and operator must comply with any conditions imposed by the department on its use.

10 CSR 26-2.0484~~45~~ Release Detection Record Keeping

PURPOSE: This rule describes the records that must be maintained for monthly release detection activity.

(1) All underground storage tank (UST) system owners and operators must maintain records in 10 CSR 26-2.034 demonstrating compliance with applicable release detection requirements in 10 CSR 26-2.040–10 CSR 26-2.04~~5~~8. These records must include the following:

(A) All written performance claims of any release detection system used, and the manner in which these claims have been justified or tested by the equipment manufacturer or installer, must be ~~maintained~~ retained for five (5) years from the date of equipment installation or for another reasonable period of time determined by the department ~~from the date of installation~~;

(B) The results of any sampling, testing, or monitoring must be ~~maintained~~ retained for at least one (1) year, or for another reasonable period of time determined by the department, except that:

1. T~~t~~he results of tank tightness testing conducted in accordance with 10 CSR 26-2.043(1)(D) must be retained until the next test is conducted; ~~and~~

2. The results of annual operability tests of release detection equipment must be retained until the next test is performed.

(C) Written documentation of all calibration, maintenance, and repair of release detection equipment permanently located on-site must be ~~maintained~~ retained for at least one (1) year after the servicing work is completed. Any schedules of required calibration and maintenance provided by the release detection equipment manufacturer must be retained for five (5) years from the date of installation.

AUTHORITY: sections 319.105 and 319.107, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.045. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.050 Reporting of Suspected Releases

PURPOSE: This rule describes the steps for reporting leaks and spills.

(1) Owners and operators of underground storage tank (UST) systems must report to the department within twenty-four (24) hours and follow the procedures for release investigation and confirmation in 10 CSR 26-2.052 upon discovery of one (1) or more of the following conditions:

(A) The discovery by owners and operators or others of released regulated substances at the UST site or in the surrounding area (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface water);

(B) Unusual operating conditions observed by owners and operators (such as the erratic behavior of product dispensing equipment, the sudden loss of a regulated substance from the UST system, an unexplained presence of water in the tank, liquid in the interstitial space of secondarily contained systems, or visible leaks from aboveground piping or ancillary equipment connected to a UST), unless system equipment is found to be defective but not ~~leaking~~ releasing regulated substance from the UST system and is immediately repaired or replaced; or

(C) Monitoring results, including investigations of leak alarms, from a release detection method required under 10 CSR 26-2.041 ~~and~~ through 10 CSR 26-2.04~~2~~7 that indicate a release may have occurred unless—

1. The monitoring device is found to be defective and is immediately repaired, recalibrated, or replaced and additional monitoring does not confirm the initial result; or

2. The leak alarm was investigated and determined to have been caused by an event other than a release (for example, a power surge or delivery to the tank during release detection testing); or

3. In the case of inventory control, a second month of data does not confirm the initial result.

AUTHORITY: section 319.109, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.050. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.109, RSMo 1989, amended 1995, 2004, 2008.*

10 CSR 26-2.051 Investigation Due to Off-Site Impacts

PURPOSE: This rule describes the requirements for off-site investigations following reported or suspected releases.

(1) When required by the department, owners and operators of underground storage tank (UST) systems must follow the steps for confirmation of a release in 10 CSR 26-2.052 to determine if the UST system is the source of the off-site impacts. These impacts include the discovery of regulated substances such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface and drinking waters that have been observed by the department or brought to its attention by another party.

AUTHORITY: section 319.107, RSMo 2000, and sections 319.109 and 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.051. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.107, RSMo 1989, amended 1994; 319.109, RSMo 1989, amended 1995, 2004, 2008; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.052 Release Investigation and Confirmation Steps

PURPOSE: This rule describes the steps needed to verify a release.

(1) Unless corrective action is initiated in accordance with 10 CSR 26-2.070–10 CSR 26-2.083, owners and operators must immediately investigate and confirm all suspected releases of regulated substances requiring reporting under 10 CSR 26-2.050 within seven (7) days or another reasonable time period specified by the department using either the following steps or another procedure approved by the department:

(A) System Test. Owners and operators must conduct tests appropriate for the suspected release, using test methods specified in 10 CSR 26-2.040 through 10 CSR 26-2.047 ~~(tightness testing of tanks in 10 CSR 26-2.043(1)(D) and piping in 10 CSR 26-2.044(1)(B))~~, or for containment sumps, a test method included in 10 CSR 26-2.035, to determine whether a leak exists in that portion of the tank system that routinely contains a regulated substance ~~or the attached delivery piping~~ or ~~both~~a breach of the interstitial space has occurred.

1. If the system test confirms a leak into the interstice or a release, ~~O~~owners and operators must repair, replace, ~~or~~ upgrade, or close the underground storage tank (UST) system. Owners and operators must~~, and~~ begin a site check in accordance with subsection (1)(B) and corrective action in accordance with 10 CSR 26-2.070–10 CSR 26-2.083 if the test results for the system, tank, or delivery piping indicate that a ~~leak~~ release ~~exists~~has occurred.

2. Further investigation is not required if the test results for the system, tank, and delivery piping do not indicate that a ~~leak~~ release exists and if environmental contamination is not the basis for suspecting a release.

3. Owners and operators must conduct a site check as described in subsection (1)(B) of this rule if the test results for the system, tank, and delivery piping do not indicate that a leak exists but environmental contamination is the basis for suspecting a release; or

(B) Site Check. Owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the nature of the stored substance, the type of initial alarm or cause for suspicion, the type of backfill, the depth of groundwater, and other factors appropriate for identifying the presence and source of the release.

1. If the site check indicates that a release has occurred, owners and operators must begin site characterization and corrective action in accordance with 10 CSR 26-2.070–10 CSR 26-2.083; or

2. If the results of the site check do not indicate that a release has occurred, the investigation may stop.

(2) Owners and operators shall follow a written procedure. A copy of the written procedure or, if the written procedure is commonly available, a clear reference to the written procedure shall be submitted to and approved by the department prior to beginning activities required by this rule.

AUTHORITY: sections 319.105 and 319.107, RSMo 2000, and sections 319.109 and 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.052. Original rule filed April 2, 1990, effective Sept. 28, 1990. Amended: Filed Aug. 3, 1993, effective April 9, 1994. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; 319.109, RSMo 1989, amended 1995, 2004, 2008; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.053 Reporting and Cleanup of Spills and Overfills

PURPOSE: This rule describes the steps for reporting and cleanup of spills.

(1) Owners and operators of underground storage tank (UST) systems must contain and immediately clean up a spill or overfill. The spill or overfill must be reported to the department within twenty-four (24) hours. Owners and operators must begin site check, in accordance with 10 CSR 26-2.052(1)(B), and corrective action in accordance with 10 CSR 26-2.070–10 CSR 26-2.083 in the following cases:

(A) Spill or overfill of petroleum that results in a release to the environment that exceeds twenty-five (25) gallons or that causes a sheen on nearby surface water; and

(B) Spill or overfill of a hazardous substance that results in a release to the environment that equals or exceeds its reportable quantity under Comprehensive Environmen-tal Response Compensation and Liability Act of 1980 (CERCLA) (40 CFR 302).

(2) Owners and operators of UST systems must contain and immediately clean up a spill or overfill of petroleum that is less than twenty-five (25) gallons or another reasonable amount specified by the department and a spill or overfill of a hazardous substance that is less than the reportable quantity. If cleanup cannot be accomplished within twenty-four (24) hours, owners and operators must immediately notify the department.

(3) A release of a hazardous substance equal to or in excess of its reportable quantity must also be reported immediately (rather than within twenty-four (24) hours) to the National Response Center under Sections 102 and 103 of CERCLA (40 CFR 302.6) and to appropriate state and local authorities under Title III of the Superfund Amendments and Reauthorization Act of 1986 (40 CFR 355.40).

AUTHORITY: section 319.109, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.053. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.109, RSMo 1989, amended 1995, 2004, 2008.*

10 CSR 26-2.060 Taking USTs Out of Use

PURPOSE: This rule contains the requirements for underground storage tanks that are taken out of service.

(1) When an underground storage tank (UST) system is out of use, as defined in 10 CSR 26-2.012, the owner and/or operator must continue operation and maintenance of corrosion protection, as described in 10 CSR 26-2.031, and/or interior lining inspection and maintenance, as described in 10 CSR 26-2.021, until the site assessment described in 10 CSR 26-2.062 of this rule has been completed. Release reporting, investigation, and corrective action, as described in 10 CSR 26-2.050–10 CSR 26-2.083, must be performed if a release is suspected or confirmed.

(2) Owners and operators must also comply with the following requirements when a UST system is out of use for three (3) months or more:

(A) Leave vent lines open and functioning; and

(B) Cap and secure all other lines, pumps, manways, and ancillary equipment.

(3) For a UST that remains out of use, within twelve (12) months of taking the UST system out of use, owners and operators must either—

(A) Permanently close the UST system in accordance with 10 CSR 26-2.061–10 CSR 26-2.064; or

(B) Complete a site assessment in accordance with 10 CSR 26-2.062.

(4) Within five (5) years of the date on which the UST was initially taken out of use, the owner or operator must permanently close the UST system, as described in 10 CSR 26-2.061–10 CSR 26-2.064.

(5) To re-open a steel tank system that has been out of use for more than twelve (12) months, the tank owner or operator must—

(A) Complete one (1) of the following three (3) options:

1. Ensure that the steel tank is structurally sound, using an integrity test, as defined in 10 CSR 26-2.021, and—

A. If cathodically protected, the owner or operator must recertify the cathodic protection system in accordance with the requirements described in 10 CSR 26-2.031; or

B. If the tank was internally lined, the owner or operator must ensure that the lining is still functioning as designed and is in compliance with 10 CSR 26-2.021(3)(A);

2. Document that the tank has remained in compliance with the cathodic protection requirements described in 10 CSR 26-2.031; or

3. Document that the tank has remained in compliance with the interior lining requirements described in 10 CSR 26-2.021(3)(A);

(B) Conduct line tightness testing and get a passing result; and

(C) Ensure that all ancillary equipment is tested for proper operation.

(6) To re-open a fiberglass-reinforced plastic tank system that has been out of use for more than twelve (12) months, the tank owner or operator must—

(A) Have the tank and piping recertified by the manufacturer(s); or

(B) Provide tank deflection readings, confirming that these readings are within the manufacturer's allowable range; and

(C) Conduct line tightness testing and get a passing result; and

(D) Ensure that all ancillary equipment is tested for proper operation.

(7) To re-open a clad steel tank system that has been out of use for more than twelve (12) months, the tank owner or operator must—

(A) Have the tank and piping recertified by the manufacturer(s); or

(B) Conduct line and tank tightness testing and get a passing result; and

(C) Ensure that all ancillary equipment is tested for proper operation.

(8) The department may grant an owner or operator a twelve (12)-month extension to meet the site assessment requirement in section (3) of this rule. The department will consider at least the following criteria when reviewing a request for an extension:

(A) The UST had been in use no more than ten (10) years;

(B) Other USTs remain in use at the site;

(C) The owner or operator demonstrates that his or her financial responsibility mechanism allows additional time in which to report a release from the out-of-use UST and file a claim for that release; and

(D) There is no evidence of a suspected or confirmed release.

(9) Owners and/or operators must notify the department within thirty (30) days of any change in use of the tank (including taking the tank out of use or re-opening the tank).

AUTHORITY: sections 319.105, 319.107 and 319.111, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.070. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; 319.111, RSMo 1989; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.061 Permanent Closure and Changes in Service

PURPOSE: This rule contains the requirements for permanent closure of underground storage tanks as well as for converting underground storage tanks to an unregulated use.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) Owners and operators must notify the department in writing, on forms provided by the department, at least thirty (30) days before beginning either permanent closure or a change in service of an underground storage tank (UST), unless this action is in response to corrective action or the department approves a shorter time period. The required assessment of the excavation zone under 10 CSR 26-2.062 must be performed after notifying the department but before completion of the permanent closure or a change in service. The closure notice is valid for one hundred eighty (180) days. If permanent closure or change in service does not commence within one hundred eighty (180) days of the date the notice is received by the department, a new closure notice must be submitted prior to commencing closure activities.

(2) To permanently close a tank, owners and operators must empty and clean it by removing all liquids and accumulated sludges. Liquids and sludges shall be managed in accordance with state and federal regulations. All tanks taken out of service permanently must also be either removed from the ground or filled with an inert solid material.

(3) Continued use of a UST system to store a nonregulated substance is a change in service. Before a change in service, owners and operators must empty and clean the tank by removing all liquid and accumulated sludge and conduct a site assessment in accordance with 10 CSR 26-2.062.

(4) Lining a steel tank with a material that is approved as a stand-alone underground storage tank under Underwriters' Laboratories Standard 1316, revised 2006, is a change in service. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the Underwriters' Laboratories, 333 Pfingsten Road, Northbrook, IL 60062-2096, (847) 272-8800, www.ul.com. Before a change in service, owners and operators must empty and clean the tank by removing all liquid and accumulated sludge and conduct a site assessment in accordance with 10 CSR 26-2.062.

(5) Owners and operators shall follow a written procedure. A copy of the written procedure or, if the written procedure is commonly available, a clear reference to the written procedure shall be submitted to and approved by the department prior to beginning activities required by this rule. It may be supplemented with the following cleaning and closure procedures:

(A) American Petroleum Institute Recommended Practice 1604, *Closure of Underground Petroleum Storage Tanks*, revised 2001. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards;

(B) American Petroleum Institute Standard 2015, *Safe Entry and Cleaning of Petroleum Storage Tanks, Planning and Managing Tank Entry from Decommissioning through Recommissioning*, revised 2001. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards;

(C) American Petroleum Institute Standard 1631, *Interior Lining and Periodic Inspection of Underground Storage Tanks*, revised 2001. This document is incorporated by reference without any later amendments or modifications. To obtain a copy, contact the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, (202) 682-8000, www.api.org/standards; and

(D) Owners and operators may use other written procedures with prior written approval of the department.

AUTHORITY: sections 319.105, 319.107, and 319.111, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.071. Original rule filed April 2, 1990, effective Sept. 28, 1990. Amended: Filed Aug. 3, 1993, effective April 9, 1994. Amended: Filed April 1, 1999, effective March 30, 2000. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.105, RSMo 1989; 319.107, RSMo 1989, amended 1994; 319.111, RSMo 1989; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.062 Assessing the Site at Closure or Change in Service

PURPOSE: This rule describes the requirements of a site assessment to determine whether there has been a release from the underground storage tank system.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) Before permanent closure or a change in service is completed, owners and operators must measure for the presence of a release where contamination is most likely to be present at the underground storage tank (UST) site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a release.

(2) If one (1) or more contaminants in soil or groundwater at concentrations above the default target levels in Table 3-1 of the guidance referenced at subsection (3)(A) of this rule or free product as a liquid or vapor is discovered under section (1) of this rule, or by any other manner, owners and operators must begin site investigation and corrective action in 10 CSR 26-2.070–10 CSR 26-2.083.

(3) Owners and operators shall follow a written procedure.

(A) To comply with this rule, owners and operators may use the *Missouri Risk-Based Corrective Action Process for Petroleum Storage Tanks* guidance document, October 17, 2013, which is hereby incorporated by reference without any subsequent amendments or additions, and is published by the Department of Natural Resources, PO Box 176, Jefferson City, MO 65102-0176.

(B) Other written procedures may be used with prior written approval of the department.

AUTHORITY: section 319.111, RSMo 2000, and section 319.137, RSMo Supp. 2013. This rule originally filed as 10 CSR 20-10.072. Original rule filed April 2, 1990, effective Sept. 28, 1990. Amended: Filed Aug. 3, 1993, effective April 9, 1994. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011. Amended: Filed June 17, 2013, effective Feb. 28, 2014.*

**Original authority: 319.111, RSMo 1989 and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.063 Applicability to Previously Closed Underground Storage Tank Systems

PURPOSE: This rule describes the responsibilities of owners and operators of underground storage tanks closed before December 22, 1988.

(1) The department may require that the owner and operator of an underground storage tank (UST) system permanently closed before December 22, 1988, must assess the excavation zone and close the UST system in accordance with 10 CSR 26-2.060–10 CSR 26-2.064 if releases from the UST, in the judgment of the department, may pose a current or potential threat to human health and the environment.

AUTHORITY: section 319.111, RSMo 2000, and sections 319.109 and 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.073. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.109, RSMo 1989, amended 1995, 2004, 2008; 319.111, RSMo 1989; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.064 Closure Records

PURPOSE: This rule requires the owner and the operator to keep records documenting the closure and site assessment of underground storage tank systems.

(1) Owners and operators must maintain records in accordance with 10 CSR 26-2.034 that are capable of demonstrating compliance with closure requirements in 10 CSR 26-2.060–10 CSR 26-2.064. The results of the site assessment in 10 CSR 26-2.062 must be maintained for at least three (3) years after completion of permanent closure or change in service in one (1) of the following ways:

(A) By the owners and operators who took the underground storage tank (UST) system out of service;

(B) By the current owners and operators of the UST system site; or

(C) By mailing these records to the department if they cannot be maintained at the closed facility.

AUTHORITY: sections 319.107 and 319.111, RSMo 2000, and section 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.074. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.107, RSMo 1989, amended 1994; 319.111, RSMo 1989; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.070 Release Response and Corrective Action

PURPOSE: This rule establishes general procedures for responding to leaks of spills at underground storage tanks.

(1) Owners and operators of petroleum or hazardous substance underground storage tank (UST) systems must comply, in response to a confirmed release from the UST system, with the requirements of 10 CSR 26-2.070–10 CSR 26-2.083 except for USTs excluded under 10 CSR 26-2.010(2) and UST systems subject to the Resource Conservation and Recovery Act (RCRA), Subtitle C corrective action requirements under Section 3004(u).

AUTHORITY: sections 319.109 and 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.060. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.109, RSMo 1989, amended 1995, 2004, 2008 and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.071 Initial Release Response and Corrective Action

PURPOSE: This rule describes the immediate steps owners and operators of a leaking underground storage tank must take.

(1) Upon confirmation of a release in 10 CSR 26-2.052, or after a release from the underground storage tank (UST) system is identified in any other manner, owners and operators must perform the following initial response actions within twenty-four (24) hours:

(A) Report the release to the department in accordance with 10 CSR 26-2.050;

(B) Take immediate action to prevent any further release of the regulated substance into the environment; and

(C) Identify and mitigate fire, explosion, and vapor hazards.

AUTHORITY: section 319.109, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.061. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.109, RSMo 1989, amended 1995, 2004, 2008.*

10 CSR 26-2.072 Initial Abatement Measures and Investigation

PURPOSE: This rule describes the first steps to stop the spread of the release and finding the extent of the release.

(1) Unless directed to do otherwise by the department, owners and operators must perform the following abatement measures upon confirmation of a release:

(A) Remove as much of the regulated substance from the underground storage tank (UST) system as is necessary to prevent further release to the environment;

(B) Visually inspect any above-ground releases or exposed below-ground releases and prevent further migration of the released substance into surrounding soils and groundwater;

(C) Continue to monitor and mitigate any additional fire and safety hazards posed by vapors or free product that have migrated from the UST excavation zone and entered into subsurface structures such as sewers or basements;

(D) Remedy hazards posed by contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement or corrective action activities. If these remedies include treatment or disposal of soils, the owner and operator must comply with applicable state and local requirements;

(E) Measure for the presence of a release where contamination is most likely to be present at the UST site, unless the presence and source of the release have been confirmed in accordance with the site check required by 10 CSR 26-2.052(1)(B) or the closure site assessment of 10 CSR 26-2.062. In selecting sample types, sample locations, and measurement methods, the owner and operator must consider the nature of the stored substance, the type of backfill, depth to groundwater, and other factors as appropriate for identifying the presence and source of the release; and

(F) Investigate to determine the possible presence of free product and begin free product removal as soon as practicable in accordance with 10 CSR 26-2.075.

(2) Within twenty (20) days after release confirmation, owners and operators must submit a report to the department summarizing the initial abatement steps taken under section (1) of this rule and any resulting information.

AUTHORITY: sections 319.109 and 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.062. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.109, RSMo 1989, amended 1995, 2004, 2008 and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.074 Initial Site Characterization

PURPOSE: This rule describes the steps for investigation of a release.

(1) Unless directed to do otherwise by the department, owners and operators must assemble information about the site and the nature of the release, including information gained while confirming the release or completing the initial abatement measures in 10 CSR 26-2.070, 10 CSR 26-2.071, and 10 CSR 26-2.072. This information must include, but is not necessarily limited to, the following:

(A) Data on the nature and estimated quantity of release;

(B) Data from available sources or site investigations concerning the following factors: surrounding populations, water quality, use and approximate locations of wells potentially affected by the release, subsurface soil conditions, locations of subsurface sewers, climatological conditions, and land use;

(C) Results of the site check required under 10 CSR 26-2.072(1)(E); and

(D) Results of the free product investigations required under 10 CSR 26-2.072(1)(F) to be used by owners and operators to determine whether free product must be recovered under 10 CSR 26-2.075.

(2) Within forty-five (45) days of release confirmation, owners and operators must submit the information collected in compliance with section (1) of this rule to the department or in a format and according to the schedule required by the department.

AUTHORITY: sections 319.109 and 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.063. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.109, RSMo 1989, amended 1995, 2004, 2008 and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.075 Free-Product Removal

PURPOSE: This rule requires spilled, free product to be collected immediately.

(1) At sites where the investigation reveals free product under 10 CSR 26-2.072(1)(F), owners and operators must remove as much free product as practicable as determined by the department. Any actions initiated under 10 CSR 26-2.071–10 CSR 26-2.074 or preparation for actions required under 10 CSR 26-2.078–10 CSR 26-2.082 must also be continued. In meeting the requirements of this rule, owners and operators must—

(A) Remove free product to minimize the spread of contamination into previously uncontaminated zones. The recovery and disposal techniques must be appropriate to the hydrogeologic conditions at the site. Recovered by-products must be treated, discharged or disposed in compliance with applicable local, state and federal regulations;

(B) Use abatement of free-product migration as a minimum objective for free product removal;

(C) Handle any flammable products in a safe and competent manner to prevent fires or explosions; and

(D) Prepare and submit to the department a free-product removal report, within forty-five (45) days after confirming a release, unless otherwise directed by the department. The report shall provide at least the following information:

1. The name of the person(s) responsible for implementing the free product removal measures;
2. The estimated quantity, type and thickness of free product observed or measured in wells, boreholes, and excavations;
3. The type of free-product recovery system used;
4. Whether any discharge will take place on-site or off-site during the recovery operation and the location of this discharge;
5. The type of treatment applied to, and the effluent quality expected from, any discharge;
6. The steps that have been or are being taken to obtain necessary permits for any discharge; and
6. The steps that have been or are being taken to obtain necessary permits for any discharge; and
7. The disposition of the recovered free product.

AUTHORITY: sections 319.109 and 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.064. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.109, RSMo 1989, amended 1995, 2004, 2008 and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.078 Investigations for Soil and Groundwater Cleanup

PURPOSE: This rule describes the procedures for soil and groundwater investigations.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) Owners and operators must conduct investigations of the release, the release site, and the surrounding area to determine the full extent and location of soils contaminated by the release and the presence and concentrations of dissolved product contamination in the groundwater if any of the following conditions exist:

(A) There is evidence that groundwater wells have been affected by the release (for example, as found during release confirmation or previous corrective action measures);

(B) Free product is found to need recovery in compliance with 10 CSR 26-2.075;

(C) There is evidence that contaminated soils may be in contact with groundwater as found during the initial response measures or investigations required under 10 CSR 26-2.070–10 CSR 26-2.075;

(D) Contaminant concentrations in soil or groundwater exceed the Default Target Levels in Table 3-1 of the guidance referenced at paragraph (3)(C)1. of this rule; or

(E) The department requests an investigation based on the potential effects of contaminated soil or groundwater on nearby surface and groundwater resources.

(2) Owners and operators must submit the information collected under section (1) of this rule as soon as practicable or in accordance with a schedule established by the department.

(3) Owners and operators shall follow a written procedure.

(A) For releases that occurred or were discovered on or after the effective date of this rule, owners and operators shall use the document referenced at paragraph (3)(C)1. of this rule or, with prior written approval of the department, another written procedure.

(B) For releases that occurred or were discovered prior to the effective date of this rule, owners and operators may use—

1. The documents referenced at paragraph (3)(C)2. of this rule, provided—

A. Prior to the effective date of this rule, the owner or operator received the department's written approval of a work plan for site characterization, risk assessment, or corrective action related to the release; and

B. The owner or operator implements or implemented the approved work plan within one (1) year of the date of the department's approval of the plan or in accordance with a different schedule approved by the department;

2. The document referenced at paragraph (3)(C)1. of this rule; or

3. With the prior written approval of the department, another written procedure.

(C) Written Procedures.

1. *Missouri Risk-Based Corrective Action Process for Petroleum Storage Tanks* guidance document, October 17, 2013, which is hereby incorporated by reference without any subsequent amendments or additions, and is published by the Department of Natural Resources, PO Box 176, Jefferson City, MO 65102-0176.

2. *Missouri Risk-Based Corrective Action Process for Petroleum Storage Tanks*, February 2004, as amended March 8, 2005, by *Notice of Modifications to the Process and Interim Guidance Pertaining to Application of the New Soil Type Dependent Tier 1 Risk-Based Target Levels*; the March 18, 2005, *Soil Type Determination Guidelines*; the March 3, 2005, Table 3-1 Default Target Levels; the April 2005 Table 4-1 Soil Concentration Levels to Determine the Need for Groundwater Evaluation During Tank Closure; the February 2005 Tables 7-1(a) through 7-12(c) Tier 1 Risk-Based Target Levels; and the April 21, 2005, *Soil Gas Sampling Protocol*, which are hereby incorporated by reference without any subsequent amendments or additions, and are published by the Department of Natural Resources, PO Box 176, Jefferson City, MO 65102-0176.

AUTHORITY: sections 319.109 and 319.137, RSMo Supp. 2013. This rule originally filed as 10 CSR 20-10.065. Original rule filed April 2, 1990, effective Sept. 28, 1990. Amended: Filed Aug. 3, 1993, effective April 9, 1994. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011. Amended: Filed June 17, 2013, effective Feb. 28, 2014.*

**Original authority: 319.109, RSMo 1989, amended 1995, 2004, 2008 and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.080 Risk-Based Target Levels

PURPOSE: This rule sets clean-up levels for underground storage tank corrective actions and for site assessment, site characterization, and workplan development, which are all stages in developing clean-up levels. The rule also sets deed notice language to assure that the site is not used in a manner which would pose unacceptable risk or exposure. The rule requires that sites be ranked and that the ranking be used to allocate staff and funds.

(1) Applicability. This rule applies to all cleanups of petroleum releases from underground storage tanks (USTs).

(2) Upon being so directed by the department, the UST remediator shall conduct a preliminary assessment of the site.
(A) The requirement for a preliminary assessment is waived if permanent closure is being conducted, or significant contamination is known to exist at the site, and the department has been notified of a release as required in 10 CSR 24-3.010(1).
(B)The preliminary assessment shall be conducted according to department guidance.

(3) The department will evaluate the results of the preliminary assessment to rank the site relative to other sites for further characterization and/or corrective action.
(A) If the preliminary assessment shows contamination levels below the action levels outlined in the department's underground storage tank closure guidance document, the department will require no further action at the site.
(B) If, in accordance with subsection (3)(A) of this rule, the department determines that no further action is required at a site, and if subsequent information becomes available to indicate that contamination may be present at the site at levels which may threaten human health or the environment, the department may require additional investigation or site characterization and/or corrective action.

(4) If full site characterization is required by the department, due to known contamination or in accordance with subsection (3)(B) of this rule, the UST remediator shall conduct the site characterization according to department guidance.

(5) The department will review the site characterization and rank the site relative to other sites based on site conditions as reflected in the site characterization and the potential risk to human health and/or the environment.
(A) The rank assigned to the site will be used to prioritize department actions including, but not limited to review of documents, pre-approval of costs and reinbursement of costs, in regard to the site.
(B) The department will not require further action at sites that the department deems not to pose a risk to human health and/or the environment, unless there is a change in known conditions at the site that would upgrade its priority, as determined by the department.

(6) Except as provided in section (8) of this rule, site clean-up objectives will be set as follows:
(A) Site clean-up objectives for the cleanup of petroleum released from underground storage tanks will be set by using the scoring matrix and the groundwater clean-up standards as outlined in the department's underground storage tank closure guidance document.
(B) *(Reserved)* (Note: The soil scoring matrix is a site-specific risk-based method which accounts for future land use and other considerations. Upon further development and review, this method or another which also meets statutory requirements, will be set forth in this section.)

(7) Site clean-up objectives and workplans are subject to approval by the department. Such approval must be granted in writing prior to implementation of the workplan.

(8) For all sites which are cleaned up to meet levels less stringent than (higher than) those set according to section (6) of this rule, the UST remediator shall file a document in the chain of title of the property. The document shall state that the contaminant levels were deemed acceptable by the department, based on the land use and other considerations, at the time of cleanup.
(A) If the UST remediator is a person other than the landowner, the UST remediator shall provide a copy of the document which is to be filed in the chain of title for the property, by certified mail to the landowner.
(B) The language of the document to be filed in the chain of title shall include the following:

NOTICE OF ACCEPTABLE LAND USE(S) OF UNDERGROUND STORAGE TANK SITE

Owner of Record: (*Landowner's Name*)

Site Description: (*Site Name and Legal Description*)

The above-described real property, owned by (*Landowner's Name*) and located in the County of (*County Name*) and State of Missouri, is the site of an underground storage tank which was (*Removed/Closed*) on (*Date*). The site cleanup was accepted as complete by the Missouri Department of Natural Resources on (*Date*), in accordance with the applicable requirements of Title 10, Division 25, Chapters 10 through 12 of the *Code of State Regulations* which were in effect at the time of cleanup. The contaminant levels remaining on the site are suitable for (*Commercial/Light Industrial/Heavy Industrial/ Other Specified*) use.

In witness whereof I hereunto set my hand this _____ day of ___, 19___.

_____

(Office)

_____

(Name)

_____

(Title)

(C) No person may substantially change the manner in which a site with a document filed in the chain of title under this section is used without the prior written approval of the director or the director's designee.

1. Requests for approval of change in use of real property must be submitted in writing to the director's office no less than sixty (60) days prior to the planned change in use of real property. In the event the director does not respond within sixty (60) days after the request is received, the request will be considered to be approved as submitted.

2. The director will evaluate the request to determine whether the change in use of real property is likely to result in increased exposure of persons or the environment or spread of contamination.

3. If the change in use of real property is not likely to result in increased exposure of persons or the environment or spread of contamination, the director shall provide written approval.

(D) When the director finds that a site which has had a document filed in the chain of title under this section has been further cleaned up to meet or exceed (lower levels than) the standards described in section (6) of this rule, the director shall direct the UST remediator to file a second document in the chain of title. The document shall include the language in subsection (8)(B) of this rule, and shall describe the land uses for which the new contaminant levels are suitable.

AUTHORITY: section 319.111, RSMo 2000, and sections 319.109 and 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.068. Original rule filed Jan. 2, 1996, effective Aug. 30, 1996. Amended: Filed Jan. 14, 1997, effective Sept. 30, 1997. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.109, RSMo 1989, amended 1995, 2004, 2008; 319.111, RSMo 1989; and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.082 Corrective Action Plan

PURPOSE: This rule lists the requirements for corrective action plans for cleanup of releases from underground storage tank sites.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) Owners and operators are responsible for submitting a plan that provides for adequate protection of human health and the environment, as determined by the department, after fulfilling the requirements for release reporting and investigation in 10 CSR 26-2.071–10 CSR 26-2.074. Owners and operators must modify their plan as necessary to meet this standard.

(A) The department may require owners and operators to submit additional information or to develop and submit a corrective action plan for responding to contaminated soils and groundwater at any point after reviewing the information submitted for release reporting and investigation in 10 CSR 26-2.071–10 CSR 26-2.074. If a plan is required, owners and operators must submit the plan according to a schedule and format established by the department.

(B) Owners and operators may choose to submit a corrective action plan for responding to contaminated soil and groundwater after fulfilling the requirements of 10 CSR 26-2.071–10 CSR 26-2.074.

(2) The department will approve the corrective action plan only after ensuring that implementation of the plan will adequately protect human health and safety and the environment. In making this determination the department should consider the following factors as appropriate:

(A) The physical and chemical characteristics of the regulated substance, including its toxicity, persistence, and potential for migration;
(B) The hydrogeologic characteristics of the facility and the surrounding area;
(C) The proximity, quality, and current and future uses of nearby surface and ground water;
(D) The potential effects of residual contamination on nearby surface and ground water;
(E) An exposure assessment; and
(F) Any information assembled in 10 CSR 26-2.070–10 CSR 26-2.083.

(3) Upon approval of the corrective action plan, or as directed by the department, owners and operators must implement the plan including modifications to the plan made by the department. Owners and operators must monitor, evaluate, and report the results of implementing the plan in accordance with a schedule and in a format established by the department.

(4) Owners and operators, in the interest of minimizing environmental contamination and promoting more effective clean-up, may begin clean-up of soil and groundwater before the corrective action plan is approved provided that they—
(A) Notify the department of their intention to begin clean-up;
(B) Comply with any conditions imposed by the department, including halting clean-up or mitigating adverse consequences from clean-up activities; and
(C) Incorporate these self-initiated clean-up measures in the corrective action plan that is submitted to the department for approval.

(5) Owners and operators shall follow a written procedure.
(A) For releases that occurred or were discovered on or after the effective date of this rule, owners and operators shall use the document referenced at paragraph (5)(C)1. of this rule or, with prior written approval of the department, another written procedure.
(B) For releases that occurred or were discovered prior to the effective date of this rule, owners and operators may use—
1. The documents referenced at paragraph (5)(C)2. of this rule, provided—
A. Prior to the effective date of this rule, the owner or operator received the department's written approval of a work plan for site characterization, risk assessment, or corrective action related to the release; and
B. The owner or operator implements or implemented the approved work plan within one (1) year of the date of the department's approval of the plan or in accordance with a different schedule approved by the department;
2. The document referenced at paragraph (5)(C)1. of this rule; or
3. With the prior written approval of the department, another written procedure.
(C) Written Procedures.
1. *Missouri Risk-Based Corrective Action Process for Petroleum Storage Tanks* guidance document, October 17, 2013, which is hereby incorporated by reference without any subsequent amendments or additions, and is published by the Department of Natural Resources, PO Box 176, Jefferson City, MO 65102-0176.
2. *Missouri Risk-Based Corrective Action Process for Petroleum Storage Tanks*, February 2004, as amended March 8, 2005, by *Notice of Modifications to the Process and Interim Guidance Pertaining to Application of the New Soil Type Dependent Tier 1 Risk-Based Target Levels*; the March 18, 2005, *Soil Type Determination Guidelines*; the March 3, 2005, Table 3-1 Default Target Levels; the April 2005 Table 4-1 Soil Concentration Levels to Determine the Need for Groundwater Evaluation During Tank Closure; the February 2005 Tables 7-1(a) through 7-12(c) Tier 1 Risk-Based Target Levels; and the April 21, 2005, *Soil Gas Sampling Protocol*, which are hereby incorporated by reference without any subsequent amendments or additions, and are published by the Department of Natural Resources, PO Box 176, Jefferson City, MO 65102-0176.

AUTHORITY: sections 319.109 and 319.137, RSMo Supp. 2013. This rule originally filed as 10 CSR 20-10.066. Original rule filed April 2, 1990, effective Sept. 28, 1990. Amended: Filed Aug. 3, 1993, effective April 9, 1994. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011. Amended: Filed June 17, 2013, effective Feb. 28, 2014.*

**Original authority: 319.109, RSMo 1989, amended 1995, 2004, 2008 and 319.137, RSMo 1989, amended 1993, 1995, 2004.*

10 CSR 26-2.083 Public Participation

PURPOSE: This rule establishes procedures for public participation during corrective action plans.

(1) For each confirmed release that requires a corrective action plan, the department must provide notice to the public by means designed to reach those members of the public directly affected by the release and the planned corrective action. This notice may include, but is not limited to, public notice in local newspapers, block advertisements, public service announcements, publication in a state register, letters to individual households or personal contacts by field staff.

(2) Site release information and decisions by the department concerning the corrective action plan are available to the public for inspection upon request.

(3) Before approving any corrective action plan, the department may hold a public meeting to consider comments on the proposed corrective action plan if there is sufficient public interest or for any other reason.

(4) The department must give public notice in section (1) of this rule if implementation of an approved corrective action plan does not achieve the established clean-up levels in the plan and termination of that plan is under consideration by the department.

AUTHORITY: sections 319.109 and 319.137, RSMo Supp. 2010. This rule originally filed as 10 CSR 20-10.067. Original rule filed April 2, 1990, effective Sept. 28, 1990. Moved and amended: Filed April 15, 2011, effective Dec. 30, 2011.*

**Original authority: 319.109, RSMo 1989, amended 1995, 2004, 2008 and 319.137, RSMo 1989, amended 1993, 1995, 2004.*