

The Texas Commission on Environmental Quality (TCEQ, agency, or commission) adopts amendments to §§334.2, 334.4, 334.6, 334.7, 334.10, 334.19, 334.42, 334.45 - 334.52, 334.54, 334.55, 334.72, 334.74, 334.123 - 334.125, 334.127, 334.208, 334.407, 334.424, 334.491, 334.496, 334.499, 334.602, 334.603, and 334.605.

The amendments to §§334.2, 334.4, 334.6, 334.10, 334.42, 334.45, 334.46, 334.48 - 334.52, 334.54, 334.55, 334.124, 334.208, 334.602, and 334.605 are adopted *with changes* to the proposed text as published in the December 1, 2017, issue of the *Texas Register* (42 TexReg 6709) and, therefore, will be republished. The amendments to §§334.7, 334.19, 334.47, 334.72, 334.74, 334.123, 334.125, 334.127, 334.407, 334.424, 334.491, 334.496, 334.499, and 334.603 are adopted *without changes* to the proposed text as published and, therefore, will not be republished.

Background and Summary of the Factual Basis for the Adopted Rules

In 1988, the United States Environmental Protection Agency (EPA) promulgated underground storage tank (UST) regulations (40 Code of Federal Regulations (CFR) Part 280), which set minimum standards for new tanks and required owners and operators of existing tanks to upgrade, replace, or remove those not in compliance. The same year, EPA also promulgated regulation for state program approval (SPA) (40 CFR Part 281), which allows states to administer and enforce the regulation of USTs.

Chapter 334 originally became effective on September 29, 1989. The purpose of the

original rulemaking was to allow Texas to operate an independent UST program in lieu of federal regulation through the SPA under 40 CFR Part 281, Approval of State Underground Storage Tank Programs. To obtain program approval, certain federal requirements for storage tanks in 40 CFR Part 280 were incorporated into Texas's UST program.

TCEQ and its predecessor agencies amended Chapter 334 on January 2, 1995; November 8, 1995; December 27, 1996; February 14, 1997; October 22, 1997 (Petroleum Storage Tank (PST) Reimbursement Program); December 10, 1998 (Emergency and Temporary Orders); September 23, 1999 (Texas Risk Reduction Rules); March 21, 2000 (Financial Assurance Rule Consolidation); November 23, 2000 (PST Program (House Bills (HBs) 2109, 2815, and 2816)); July 12, 2001 (PST Cleanup); December 17, 2001 (HB 3111); April 2, 2002 (Remediation of Underground and Aboveground Storage Tanks); November 18, 2004 (Amendments to Petroleum Storage Tank Rules); November 9, 2006 (Senate Bill (SB) 485 and HB 1987, PST Rule Revisions); October 30, 2008 (HBs 1956 and 3554, Regulation, Remediation, and Financial Assurance of ASTs and USTs); March 19, 2009 (Remediation of Leaking Petroleum Storage Tank Sites); March 17, 2011 (PST Operator Training); June 30, 2011 (Amendments to the Reimbursable Cost Specifications); and April 19, 2012 (HB 2694).

On July 15, 2015, EPA updated its UST regulations under 40 CFR Part 280, with an effective date of October 13, 2015. EPA's stated purpose for the updated regulations

was to revise the 1988 UST regulation to more closely resemble key provisions of the Energy Policy Act of 2005 (EPA Act). The revisions strengthened the 1988 UST standards by increasing the emphasis of properly maintained and operated UST equipment, with the purpose of limiting environmental and human health risks associated with UST systems. In addition, EPA also updated SPA requirements in 40 CFR Part 281 to incorporate the changes to the UST technical regulations in 40 CFR Part 280. These amended regulations were the first major revisions to the federal UST regulations since becoming effective in 1988.

The scope of this current rulemaking is to amend Chapter 334 to incorporate federal regulation revisions required under EPA's SPA regulations for USTs. These revisions include: additional secondary containment requirements for new and replaced tanks and piping; revision of operator training requirements; and additional periodic operation and maintenance requirements for UST systems. In addition, the revised federal regulations added requirements for UST systems deferred in the original 1988 federal UST regulation; added new release prevention and detection technologies; and updated and expanded codes of practice. The revised federal regulations also made editorial corrections and technical amendments.

Current Chapter 334 rules are more stringent than the original 1988 federal UST regulations. For example, Texas has already implemented additional requirements for secondary containment and operator training that meet the requirements of the

revised federal regulations. In addition, Chapter 334 meets federal requirements for emergency generator tank systems and containment sumps that require regular inspection, documentation of initial groundwater and vapor monitoring site assessment, notification of ownership change, and Statistical Inventory Reconciliation (SIR) as an approved method of release detection. While these requirements were included in the 2015 amendments to 40 CFR Part 280, Texas has previously adopted these requirements, and the rulemaking incorporates into Chapter 334 those federal requirements that have not yet been adopted.

To meet the new requirements of 40 CFR Parts 280 and 281, changes are adopted to Chapter 334 including 30-day walkthrough inspections of sump and spill buckets, three-year containment sump and spill prevention equipment testing, triennial inspections of overfill prevention equipment, and annual testing of release detection equipment.

Consistent with the stated goals of the 2015 federal amendments, the purpose of the amendments to Chapter 334 is to further diminish the environmental and human health risks associated with USTs with a focus on the proper operation and maintenance of the safety mechanisms used in UST systems. Moreover, these amendments account for technological advances the UST industry has undergone since the 1988 UST regulations were promulgated, including technology which detects releases from UST systems deferred in the 1988 UST regulations. Altogether, the

combination of modern UST technology, mandated periodic testing of UST safety equipment, and focus on the operation and maintenance of UST facilities will meet the stated purpose of diminishing environmental and human health risks associated with USTs and ensure consistency with the federal requirements.

In addition, changes are adopted to §334.19, Fee on Delivery of Petroleum Product, to conform to amendments to the Texas Water Code (TWC). HB 7, 84th Texas Legislature (2015), amended TWC, §26.3574(b) and (b-1), to clarify the calculation method of the petroleum products delivery fee. Additional minor rule revisions related to the fee on the delivery of certain petroleum products are adopted to conform to the amendment to TWC, §26.3574, by SB 1557, 85th Texas Legislature (2017). The revisions include changing the term "operator of a bulk facility" to "supplier" such that the supplier would now collect the fees on delivery of a petroleum product.

Finally, this adopted rulemaking includes minor administrative changes. These administrative changes reflect the agency's 2002 name change from the Texas Natural Resource Conservation Commission (TNRCC) to the Texas Commission on Environmental Quality (TCEQ) and to correct grammatical and spelling errors.

Section by Section Discussion

Administrative Amendments

The commission adopts administrative amendments to various sections of Chapter 334. The adopted administrative amendments include various stylistic, non-substantive changes to update rule language to current Texas Register style and format requirements. Administrative amendments are not substantive and are adopted to ensure the consistency, clarity, and accuracy of information within Chapter 334. Sections with only administrative amendments are §§334.208, 334.407, 334.424, 334.496, 334.499, 334.602, and 334.603. Additional sections contain administrative amendments, and will not be specifically addressed in the Section by Section Discussion. The administrative amendments include but are not limited to: correcting minor grammatical, spelling, and typographical errors; standardizing the use of acronyms; updating section references; and updating the commission's name.

§334.2, Definitions

The definitions in this section have been renumbered to reflect the addition, amendment, and deletion of various definitions in this section. Other non-substantive and grammatical updates were made to comply with Texas Register style and format requirements.

The commission adopts the definition of "ACT" from §334.2(5) to §334.2(12), and "Association for Composite Tanks" to accurately reflect the acronym, the alphabetical order, and improve clarity.

The commission adopts the definition "Airport hydrant system" as §334.2(6). This term is used to reflect the language used in the federal regulations in 40 CFR Parts 280 and 281. Using terminology consistent with federal regulations promotes clarity for the regulated community by streamlining compliance strategies and allowing the regulated community to comply with both state and federal law simultaneously.

The commission adopts the definition of "ANSI" from §334.2(9) to §334.2(8), and "American National Standards Institute" to accurately reflect the acronym, the alphabetical order, and improve clarity.

The commission adopts the definition of "API" from §334.2(10) to §334.2(9), and "American Petroleum Institute" to accurately reflect the acronym, the alphabetical order, and improve clarity.

The commission adopts the definition of "ASTM" from §334.2(12) to §334.2(13), to accurately reflect the name change of the organization to ASTM International.

The commission adopts the definition of "Beneath the surface of ground" from §334.2(15) to §334.2(16) and adds, at adoption, the words "earthen material" and removes the phrase, "materials so that visual inspection is precluded." Using terminology consistent with federal regulations promotes clarity for the regulated community by streamlining compliance strategies and allowing the regulated

community to comply with both state and federal law simultaneously.

At adoption, the commission amended the definition of "Common carrier" in §334.2(21) to include aboveground storage tanks (ASTs) since facilities may receive deliveries from common carriers.

The commission adopts the definition of "Compatible" as §334.2(22). This term reflects the language used in 40 CFR Parts 280 and 281. Using terminology consistent with federal regulations promotes clarity for the regulated community by streamlining compliance strategies and allowing the regulated community to comply with both state and federal law simultaneously.

The commission adopts the definition of "CERCLA" from §334.2(17) to §334.2(24), and "Comprehensive Environmental Response, Compensation, and Liability Act" to accurately reflect the acronym, the alphabetical order, and improve clarity.

At adoption, the commission added the definition of "Containment sump" as §334.2(26). This term reflects the language used in 40 CFR Parts 280 and 281. Using terminology consistent with federal regulations promotes clarity for the regulated community by streamlining compliance strategies and allowing the regulated community to comply with both state and federal law simultaneously.

The commission adopts the definition of "Corporate fiduciary" from §334.2(24) to §334.2(27), and updates the names of state and federal agencies that have changed their names since Chapter 334 was first promulgated. The changes are adopted to show current chartering entities and facilitate accurate reference.

The commission adopts the definition of "Dispenser" as §334.2(34). This term reflects the language used in 40 CFR Parts 280 and 281. Using terminology consistent with federal regulations promotes clarity for the regulated community by streamlining compliance strategies and allowing the regulated community to comply with both state and federal law simultaneously.

The commission adopts the definition of "Field-constructed tank" from §334.2(39) to §334.2(43), to reflect the language used in 40 CFR Parts 280 and 281. Using terminology consistent with federal regulations promotes clarity for the regulated community by streamlining compliance strategies and allowing the regulated community to comply with both state and federal law simultaneously.

The commission adopts the definition of "Motor fuel" from §334.2(59) to §334.2(63) to reflect the language used in 40 CFR Parts 280 and 281. Using terminology consistent with federal regulations promotes clarity for the regulated community by streamlining compliance strategies and allowing the regulated community to comply with both state and federal law simultaneously.

The commission adopts the definition of "NACE International" from §334.2(60) to §334.2(64) to accurately reflect the updated term and improve clarity.

The commission adopts the definition of "NFPA" from §334.2(62) to §334.2(65) and "National Fire Protection Association" to accurately reflect the acronym, the alphabetical order, and improve clarity.

The commission adopts the definition of "New dispenser" as §334.2(66). The definition was listed in §334.45(d)(1)(E)(v) and amended and moved to §334.2(66). The purpose of moving the definition is to maintain consistency with other definitions in Chapter 334 and define the term in §334.2, as opposed to §334.45, Technical Standards for New Underground Storage Tank Systems. In addition, the commission adopts the definition of "New dispenser" to remove the language from existing §334.45(d)(1)(E)(v)(I), "any dispenser which is installed where none previously existed." The purpose of the adopted amendment is clarification. This phrase is redundant with existing §334.45(d)(1)(E)(v)(II), such that it is not possible to install a dispenser where none previously existed without also installing the transitional piping components. The commission adopts to move the language from existing §334.45(d)(1)(E)(v)(II) to §334.2(66) to simplify the requirements without being less stringent. In addition, the amended definition of "New dispenser" reflects the amended language used in 40 CFR Part 280.

The commission adopts the definition of "On the premises where stored" from §334.2(68) to §334.2(73), to reflect the language used in 40 CFR Parts 280 and 281. Using terminology consistent with federal regulations promotes clarity for the regulated community by streamlining compliance strategies and allowing the regulated community to comply with both state and federal law simultaneously.

The commission adopts the definition of "Owner" from §334.2(73) to §334.2(78), and corrects the reference from TWC, §25.3516 to TWC, §26.3516 in order to facilitate finding the relevant statutory provision.

The commission adopts the definition of "PEI" from §334.2(74) to §334.2(81) and "Petroleum Equipment Institute," to accurately reflect the acronym, the alphabetical order, and improve clarity.

The commission adopts the definition of "Person" from §334.2(76) to §334.2(80), and replaces the definition with a reference to 30 TAC §3.2 to ensure consistency with other regulatory use of the term.

The commission adopts the definition of "Petroleum substance" from §334.2(81) to §334.2(86) and changed the letter "O" to a zero in subparagraph (G) so that "gas-turbine fuel oil" accurately reflects "Grade-0." The adopted change corrects a

typographical error.

At adoption, the commission amended the definition of "Pipeline facilities (including gathering lines)" in §334.2(88) to remove the reference to the Natural Gas Pipeline Safety Act of 1968 and add an updated reference to the federal statute.

The commission adopts the definition of "Replaced" as §334.2(100) to reflect the language used in 40 CFR Parts 280 and 281. Using terminology consistent with federal regulations promotes clarity for the regulated community by streamlining compliance strategies and allowing the regulated community to comply with both state and federal law simultaneously.

The commission adopts the definition of "Septic tank" from §334.2(99) to §334.2(105) and replaced the definition with a reference to 30 TAC §285.2 to ensure consistency with other regulatory use of the term.

The commission adopts the definition of "STI" from §334.2(102) to §334.2(108) and "Steel Tank Institute" to accurately reflect the acronym, the alphabetical order, and improve clarity.

The commission adopts the definition of "Stormwater or wastewater collection system" in §334.2(109). The definition of "Stormwater or wastewater collection system" is the

combination of "Stormwater collection system" and "Wastewater collection system."
The purpose of the amendment is to simplify existing language by combining two definitions that are similar in substance and purpose.

The commission adopts the amended definition of "UL" from §334.2(112) to §334.2(122) and "Underwriters Laboratories, Inc. (UL)," to accurately reflect the acronym, the alphabetical order, and improve clarity.

The commission adopts the definition of "Under-dispenser containment (UDC)" as §334.2(118). This term is used to reflect the language used in 40 CFR Parts 280 and 281. Using terminology consistent with federal regulations promotes clarity for the regulated community by streamlining compliance strategies and allowing the regulated community to comply with both state and federal law simultaneously.

The commission adopts the definition of "Used oil" from §334.2(118) to §334.2(125). This term is used to reflect the language used in 40 CFR Parts 280 and 281. Using terminology consistent with federal regulations promotes clarity for the regulated community by streamlining compliance strategies and allowing the regulated community to comply with both state and federal law simultaneously.

The commission adopts the removal of the definitions of "UST" in §334.2(119) and "UST system" in §334.2(120) since these terms are included in the definitions for

"Underground storage tank" in §334.2(120) and "Underground storage tank system" in §334.2(121). The removal of these definitions is adopted to eliminate duplicative entries.

§334.4, Exclusions for Underground Storage Tanks (USTs) and UST Systems

The commission adopts §334.4(b) to add language to exclude certain listed USTs from certain operator training, on-site supervisor licensing, and contractor registration requirements. The purpose of this amendment is to exclude certain USTs from these requirements because the commission has determined that operator training is not necessary for the operation of the listed USTs. Operator training covers technical standards geared toward the storage of motor fuels which do not apply to the listed USTs. Therefore, owners and operators of wastewater treatment tanks do not need to be trained on standards that do not apply. Operator training requirements are also not required by federal UST regulations for the listed USTs. The listed USTs are also excluded from on-site supervisor licensing and contractor registration requirements since the technical standards supervisors and contractors would administer do not apply.

The commission adopts §334.4(b)(2) and (3) to replace the existing language for two partial exemptions from UST regulations for facilities already regulated by the United States Nuclear Regulatory Commission. Using terminology consistent with federal regulations promotes clarity for the regulated community by streamlining compliance

strategies and allowing the regulated community to comply with both state and federal law simultaneously.

§334.6, Construction Notification for Underground Storage Tanks (USTs) and UST Systems

The commission adopts §334.6(a)(3) to include "zones or contributing zone within a transition zone" to clarify the applicability of requirements for agency approval regarding certain regulated construction activities occurring over the Edwards Aquifer. This additional language serves to specify that the requirements in 30 TAC §213.22 apply to the overlapping area of the contributing zone within the transition zone. The commission has also changed the preposition preceding "Edwards Aquifer" from "in" to "on" to mirror the language used in §213.22.

The commission adopts §334.6(b)(1)(A)(ix) to include and specify that switching to a regulated substance containing greater than 10% ethanol or greater than 20% biodiesel is now considered a major construction activity and subject to 30-day notice requirements. The purpose of the adopted amendment is to address fuel-tank compatibility concerns and ensure owners and operators who switch to biofuel have appropriate technology in place to safely contain these types of regulated substances.

The commission adopts §334.6(b)(2)(C) and (3) to exempt adopted §334.6(b)(1)(A)(ix) from requirements relating to reporting initiation or rescheduling of switching to

biofuel. These changes are adopted because a compatibility determination for the UST system can be evaluated during onsite periodic inspections; therefore, notifying the regional office is unnecessary when regulated substances are switched to biofuel.

§334.7, Registration for Underground Storage Tanks (USTs) and UST Systems

The commission adopts §334.7(a)(1)(C) to replace the language "the effective date of this subchapter" with "September 29, 1989," the original effective date of the subchapter. The purpose of this amendment is to more clearly identify which USTs the exception applies to.

The commission adopts §334.7(b) and (c) to replace the language "the effective date of this subsection" with "November 23, 2000," the effective date of the subsection. The purpose of this amendment is to provide clarity for the regulated community and help ensure consistent compliance and enforcement determinations.

The commission adopts §334.7(d)(1)(C)(i) and (ii) to include and specify that switching to a regulated substance greater than 10% ethanol or 20% biodiesel is considered a change or additional information about a UST system which requires written notice be sent to the agency. The purpose of these additions is to account for compatibility concerns related to the storage of biofuels and to ensure the commission is provided with information regarding significant changes.

The commission adopts §334.7(e)(6) to replace the language "the effective date of this paragraph" with "November 23, 2000," the effective date of the paragraph. The purpose of this amendment is to provide clarity for the regulated community and help ensure consistent compliance and enforcement determinations.

§334.10, Reporting and Recordkeeping

The commission adopts §334.10(a)(2) to remove "recharge or transition zones" and add language to specify reporting requirements which apply to the regulated zones of the Edwards Aquifer. The commission determined that the existing language did not adequately capture all the regulated zones of the Edwards Aquifer, specifically the overlapping area of the contributing zone within the transition zone. The purpose of amendment is to clarify to which zones of the Edwards Aquifer requirements in §334.6 apply.

At adoption, the commission added language to §334.10(b)(2)(B)(iv) to specify that operation and maintenance records should now include records which document compliance with operational release detection requirements, periodic testing and inspection of sumps and overflow prevention equipment, and periodic walkthrough inspections. The purpose of this change is to account for the new walkthrough inspection and periodic testing requirements adopted in §334.42 and §334.48 and to ensure the agency is provided with the appropriate records to make a determination of compliance.

The commission adopts §334.10(b)(2)(B)(xii) to include and specify that documentation of compatibility shall be required for UST systems storing certain blends of biofuels.

The purpose of this amendment is to ensure that compatibility of biofuels is documented by the owner/operator and maintained for as long as the UST system is used to store the regulated substance.

§334.19, Fee on Delivery of Petroleum Product

The commission adopts §334.19(a) to correct an erroneous citation error, specifically TWC, §26.3573 is amended to the appropriate citation TWC, §26.3574. Additionally, in §334.19(a) the phrase "operator of a bulk facility" is amended to "supplier" such that the supplier would now collect the fees on delivery of a petroleum product in accordance with changes made to TWC, §26.3574 by SB 1557.

The commission adopts §334.19(a)(1) - (5) so that the maximum fee amounts match those currently in TWC, §26.3574. Please note, however, that this rule adoption does not raise the fee amounts that are currently in effect. TCEQ continues to set the actual fee by *Texas Register* publication, according to the process described in current §334.19(b): "TCEQ may adjust the fee rates in subsection (a) of this section through an appropriate notification process, such as but not limited to *Texas Register* publication with public comment, based on the agency's cost of administering this chapter, but not to exceed the maximum rates set by Texas Water Code, §26.3574." The current fee

rates were published in 2015, by TCEQ, in the August 28, 2015, issue of the *Texas Register* (40 TexReg 5513). That publication stated that "effective September 1, 2015, the fees are \$1.70 for each delivery into a cargo tank or a barge having a capacity of less than 2,500 gallons; \$3.45 for 2,500 to 5,000 gallons; \$5.45 for 5,000 to 8,000 gallons; \$6.95 for 8,000 to 10,000 gallons; and \$3.45 for each increment of 5,000 gallons delivered into a cargo tank or barge having a capacity of more than 10,000 gallons." The commission removed the "June 30, 2012" date in §334.19(a)(1) - (5), because that phase-in date is no longer relevant.

Additionally, the commission adopts §334.19(b) to include the phrase, "in accordance with TWC, §26.3574(b-1)," to further clarify the methodology by which the fee is calculated.

§334.42, General Standards

The commission adopts §334.42(a) to require that UST systems are maintained, in addition to designed, installed, and operated, in a manner that will prevent releases. The purpose of this amendment is to require maintenance to help prevent releases, and minimize impacts to human health and the environment.

At adoption, the commission amended §334.42(b) to restructure and add additional requirements to the subsection regarding biofuel compatibility. Language that was proposed in subsection (b) was revised and moved to paragraph (1) of that subsection.

Language to address the requirements for biofuel notification and compatibility was inserted into a hierarchy under paragraph (2) which was designated to contain requirements for biofuel compatibility. The commission also adopts language to provide an example of industry standards and practices which can be used to comply with this subsection. The purpose of this amendment is to provide the regulated community with clear, updated, and adequate information which can be used to facilitate compliance with the rules. In addition, this new requirement is consistent with federal regulations.

At adoption, the commission amended §334.42(h) to replace the word "line" with "piping" because "Piping" has been defined in §334.2. The commission has determined that to improve clarity of the rules, the use of the defined term is preferred throughout where the meaning of the two words is the same.

The commission adopts §334.42(i) to require only the removal of liquid and debris found in sumps and spill prevention equipment within 96 hours, rather than requiring both the removal and disposal of liquid and debris within 96 hours. Based on the small amount of waste generally found during inspections, the commission determined that it was not necessary to require disposal within the short-time period. The commission has determined that, if handled properly, the material may be safely accumulated onsite prior to disposal and that such accumulation is regulated by waste rules in 30 TAC Chapters 330 and 335 (Municipal Solid Waste and Industrial Solid Waste and

Municipal Hazardous Waste, respectively). By allowing the regulated community to accumulate waste material onsite, overall effort and disposal costs may be reduced due to the ability to accumulate and dispose one larger amount of waste, rather than being required to repeatedly dispose small amounts of waste.

Additionally, the commission adopts §334.42(i) be effective through December 31, 2020. Thereafter, the adopted requirements listed in §334.48(h) shall become effective. The purpose of providing an effective date is to allow §334.42(i) to continue regulating the sump inspections in the interim period until the new walkthrough inspection requirements in §334.48(h) become effective.

At adoption, the commission amended §334.42(i) to replace the phrase "overspill containers or catchment basins" with "spill containment equipment." The purpose of the amendment is to promote clarity and maintain consistency with terminology used in the industry.

§334.45, Technical Standards for New Underground Storage Tank Systems

The commission adopts §334.45(a)(1) and (e)(4)(A) and (B) to replace the language "the effective date of this subchapter" with "September 29, 1989," which was the original effective date of the subchapter. The purpose of this amendment is to provide clarity for the regulated community and help ensure consistent compliance and enforcement determinations.

The commission adopts §334.45(b)(1)(A) - (F) to make minor corrections to the titles of existing industry standards and practices and to add new standards and practices which may be used to comply with the section. The purpose of the amendment is to provide the regulated community with updated and adequate information which can be used to comply with the rules.

The commission adopts §334.45(b)(1)(D)(iv), (E)(iv), and (F)(iv) as §334.45(b)(1)(D)(iii), (E)(iii), and (F)(iii), respectively, to improve the logical sequence of the requirements by placing technical requirements (electrical isolation from all other metallic structures), before the list of industry standards and practices.

The commission adopts §334.45(c)(1)(A) - (C) to modify the accepted industry standards and practices as follows: made minor corrections to the titles of existing standards and practices, removed outdated standards and practices, and added newly accepted standards and practices which may be used to comply with this section. The purpose of the amendment is to provide the regulated community with updated and adequate information which can be used to comply with the rules.

The commission adopts §334.45(d)(1)(A) to remove language referencing §334.44 because the dates within §334.44 have passed and are no longer applicable.

The commission adopts §334.45(d)(1)(B) to add the phrase "or contributing zone within the transition zone" to clarify the applicability of the requirement mandating the use of double-wall tank and piping systems (or approved alternative) for any UST system situated on the regulated zones of the Edwards Aquifer as prescribed in §213.22. The commission has added language to specify that requirements apply to the overlapping area of the contributing zone within the transition zone in accordance with the requirements in §213.22. The commission also adopts §334.45(d)(1)(B) to mirror the language in §213.22 in order to promote consistency among rules related to the Edwards Aquifer.

The commission adopts §334.45(d)(1)(E)(iv), (vi), (vii), and (viii)(II) to clarify that dispenser sumps are included within the respective requirements which reference "sumps."

At adoption, the commission amended §334.45(d)(1)(E)(i), (ii), (iii), and (viii)(II) to replace the word "line" with "piping" because "Piping" has been defined in §334.2. The commission determined that to improve clarity of the rules, the use of the defined term is preferred throughout where the meaning of the two words is the same.

The commission adopts §334.45(d)(1)(E)(iv) and (vi) to replace language referring to UST systems with release detection systems by interstitial monitoring with language referring to interstitial monitoring of piping to improve clarity. The existing language

was determined by the commission to be unnecessarily lengthy and potentially unclear. The purpose of the amendment is to improve the brevity and clarity of the rule for the benefit of the regulated community without making any substantive changes.

The commission adopts §334.45(d)(1)(E)(iv) to include references to dispenser sumps, interstitial monitoring, and §334.42 and §334.48, which include new requirements relating inspections. The purpose of this amendment is to clarify existing requirements and to provide references to applicable rules for the regulated community.

The commission adopts §334.45(d)(1)(E)(v) to include language to reference the definition of "New dispenser" in §334.2 and to add new compatibility, installation, and inspection requirements for new dispensers and dispenser sumps. The purpose of this amendment is to ensure that new dispensers are contained by dispenser sumps intended to contain spills from leaking or dripping hoses or fittings within the dispenser cabinet.

The commission adopts the removal and replacement of the definition of "New dispenser" in §334.45(d)(1)(E)(v)(I) and (II) with the definition of "New dispenser" in §334.2(66) in order to promote consistency in the placement of definitions within Chapter 334.

The commission adopts §334.45(d)(1)(E)(vii) to require only the removal of liquid and debris found in sumps and spill prevention equipment within 96 hours rather than requiring both the removal and disposal of liquid and debris within 96 hours. The commission determined, if handled properly, the material may be safely accumulated onsite prior to disposal and that such accumulation is regulated by waste rules in Chapters 330 and 335. By allowing the regulated community to accumulate waste material onsite, overall effort and disposal costs may be reduced due to the ability to accumulate and dispose one larger amount of waste, rather than being required to repeatedly dispose small amounts of waste. As long as waste is handled properly, this allows flexibility to the regulated community to reduce disposal costs without an increased risk to human health or the environment.

§334.46, Installation Standards for New Underground Storage Tank Systems

The commission adopts §334.46(a), (g), (g)(3)(B)(iii) and (iv), and (h)(1) to replace "the effective date of this subchapter" with "September 29, 1989," which was the original effective date of the subchapter. The purpose of this amendment is to replace the reference with the original effective date, which will provide clarity for the regulated community and help ensure consistent compliance and enforcement determinations.

The commission adopts §334.46(a)(1) to modify the accepted industry standards and practices as follows: removes outdated standards and practices and adds newly accepted standards and practices which may be used to comply with the section. The

purpose of this amendment is to provide the regulated community with updated and adequate information which can be used to comply with the rules.

At adoption, the commission amends §334.46(c)(2) to replace the word "lines" with "piping" because "Piping" has been defined in §334.2. The commission determined that to improve clarity of the rules, the use of the defined term is preferred throughout where the meaning of the two words is the same.

The commission adopts §334.46(h)(1) to remove §334.46(h)(1)(A) because it applied to a period of time that has now passed and by consolidating §334.46(h)(1)(B), requiring UST system installations to be completed by an installer licensed by the agency, into §334.46(h)(1). The purpose of this amendment is to update and simplify the existing rule in order to provide clarity and facilitate compliance.

The commission adopts §334.46(h)(1)(A) to remove requirements that are no longer required since they apply to a period that has passed and are accounted for in the amendment to §334.46(h)(1); and adopts §334.46(h)(1)(B) to remove requirements that have been consolidated into §334.46(h)(1) and are also accounted for in the amendment.

§334.47, Technical Standards for Existing Underground Storage Tank Systems

The commission adopts §334.47(a)(1)(C) to include National Fire Protection Association

Standards 30 and 30A to the list of accepted standards and practices which may be used to comply with the section. The purpose of the amendment is to reflect the most current, relevant, and accepted industry standards and ensure consistency with federal regulations.

The commission adopts §334.47(e)(2)(B) and (C) to replace the language "the effective date of this subchapter" with "September 29, 1989," the effective date of the subchapter. The purpose of this amendment is to replace the reference with the original effective date, which will provide clarity for the regulated community and help ensure consistent compliance and enforcement determinations.

§334.48, General Operating and Management Requirements

The commission adopts §334.48(c) to replace the language "the effective date of this subchapter" with "September 29, 1989," the effective date of the subchapter. The purpose of this amendment is to replace the reference with the original effective date, which will provide clarity for the regulated community and help ensure consistent compliance and enforcement determinations.

The commission also adopts §334.48(e) to require annual release detection equipment testing for electronic and mechanical components. Language that was previously in this subsection required that owners and operators conduct periodic monitoring of release detection equipment, but specific equipment and specific timelines were not

identified. The commission adopts to replace that language with language that provides specific details and requirements to ensure specific release detection equipment is inspected at least annually and is functioning as expected to prevent or mitigate releases.

The commission adopts §334.48(e)(1) to incorporate a new annual testing requirement for release detection equipment and the requirement's effective date. The purpose of this amendment is to ensure specific release detection equipment is tested annually to ensure proper functionality.

The commission adopts §334.48(e)(1)(A) - (E) to specify the release detection equipment and criteria that is subject to the new annual testing requirement. The purpose of this amendment is to provide additional detail to the requirements in §334.48(e)(1).

The commission adopts §334.48(e)(2) to specify the accepted standards and practices which may be used to comply with the section. The purpose of the amendment is to provide the regulated community with updated and adequate information which can be used to comply with the rules.

The commission adopts re-lettered §334.48(j) to allow for the inclusion of new requirements as amended §334.48(g) - (i). The purpose of this amendment is to

account for the rules added in §334.48(g) - (i) while ensuring the structure of the section remains logical and consistent.

The commission adopts §334.48(g) to add new requirements regarding periodic testing of spill prevention equipment and containment sumps used for interstitial monitoring of piping and periodic inspection of overfill prevention equipment. These changes are necessary to comply with the amended requirements of 40 CFR Parts 280 and 281. The new requirements will require triennial testing on spill prevention equipment and containment sumps used for interstitial monitoring to ensure they are liquid tight. In addition, the new requirements will require overfill prevention equipment to be inspected for proper function and activation. The purpose of these amendments is to require periodic testing and inspection of UST system equipment to mitigate the likelihood of a release to the environment should liquid enter the containment area or collect in spill buckets should the tanks be overfilled.

The commission adopts §334.48(g)(1) to introduce the requirements for UST systems with spill and overfill prevention equipment and containment sumps used for interstitial monitoring of piping.

The commission adopts §334.48(g)(1)(A) to introduce the requirements for spill prevention equipment and containment sumps. The purpose of this amendment is to ensure equipment used to contain liquid which may collect around the fill pipe is

liquid tight in order to prevent releases to the environment.

The commission adopts §334.48(g)(1)(A)(i) and (ii) to specify the methods which can be used to comply with requirements for periodic testing of spill prevention equipment. The regulated community is provided with the option to either install double-walled spill buckets and containment sumps and use periodic monitoring, or conduct triennial testing on single-walled equipment through one of several methods. Among the options for triennial testing, the commission adopts a low liquid level method of testing in §334.48(g)(1)(A)(ii)(I) - (IV), which mirrors an EPA-approved alternative that allows for a reduced amount of water to be used for periodic hydrostatic testing. The purpose of this amendment is to reduce the quantity of contaminated water generated by the testing, to reduce the costs of testing and disposal to the regulated community, and to add additional flexibility in achieving compliance while still ensuring the proper maintenance and operation of UST equipment.

The commission adopts §334.48(g)(1)(A)(iii) to allow liquids used for sump testing, as described in §334.48(g)(1)(A)(ii), to be reused to liquid test other sumps at the same facility or at other facilities. In addition, the commission adopts language to specify the requirements under which a discharge of test water may be made. The purpose of this amendment is to reduce the quantity of contaminated water generated by the testing and to reduce the costs of testing and disposal to the regulated community while still ensuring the proper maintenance and operation of UST equipment. The

agency will develop guidance to address best management practices.

The commission adopts §334.48(g)(1)(B) to specify inspection requirements for overflow prevention equipment and the frequency at which inspections shall occur. The purpose of this addition is to ensure that overflow prevention equipment is set to function correctly and prevents releases into the environment which may occur due to inadvertent overfilling of the UST.

The commission adopts §334.48(g)(1)(C) to incorporate newly accepted standards and practices which may be used to comply with §334.48(g)(1)(A)(ii)(II) and (B). The purpose of the amendment is to provide the regulated community with updated and adequate information which can be used to comply with the rules.

The commission adopts §334.48(g)(2) to introduce the implementation dates of the requirements within §334.48(g).

The commission adopts §334.48(g)(2)(A) and (B) to specify the implementation dates for the requirements within §334.48(g). Two distinct groups are created with differing implementation dates: UST systems in use before September 1, 2018, and UST systems which come into use on or after September 1, 2018. The purpose of creating two different groups is to phase in implementation of the requirements for UST systems in use before September 1, 2018, which will be given three years to make process changes

to achieve compliance with the new requirements. UST systems which come online on or after September 1, 2018, are expected to comply with the new requirements upon the effective date. The implementation date of September 1, 2018, is adopted because the commission determined that three months is sufficient time to allow the regulated community to become familiar with the requirements prior to the compliance date. In addition, the commission adopts §334.48(g)(2)(A)(ii) and (B)(ii) to specify when the initial testing and inspections must be conducted. The purpose of adding the initial testing and inspection requirements is to clarify the specific date when the first test or inspection shall be required.

The commission adopts §334.48(g)(3) to introduce new recordkeeping requirements for activities related to spill prevention equipment, containment sumps used for interstitial monitoring of piping, and overfill prevention equipment.

The commission adopts §334.48(g)(3)(A) and (B) to specify the types of records and the length of time that those records must be kept concerning spill prevention equipment, containment sumps used for interstitial monitoring of piping, and overfill prevention equipment. The purpose is to ensure the commission is provided with adequate information to ensure compliance with requirements.

The commission adopts §334.48(h) to add new requirements for periodic operation and maintenance walkthrough inspections of UST system equipment. These changes

are necessary to comply with the requirements of 40 CFR Parts 280 and 281. The commission adopts an implementation date of January 1, 2021, for the new inspection requirements because almost three years is a reasonable amount of time for the regulated community to prepare for the implementation of walkthrough inspections of UST systems prior to the requirements taking effect. The purpose of this amendment is to require routine inspection of UST system equipment to prevent or mitigate a release to the environment should equipment be damaged, leak, or otherwise malfunction.

The commission adopts §334.48(h)(1) to introduce periodic operation and maintenance walkthrough inspection requirements.

The commission adopts §334.48(h)(1)(A)(i) to establish new 30-day periodic operation and maintenance walkthrough inspection requirements. These inspections must be conducted every 30 days and cover certain types of equipment and conditions to include spill prevention equipment and release detection equipment. The walkthrough inspection includes verification that a release detection alarm is not present. The adopted requirements closely reflect the language used in 40 CFR Parts 280 and 281. However, the commission adopts modifying the federal requirements regarding disposal of liquid or debris found in spill prevention equipment. A similar requirement exists in §334.42(i) of the existing rules. That rule currently requires the removal and disposal of this waste material within 96 hours. However, the commission has adopted

transferring that requirement into the new periodic walkthrough inspections section, §334.48(h)(1)(A)(i), which has a compliance due date of January 1, 2021. Additionally, the commission determined that it was not necessary to require disposal within the 96-hour time period because only a small amount of waste is generally found during inspection. The commission determined that the material can safely be accumulated onsite prior to disposal, and such accumulation would be regulated by waste rules in Chapters 330 and 335. By allowing the regulated community to accumulate waste material onsite, overall effort and disposal costs may be reduced due to the ability to accumulate and dispose one larger amount of waste, rather than being required to repeatedly dispose small amounts of waste.

At adoption, the commission adopts §334.48(h)(1)(A)(i) to include an exception to the periodic operation and maintenance walkthrough inspections for UST systems which do not receive fuel deliveries at intervals greater than every 30 days. The commission recognizes 30-day inspections at these sites would be unnecessary as the spill prevention equipment would not have been utilized by the fuel delivery company between some of the 30-day inspections. These facilities may inspect after each fuel drop. The purpose of this addition is to provide an exception for lower volume facilities and to avoid requiring unnecessary inspections at these types of facilities. The exception was proposed in §334.48(h)(1)(A), but adopted in §334.48(h)(1)(A)(i) to clarify that it only applies to spill prevention equipment.

The commission adopts §334.48(h)(1)(B) to establish requirements for annual periodic operation and maintenance walkthrough inspections. These inspections must be conducted at least every three years and cover certain types of equipment and conditions. These changes are necessary to comply with the requirements of 40 CFR Parts 280 and 281. The commission adopts modifying federal requirements regarding certain containment sumps such that older containment sumps will not be required to be watertight. Containment sumps installed before January 1, 2009, were not required to be watertight and, therefore, could not now be expected to prevent water from seeping in from the outside. The commission is, therefore, adopting inspection requirements that achieve the goal of mitigating and preventing releases by creating four distinct categories of equipment with different required annual inspections (as listed in §334.48(h)(1)(B)(i) - (iv)). These categories include containment sumps (pre- and post-2009 installation), sites that have no containment sump, and hand-held release detection equipment. The purpose of these additions is to provide reasonable and appropriate requirements for the installed equipment at a UST.

The commission adopts §334.48(h)(2) to allow for the use of a standard code of practice developed by a nationally recognized association to satisfy the new inspection requirements in §334.48(h)(1) so long as it is no less stringent than the requirements in §334.48(h)(1)(A). The purpose of the addition is to provide the regulated community with updated and adequate information which can be used to comply with the rules.

The commission adopts §334.48(i) to introduce new requirements for periodic inspections of airport hydrant systems. The compliance due date for systems in use before September 1, 2018 will be January 1, 2021; and for systems in use on or after September 1, 2018 will take effect upon installation. These changes are necessary to comply with the new requirements in 40 CFR Parts 280 and 281.

The commission adopts §334.48(i)(1) and (2) to specify the inspection requirements for specific areas. The purpose of these additions is to ensure that hydrant pits and hydrant piping vaults are undamaged, empty of debris and liquid, and are not leaking, which serves to protect human health and the environment. At adoption, the commission adds §334.48(i)(3) to provide for implementation date requirements for owners and operators.

The commission adopts re-lettered §334.48(j) to specify additional requirements regarding which types of information must be kept in inspection records mandated by §334.10(b). The new records are meant to cover recordkeeping for the expanded walkthrough inspection requirements in §334.48(h). The purpose of this amendment is to ensure the agency is provided with the appropriate documentation to ensure compliance with the rules.

§334.49, Corrosion Protection

The commission adopts §334.49(c)(4)(B)(i) - (v) to incorporate newly accepted

standards and practices which may be used to comply with cathodic protection inspection and testing requirements in this section. The purpose of the amendment is to provide the regulated community with updated and adequate information which can be used to comply with the rules.

§334.50, Release Detection

The commission adopts §334.50(b)(2)(B)(i) to specify applicability to tanks and/or piping installed prior to January 1, 2009. The purpose of the amendment is to clarify rules regarding methods of release detection that may be used by tanks or piping installed prior to January 1, 2009. In addition, the commission has adopted amendments in other subsections that will modify the release detection requirements for tanks and piping installed on or after January 1, 2009. Since proposal, the commission determined that it is necessary to clarify that the release detection methods in §334.50(b)(1)(A), (2)(A)(ii) and (B)(i) apply only to tanks installed prior to January 1, 2009.

The commission adopts §334.50(b)(1)(B) and (2)(A)(iii) and (c)(4)(B) to specify interstitial monitoring as a mandatory primary method of release detection for tanks installed on or after January 1, 2009. The existing rules in §334.45(d)(1)(E) required tanks, piping, and/or dispensers installed on or after January 1, 2009, to be secondarily contained and monitored. However, the existing rules in §334.45(d)(1)(E) did not previously mandate that UST systems use interstitial monitoring for release

detection. The purpose of this amendment is to require interstitial monitoring be used for release detection in those UST systems by September 1, 2018, which will make these systems subject to new walkthrough inspection, and periodic testing and inspection requirements in §334.48(g) and (h), respectively. These changes are necessary to comply with the requirements of 40 CFR Parts 280 and 281.

The commission adopts §334.50(b)(1)(A) and (B), (2)(A)(ii)(II) and (III) and (iii), (B)(i)(II) and (ii), (d)(1)(B)(ii) and (iii)(IV), (d)(3), (C)(i)(III), (iii) and (iv), (4)(A)(iii)(I) and (II) and (B)(iv), (5)(C) and (F)(ii), (6)(E)(ii), (7)(B) and (C), (8)(B) and (C), and (9)(A)(iii) and (iii)(V) to change the frequency of monitoring to a 30-day period from a monthly period (not to exceed 35 days). The purpose of these amendments and additions is to create a time frame for monitoring that more quickly detect releases and is consistent with the requirements of 40 CFR Parts 280 and 281.

The commission adopts §334.50(b)(1)(A) and (B), (2)(A)(ii) and (iii), (B)(i) and (ii), (c)(4)(A) and (B), to specify a date for each requirement which states the applicability of the requirement based on the installation date of the tank. In addition, for tanks and piping installed on or after January 1, 2009, language was added to require the use of interstitial monitoring as a primary release detection method no later than September 1, 2018. Interstitial monitoring has been required on new installations since January 1, 2009, however it was not required to be the primary form of release detection; facilities were previously able to use two other forms of release detection as primary

and could use interstitial as the tertiary form which was not typically reviewed during compliance inspections. The purpose of this amendment was to ensure that facilities installed with secondary containment and interstitial monitoring are fully utilizing those superior technologies to prevent releases and minimize impact to human health and the environment. In addition, the changes will comply with the new federal requirements to make interstitial monitoring a mandatory primary release detection method. The implementation date of September 1, 2018, was chosen because it allows a delay of about three months from the expected date of rule adoption, and matches the implementation for newly installed UST systems in §334.48(g)(2).

Additionally, the commission adopts §334.50(b)(1)(C) to remove the requirements for manual tank gauging within the same paragraph and reorganizing the requirements to fit into adopted §334.50(b)(1)(B) - (D). The purpose of this amendment is to improve clarity of the rule language. The commission adopts the addition of §334.50(b)(1)(B), and removal of §334.50(b)(1)(B)(i) - (ii). A combination of tank tightness testing and inventory control was an acceptable form of release detection until December 22, 1998, as long as certain criteria were met. The adopted revisions remove this method of release detection as the deadline has passed. The commission adopts §334.50(b)(1)(B) to include updates corresponding to §334.50(d)(7), which require the use of approved interstitial monitoring release detection methods. The commission adopts §334.50(b)(1)(D) to include updates corresponding to §334.50(d)(3), which allow for 30-day tank gauging to be used as the sole source of release detection for

emergency generator tanks. This method is sufficient because emergency generators are typically used infrequently. Since the commission adopts updates to release detection requirements for tanks, the commission also adopts corresponding updates to release detection requirements for piping by adding §334.50(b)(2)(A)(iii). These updates are in recognition of the latest technical advances which allow releases to be prevented and detected more quickly. A compliance deadline of September 1, 2018, is adopted, which will give the regulated community adequate time to procure and install equipment.

At adoption, the commission amends §334.50(b)(2)(A)(i), (ii), and (iii), and (B)(i)(I) and (II) to replace the word "line" and "lines" with "piping" because "Piping" has been defined in §334.2. The commission determined that to improve clarity of the rules, the use of the defined term is preferred throughout where the meaning of the two words is the same.

The commission adopts §334.50(b)(2)(B)(ii) to require suction lines be tested or monitored for releases at a frequency of not less than every 30 days instead of what was previously required (monthly (not to exceed 35 days)). The purpose of this amendment is to create a more regular and consistent time frame for monitoring, which improves the commission's ability to gain compliance and enforce the rules, and allows releases to be more easily detected and prevented.

The commission adopts §334.50(b)(2)(B)(iii)(III) to clarify and make more enforceable the limit of one check valve per line. The purpose of the amendment is to remove any ambiguity and provide clarification for the regulated community.

The commission adopts §334.50(c)(3) to remove "and monitoring" to reflect the fact that the requirements of this subsection only concern the design, construction, installation, and maintenance of secondary containment. Monitoring of secondary containment is included in §334.50(d).

The commission adopts to incorporate §334.50(c)(3)(A) into §334.50(c)(3) and add "(relating to Technical Standards for New Underground Storage Tank Systems; and Installation Standards for New Underground Storage Tank Systems)." The purpose of the amendment is to add language clarifying which requirements the noted citations reference.

The commission adopts §334.50(c)(4) to create a "Release detection" paragraph and relocating language previously in §334.50(c)(3)(B) to adopted §334.50(c)(4). The purpose of this amendment is to reorganize the requirements such that there is a clear section for dealing with release detection for hazardous UST systems. In addition, language is adopted for §334.50(c)(4)(B) to require interstitial monitoring as the primary method of release detection for tanks installed after January 1, 2009, and to require compliance by September 1, 2018. The purpose of the addition is to clarify

requirements related to certain UST systems and to detect releases more quickly.

The commission adopts §334.50(d)(1) to remove "testing" and add the word "requirements." The purpose of this amendment is to remove any ambiguity and provide clarification for the regulated community.

The commission adopts §334.50(d)(1)(B)(i) to incorporate an industry standard which may be used to comply with the rule. The purpose of this amendment is to provide interested parties with resources which may be useful in compliance with the requirements.

The commission adopts §334.50(d)(4) to replace the term "and" with "in combination with" to clarify that these two methods must be used together in order to satisfy release detection requirements.

The commission adopts §334.50(d)(4)(A)(iii) and (I) and (II) to include new requirements for automatic tank gauge (ATG) testing. Requirements concerning operating modes and monitoring frequencies are included. The purpose of these additions is to account for new technology since the previous requirements were adopted and to detect releases more quickly.

The commission adopts §334.50(d)(4)(B) and (B)(iv) to include used oil tanks in

requirements previously applicable only to emergency generator tanks and to clarify that inventory control is not required for these types of tanks with ATG equipment. Inventory control typically is not feasible on used oil tanks because used oil tanks lack dispensers, which makes daily physical measurement unduly burdensome, and because tank levels do not always change from day to day. To account for more flexible rules on used oil tanks while remaining protective of human health and the environment, an additional requirement is adopted for ATG's utilized in used oil tank systems. The purpose of this additional requirement is to ensure the ATG equipment is capable of accurately monitoring water levels at a level specified by the commission.

The commission adopts §334.50(d)(9) to clarify that SIR must be used in combination with inventory control in order to be a sufficient method of release detection.

The commission adopts §334.50(d)(9)(A) to replace the word "lines" with "piping" because "Piping" has been defined in §334.2. The commission determined that to improve clarity of the rules, the use of the defined term is preferred throughout where the meaning of the two words is the same.

The commission additionally adopts §334.50(d)(9)(A)(ii) to relocate inventory control analysis requirements in adopted §334.50(d)(9)(A)(ii)(I). The purpose of this amendment is to account for a new SIR methodology requirement adopted in §334.50(d)(9)(A)(ii)(I) and (II).

The commission adopts §334.50(d)(9)(A)(ii)(I) and (II) to relocate language from §334.50(d)(9)(A)(ii) and to include a new requirement which mandates a minimum allowable threshold that may be used in SIR methodology. The purpose of requiring a minimum allowable threshold is to improve the quality of release detection calculations.

The commission additionally adopts §334.50(d)(9)(A)(iii)(IV) to require SIR reports to include the date that the SIR analysis was conducted. The purpose of this amendment is to ensure agency personnel can make an accurate determination of compliance with release detection requirements. Renumbering was required to change existing §334.50(d)(9)(A)(iii)(IV) to §334.50(d)(9)(A)(iii)(V), and existing §334.50(d)(9)(A)(iii)(V) to §334.50(d)(9)(A)(iii)(VI).

The commission adopts §334.50(d)(10) to correct a typographical error by changing paragraphs "(1) - (8)" to paragraphs "(2) - (9)."

The commission adopts §334.50(e)(2)(F) to specify that site assessment vapor monitoring and groundwater monitoring records are subject to recordkeeping requirements, and that records must be signed by an appropriate licensed professional with experience in a relevant technical discipline. The purpose of this amendment is to ensure owners and operators maintain adequate documentation of monitoring to

demonstrate that a release has not occurred. This documentation is necessary to determine compliance with other relevant requirements prohibiting releases.

§334.51, Spill and Overfill Prevention and Control

The commission adopts §334.51(a)(5) to remove a reference to §334.42(d) and add §334.51(a)(5)(A) - (C) to include accepted industry standards and practices which may be used to comply with this section. The purpose of the amendment is to provide the regulated community with updated and adequate information which can be used to comply with the rules.

The commission adopts §334.51(a)(6) to specify that spill and overfill prevention equipment must be monitored or tested in accordance with §334.48(g) and (h). The purpose of this amendment is to ensure interested parties are aware of the new requirements implicated by the language.

The commission adopts §334.51(b)(1) to clarify that all UST systems, without regard to date of installation, are required to be in compliance with this subsection for the entire operational lives of the UST systems. The purpose of this amendment is to simplify existing language.

The commission adopts the removal of §334.51(b)(1)(A) and (B) because the adopted amendment to §334.51(b)(1) makes these subparagraphs unnecessary.

The commission adopts §334.51(b)(2)(C)(ii) to prohibit flow restrictor devices from being used as a method of overfill prevention installed and replaced on or after September 1, 2018. The purpose of this amendment is to prevent flow restrictor devices from being installed at new facilities or as replacement equipment because the commission determined that flow restrictor devices are not as reliable as other overfill prevention methods.

The commission adopts §334.51(b)(4). The commission adopts the removal of §334.51(b)(4)(A)(iii) due to the commission's determination that the language was unnecessary and partially duplicative of the language in adopted §334.51(b)(4)(B). The commission adopts the removal of existing §334.51(b)(4)(B) since the deferral date of December 22, 1998 has passed. The commission adopts renumbering existing §334.51(b)(4)(A)(i) and (ii) to §334.51(b)(4)(A) and (B), respectively.

The commission adopts §334.51(c)(2)(B) to add records related to inspection, monitoring, and testing to the existing list of records which are required to be maintained. The purpose of this amendment is to more fully specify what records owners and operators are required to keep and to ensure the commission has appropriate documentation to ensure compliance with new requirements to prevent spills and overfill events.

§334.52, Underground Storage Tank System Repairs and Relining

The commission adopts §334.52(a)(3)(A) - (H) and §334.52(b)(4)(B)(i) - (iii) to list accepted industry standards and practices. The purpose of these additions is to provide interested parties with resources which may be useful in understanding repair and relining requirements. The commission adopts §334.52(a)(3) and (b)(4)(B) to introduce newly added industry standards and practices listed in §334.52(a)(3)(A) - (H) and §334.45(b)(4)(B)(i) - (iii), respectively, and which may be used to comply with the respective subsections. The purpose of this amendment is to provide the regulated community with updated and adequate information which can be used to comply with the rules.

Since proposal, the commission adopts §334.52(b)(4)(C) to include new requirements for periodic inspections of lined tanks. The purpose of this addition is to ensure that lined tanks will be periodically inspected to help prevent releases, and minimize impacts to human health and the environment. In addition, this new requirement is consistent with federal rules.

The commission adopts §334.52(d) to introduce new requirements regarding tank system and ancillary equipment repairs.

The commission adopts §334.52(d)(1) and (2) to provide the requirements for testing and inspection of repaired components of UST systems. Additionally, the new

paragraphs specify that these requirements must be met within 30 days of the completed repair. The purpose of this addition is to require that repaired components be properly tested after repair to ensure proper operation. Proper operation is necessary to prevent impacts to human health and the environment. The subsequent subsection is re-lettered accordingly.

§334.54, Temporary Removal from Service

At adoption, the commission moved the language in §334.54(c)(1) to §334.54(b)(3) so that the requirement for corrosion protection will be for "All UST systems." The purpose of this amendment is to improve the clarity of the existing requirement that corrosion protection is required on all UST systems.

The commission adopts §334.54(b)(4) to exempt temporarily out of service UST systems, as defined within the section, from spill and overflow operation and maintenance testing, and walkthrough inspections. The commission recognizes UST systems which are temporarily out of service have different testing and inspection requirements from those in operation.

The commission adopts §334.54(d) to reorganize information within the subsection and to add an exemption from new requirements. The amendment includes: moving the language which previously followed "Empty system" to §334.54(d)(1); amending §334.54(d)(2) by creating a paragraph solely dedicated to the definition of "empty" as it

pertains to temporarily out of service tanks; and moving the language which was previously §334.54(d)(1) - (3) to §334.54(d)(2)(A) - (C) and adding a reference to release detection to §334.50(d)(2)(A). The purpose of this amendment is to reorganize existing language to incorporate the addition of language in §334.54(d)(1)(B) to exempt temporarily out of service UST systems from the release detection operation and maintenance testing and inspections as listed in §334.48(e)(1) if the UST system meets the definition of empty. The purpose of this amendment is to ensure that empty UST systems are not required to test and inspect release detection which is not being used. The commission adopts §334.54(e)(5) based on comments received from EPA to ensure tank owner/operators show a UST is empty and a site check and any necessary corrective actions are taken prior to releasing financial assurance requirements.

§334.55, Permanent Removal from Service

The commission adopts §334.55(a)(8) and (9) and §334.55(e)(1)(A) and (B) to replace "the effective date of this subchapter" with the actual date the subchapter became effective, September 29, 1989. The purpose of this amendment is to replace the reference with the actual date which will provide clarity for the regulated community and help ensure consistent compliance and enforcement determinations.

Since proposal, the commission adopts §334.55(a)(9) to specify the requirements for determining compliance on UST systems closed before September 28, 1989. The existing requirements provided a list of four things which the TCEQ could require the

owner or operator to do, however the new language specifies a more comprehensive set of rules to follow by including the entire subchapter. The purpose of the amendment was to minimize the impacts of historic releases to human health and the environment. In addition, this new language is consistent with federal regulations.

The commission adopts §334.55(b)(2), (4)(A) and (C) to require that owners and operators obtain prior approval from TCEQ regional offices instead of district offices when engaging in activities related to the removal of tanks (e.g., storing, emptying, cleaning, or purging). The purpose of these revisions is to accurately reflect the current structure of the TCEQ and remove the outdated reference to the TNRCC organizational structure.

The commission adopts the recordkeeping requirements in §334.55(f)(2) for USTs permanently removed from service. Owners and operators are required to maintain records as long as any UST remains in service or for five years after the UST is removed, whichever is longer. However, various other sections in Chapter 334 require that owners and operators maintain records as long as a UST remains in service. Therefore, the commission adopts removing the recordkeeping requirements related to in-service USTs from this subsection while retaining a five-year recordkeeping requirement for USTs permanently removed from service, which is consistent with commission record retention requirements elsewhere in this chapter. These records are necessary in order to support compliance determinations and demonstrate that

any impact to human health and the environment has been addressed when a UST is permanently removed from service.

The commission adopts §334.55(g)(1) - (5) to list the newly accepted standards and practices which may be used to comply with the section. The purpose of the additions is to provide the regulated community with updated and adequate information which can be used to comply with the rules.

§334.72, Reporting of Suspected Releases

The commission adopts §334.72(2) to add "or liquid in the interstitial space of secondarily contained systems" which serves to further specify instances that may qualify as "unusual operating conditions." Liquid (intended to cover water, product, or other substances in the liquid-phase) in the interstitial space that is not used for interstitial monitoring indicates there is a problem with the UST system which requires attention and resolution. As a result, the commission is including this as an unusual operating condition and adopts requiring UST owners and operators to investigate and address the condition in order to minimize impacts to the environment and human health.

The commission adopts §334.72(2)(A) - (C) to incentivize a prompt response to suspected releases by reducing reporting requirements as long as owners and operators take prompt action to investigate and respond to a suspected release.

The commission adopts §334.72(3) to add "including investigation of an alarm," to the conditions that would require a suspected release investigation. The purpose of an alarm is to alert UST owners and operators of a potential problem. Once alerted, owners and operators must respond and appropriately address all release detection monitoring alarms. Due to the additional interstitial monitoring requirements adopted in this rulemaking, there will be an increase in the use of interstitial monitoring and a potential increase in the number of alarm events. For example, some interstitial monitoring systems may trigger an alarm, which indicates that there may be a potential release or that the interstitial space may have been compromised. The commission determined that owners and operators should not be required to report alarms from defective system equipment or components, alarms that are investigated and determined to be a non-release, or leaks which are contained in the interstitial space. However, the commission still adopts requiring owners and operators to investigate and repair problems that may be discovered.

The commission adopts §334.72(3)(B) to specify a reference to §334.50(d)(1)(B), the monitoring period for inventory control as being a "30-day period" rather than a "month," and to add "or the alarm investigation determines no release has occurred." The purpose of this amendment is to ensure compliance with new requirements elsewhere in the chapter, create a more regular and consistent time frame for testing, and add an exception for possible technical glitches.

The commission adopts §334.72(3)(C)(i) and (ii) to specify the instances when leaks found contained in secondary containment do not require agency notification.

The commission adopts §334.72(3)(C)(i) to require agency notification in cases when liquid that meets the criteria in §334.50(d)(8)(C) is found in secondary containment. However, the commission recognizes that leaks found contained in secondary containment that do not meet the criteria in §334.50(d)(8)(C) do not require agency notification, so long as the problem is timely remedied.

The commission adopts §334.72(3)(C)(ii) to not require agency notice in situations where defective system equipment or components are responsible for causing a leak within the secondary containment but are immediately replaced or repaired. The commission recognizes mechanical failures occur, but that repairing the faulty component or equipment sufficiently resolves the issue.

The commission adopts §334.72(3)(D) to specify that alarms investigated and determined to be non-releases do not require agency notice. The commission recognizes technical glitches may occur and, if immediately resolved, do not require the attention of the agency.

The commission adopts removing §334.72(4) because the requirements are duplicative

of the requirements in §334.72(2) and (3).

§334.74, Release Investigation and Confirmation Steps

The commission adopts §334.74(1) to add a reference to the amended secondary containment testing in §334.48(e). The purpose of this amendment is to ensure interested parties are aware of all requirements which are implicated by this paragraph and the language which follows.

The commission adopts §334.74(1)(A) to introduce the requirements for system tests following a suspected release. The commission adopts §334.74(1)(A)(i) and (ii) to list the specific requirements for a system test conducted in response to a suspected release. These additions require a determination of whether a leak exists in the portion of the tank which routinely contains product or attached delivery piping, or if a breach of either wall of the secondary containment has occurred. The purpose of these additions is to ensure that system tests cover all portions of the UST system which may have resulted in the release to help prevent a reoccurrence. The subsequent subparagraphs are re-lettered accordingly.

The commission adopts §334.74(1)(B) to add language specifying the applicability to system tests which confirm a leak into the interstice or a release. The purpose of this amendment is to limit the applicability to only situations where a system test confirms a leak.

§334.123, Exemptions for Aboveground Storage Tanks (ASTs)

The commission adopts inserting a hyphen in the term "non-commercial" in §334.123(a)(1) to be consistent with §334.2.

The commission adopts §334.123(b)(1) to remove the reference to the Natural Gas Pipeline Safety Act of 1968 in §334.123(b)(1)(A), and moving the reference to the Hazardous Liquid Pipeline Safety Act of 1979 from §334.123(b)(1)(B) to §334.123(b)(1). This removal is adopted because the controlling statute, TWC, §26.344, was amended by SB 901 during the 83rd Texas Legislature (effective September 1, 2013), and no longer includes a reference to the Natural Gas Pipeline Safety Act of 1968.

§334.124, Exclusions for Aboveground Storage Tanks (ASTs)

The commission adopts §334.124(a)(2) to alter the time frame of inspection from once a month to 30 days. The purpose of this amendment is to be consistent with other sections of the chapter where monthly time frames are adopted to change to 30 days, such as throughout §334.50, and to create a more regular and consistent time frame for monitoring in order to prevent and more quickly detect releases.

§334.125, General Prohibitions and Requirements for Aboveground Storage Tanks (ASTs)

The commission adopts §334.125(a) to replace "the effective date of this subchapter"

with "June 25, 1990," which is the effective date of the subchapter. The purpose of this amendment is to replace the reference with the actual date, which will provide clarity for the regulated community and help ensure consistent compliance and enforcement determinations.

§334.127, Registration for Aboveground Storage Tanks (ASTs)

The commission adopts §334.127(c) by removing the March 1, 1990, effective date. The purpose of this amendment is to provide clarity for the regulated community since this date has passed.

§334.491, Notice to Owners or Operators

The commission adopts §334.491(a) to replace "the effective date of these rules" with "December 27, 1996," which was the original effective date of this section. The purpose of this amendment is to replace the reference with the actual date, which will provide clarity for the regulated community and help ensure consistent compliance and enforcement determinations.

§334.602, Designation and Training of Classes of Operators

The commission adopts administrative revisions throughout the section, which include, but are not limited to: correcting minor typographical errors and updating section references. Based on a comment received from EPA, the commission adopts

§334.602(b)(1)(B) and (2)(b) to include "testing and inspections" to the list of topics required for Class A and B operators.

§334.605, Operator Training Frequency

Based on recommendation from Harris County, the commission adopts §334.605(d) to specify that regardless of the training requirements in §334.605(a), Class A and Class B operators must now be re-trained by January 1, 2020, with a course submitted to and approved by the agency after April 1, 2018. The purpose of this amendment is to require re-training of operators after the new requirements become effective so operators can be adequately informed on the new requirements.

Final Regulatory Impact Analysis Determination

The commission reviewed the rulemaking in light of the regulatory impact analysis requirements of Texas Government Code, §2001.0225, and determined that the rulemaking is not subject to Texas Government Code, §2001.0225, because it does not meet the definition of a "Major environmental rule" as defined in that statute. A major environmental rule means a rule the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The specific intent of this rulemaking is to "protect the environment" by adding secondary containment requirements for new and replaced

tanks and piping; operator training requirements; periodic operation and maintenance requirements for UST systems; requirements to ensure UST system compatibility before storing certain biofuel blends; removing past deferrals for emergency generator tanks, field constructed tanks, and airport hydrant systems; and updating codes of practice. The second prong of the definition of a "Major environmental rule" is not met. The adopted rules will not adversely affect, in a material way, the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. EPA performed an assessment of the potential costs, benefits, and other impacts associated with implementing the 2015 amendments to its UST program and concluded that the market impacts are likely to be diffuse and minimal. A link to EPA's Assessment of the Potential Costs, Benefits, and Other Impacts of the Final Revisions to Underground Storage Tank Regulations can be found at: <https://www.epa.gov/sites/production/files/2015-07/documents/regs2015-ria.pdf>. Based on the analysis in the preamble for the proposal and the EPA's assessment, the commission concluded that the adopted rules will not adversely affect, in a material way, the economy, a sector of the economy, productivity, competition, or jobs. Additionally, neither the environment nor the public health and safety of the state, or a sector of the state, will be adversely affected because the adopted rules are intended to enhance protections of the environment and public health and safety through the prevention of releases of regulated substances from underground PSTs. Although not required, the commission additionally reviewed the rulemaking considering the regulatory impact analysis requirements of Texas

Government Code, §2001.0225. That section states: "(a) This section applies only to a major environmental rule adopted by a state agency, the result of which is to: (1) exceed a standard set by federal law, unless the rule is specifically required by state law; (2) exceed an express requirement of state law, unless the rule is specifically required by federal law; (3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or (4) adopt a rule solely under the general powers of the agency instead of under a specific state law." This adopted rulemaking does not meet any of the four applicability requirements and thus is not subject to the regulatory analysis provisions of Texas Government Code, §2001.0225. Specifically, the adopted amendments are intended to implement federal requirements, make the rules easier to read and understand, and improve program efficiency. First, the adopted rulemaking does not exceed any federal requirements because the program would allow Texas to continue to operate the UST program in lieu of federal regulation; therefore, the adopted rules are required to be consistent with federal law. Second, the adopted rulemaking does not exceed any state requirements because TWC, Chapter 26, establishes requirements for the commission's UST program and does not prohibit rules governing technical and operational requirements for UST systems or training requirements. Third, the adopted rule package does not exceed any delegation agreement or contract because there has been no delegation agreement or contract; in lieu of federal regulation, Texas operates a UST program, which is subject to the EPA's approval. Finally, the rulemaking is adopted under TWC, §§26.011, 26.039, 26.341,

26.345, 26.347, 26.3475, 26.348, 26.351, and 26.3574 and not solely under the general powers of the agency. The adopted rulemaking is intended to satisfy the amended minimum requirements set for state UST programs promulgated by EPA, which will allow Texas to continue to operate a UST program in lieu of federal regulation.

Accordingly, the commission determined that the rulemaking is not subject to Texas Government Code, §2001.0225, because it does not meet any of the four requirements listed in Texas Government Code, §2001.0225(a).

The commission invited public comment regarding the Draft Regulatory Impact Analysis Determination during the public comment period. No comments were received regarding the Draft Regulatory Impact Analysis Determination.

Takings Impact Assessment

The commission evaluated this rulemaking and performed analysis of whether these adopted rules constitute a taking. Texas Government Code, §2007.002(5), defines a taking as either: 1) a governmental action that affects private real property, in whole or in part or temporarily or permanently, in a manner that requires the governmental entity to compensate the private real property owner as provided by the Fifth and Fourteenth Amendments to the United States Constitution or Sections 17 or 19, Article I, Texas Constitution; or 2) a governmental action that affects an owner's private real property that is the subject of the governmental action, in whole or in part or temporarily or permanently, in a manner that restricts or limits the owner's right to

the property that would otherwise exist in the absence of the governmental action; and is the producing cause of a reduction of at least 25% in the market value of the affected private real property, determined by comparing the market value of the property as if the governmental action is not in effect and the market value of the property determined as if the governmental action is in effect.

The primary purpose of these adopted rules is to implement the 2015 amendments to the EPA's UST program. The adopted rules substantially advance this purpose by addressing such items as secondary containment requirements for new and replaced tanks and piping, operator training requirements, periodic operation and maintenance requirements for UST systems, UST system compatibility before storing certain biofuel blends, removal of past deferrals for emergency generator tanks, field constructed tanks, airport hydrant systems, and updated codes of practice, to mirror as closely as possible the 2015 amendments to the EPA's UST program. The rulemaking is adopted to incorporate minimum federal requirements for the purpose of submitting Texas's UST regulatory program for review and approval which will allow Texas to retain independent administration in lieu of federal regulation. Under 40 CFR §282.93, "Texas is approved to administer and enforce an underground storage tank program in lieu of the federal program under Subtitle I of the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 USC, §§6991 *et seq.*" Regarding enforcement authority, 40 CFR §282.93 states: "Texas has primary responsibility for enforcing its underground storage tank program. However, EPA retains the authority to exercise its

inspection and enforcement authorities under sections 9005 and 9006 of subtitle I of RCRA, 42 USC, §6991d and §6991e, as well as under other statutory and regulatory provisions." Regarding SPA 40 CFR §282.93 states: "To retain program approval, Texas must revise its approved program to adopt new changes to the federal subtitle I program which make it more stringent, in accordance with section 9004 of RCRA, 42 USC, §6991c, and 40 CFR part 281, subpart E."

The commission's analysis indicates that Texas Government Code, Chapter 2007, does not apply to this adopted rulemaking because the rulemaking falls under the exclusion listed in Texas Government Code, §2007.003(b)(4): "an action . . . reasonably taken to fulfill an obligation mandated by federal law . . ." This rulemaking is an action reasonably taken to fulfill an obligation mandated by federal law because, as discussed previously, the rulemaking is adopted to retain independent UST program approval by EPA.

Additionally, this adopted rulemaking falls under the exclusion listed in Texas Government Code, §2007.003(b)(13) because the rulemaking is an action in response to a real and substantial threat to public health and safety, is designed to significantly advance the health and safety purpose, and does not impose a greater burden than is necessary to achieve the health and safety purpose. This rulemaking is an "action taken in response to a real and substantial threat to public health and safety" in that contamination from releases from USTs pose a threat to both soils and groundwater

with which the public may come into contact. The adopted rules are "designed to significantly advance the health and safety purpose" by requiring updated technical, operational, and training requirements, the intent of which is to reduce the likelihood of releases of contaminants to the environment. The adopted rules do not impose a greater burden than is necessary to achieve the health and safety purpose because the adopted rules mirror or track as closely as possible the requirements necessary for Texas to retain approval by EPA for an independent UST program.

Nevertheless, the commission performed a further assessment of whether these adopted rules constitute a taking as defined under Texas Government Code, §2007.002(5). The adopted rules implement rule changes to maintain state UST program approval. Promulgation and enforcement of the adopted rules will be neither a statutory nor a constitutional taking of private real property by the commission. Specifically, the adopted rules do not affect a landowner's rights in private real property because this rulemaking does not burden nor restrict or limit the owner's rights to property and reduce real property value by 25% or more beyond that which would otherwise exist in the absence of the adopted rules. There are no burdens imposed on private real property from these adopted rules and the benefits to society are the adopted rules' effect of technical, operational, and training requirements such that occurrences of releases of regulated substances into the environment are reduced. Therefore, the commission has determined that as a whole, this rulemaking will not constitute a taking as that term is defined under Texas Government Code,

§2007.002(5).

Consistency with the Coastal Management Program

The commission reviewed the adopted rulemaking and found the adoption is a rulemaking identified in the Coastal Coordination Act Implementation Rules, 31 TAC §505.11(b)(2), relating to rules subject to the Coastal Management Program (CMP) and will, therefore, require that goals and policies of the CMP be considered during the rulemaking process.

The commission invited public comment regarding the consistency with the CMP during the public comment period. No comments were received on the CMP.

Public Comment

The commission offered a public hearing on January 9, 2018. The comment period closed on January 9, 2018. The commission received comments from the Army and Air Force Exchange Service (AAFES); Buc-ee's, Ltd. (Buc-ee's); Burns Pump Service, Inc. (Burns Pump Service); Cactus Environmental Systems (Cactus Environmental); The Dow Chemical Company (Dow); Harris County Attorney's Office (Harris County); OPW Retail Fueling (OPW); EPA; RaceTrac Petroleum (RaceTrac); The Texas Food and Fuel Association (TFFA); and two individuals.

Response to Comments

General

Comment

Several commenters expressed concern that there will be an increase in the costs of compliance stemming from the rulemaking.

Response

The commission acknowledges those comments and the commenters' concerns regarding an increase in the costs of compliance. The commission responds that the rulemaking is adopted to maintain SPA, thereby allowing Texas to continue operating an independent UST program in lieu of federal regulation. Additionally, the commission, after careful consideration, agrees with EPA's analysis of the costs and benefits of the rulemaking and believes that the slight increase to the costs of compliance are far outweighed by the environmental benefits. No change has been made in response to this comment.

Comment

Dow identified a typo in the proposal preamble, and recommended a correction so that the preamble correctly states that overfill prevention equipment inspections are required triennially instead of annually.

Response

The commission acknowledges the typographical error and has corrected the specified passage.

Comment

TFFA commented that if the proposed rules incorporating the requirements mandated by EPA are adopted, small businesses and less profitable locations of larger businesses will close due to the added costs to operation and compliance for every facility.

Response

The commission acknowledges this comment. The commission has worked to find areas where states are allowed flexibility in implementing federal requirements, which has allowed the commission to ease the financial burden on regulated entities. While the adoption of minimum federal requirements is necessary for SPA, the commission has made efforts to include flexibility and cost-savings where possible. Some of the cost-saving measures made by the commission include: low-level liquid sump testing, re-use of test water, exempting pre-2009 sumps from water removal, removing the requirement to immediately dispose of liquid or debris found in sumps, exempting used oil tanks from a second form of release detection, delayed implementation dates of some new federal requirements, and others. No change has been made in response to this comment.

Comment

OPW requested clarification on whether double wall dispenser sumps must have double wall entry fittings.

Response

The commission responds that the rule simply requires all equipment to be installed in accordance with the manufacturer's specifications and requirements. No change has been made in response to this comment.

Comment

OPW requested clarification on whether OPW Double Wall FlexWorks can be used over the Edwards Aquifer.

Response

In response to this comment, the commission notes that it previously issued a variance letter dated May 24, 2013, stating that this piping system is not allowed over the Edwards Aquifer. No change has been made in response to this comment.

Comment

OPW requested clarification on whether the interstice of OPW Double Wall FlexWorks must be tested every three years.

Response

In response to this comment, the commission notes that it previously issued a variance letter dated May 24, 2013, requiring testing of the interstice every three years as part of the variance approval. Specifically, testing is required if the OPW FlexWorks piping does not meet the slope requirement (such as the OPW Loop System). No changes were made based on this comment.

Comment

Cactus Environmental requested that the commission consider the implications of applying RP1200 versus manufacturer recommendations for tank probe inspections and commented that the tank probe inspection and testing process are different. Cactus Environmental requested clarification on the standard for determining if a sensor failed or passed.

Response

The commission requires that electronic and mechanical components of release detection equipment must be tested for proper operation in accordance with one of the following options: manufacturer's instructions, a code of practice developed by a nationally recognized association or independent testing laboratory (i.e., PEI Publication RP1200), or requirements determined by the executive director to be no less protective of human health and the environment than listed in §334.38(e). No changes were made based on this comment.

Comment

Cactus Environmental asked if TCEQ intends to create a checklist similar to the one prepared for the Stage II Decommissioning for the annual inspections.

Response

The commission responds that it intends to revise and create investigation checklists as appropriate to implement rule changes. Once complete, these checklists may be available on the commission's public webpage. No changes were made based on this comment.

Comment

Cactus Environmental asked what qualifications an individual or group of individuals must have to perform an annual inspection: Installers License, B Installers License, Tank Monitor Installer License, or Other TCEQ Licenses?

Response

The commission responds that the rules require annual inspections be conducted by "Qualified personnel," as defined in §334.2. No changes were made based on this comment.

Comment

Cactus Environmental asked if TCEQ plans to enforce the five-year precision tank testing rule in the future, and whether the test needs to be performed by a third-party company.

Response

The commission responds that a combination of tank tightness testing and inventory control has not been an acceptable method of release detection since December 22, 1998. Therefore, as part of this rulemaking, the commission has removed it along with its associated testing criteria from the list of acceptable release detection methods. No changes were made based on this comment.

Comment

Cactus Environmental requested verification that if the sump sensor positioned on the bottom of the sump detects liquid and is programmed to shut down the submersible pump and create an alarm that the system meets the criteria for systems installed after January 1, 2009.

Response

The commission agrees that if a sump sensor is positioned in such a manner that it will detect if more than two inches of liquid collects in the sump and will generate an alert for the UST system owner or operator and shut down the submersible pump, it meets the technical requirements in adopted §334.45(d)(1)(E)(vi). No changes were made based on this comment.

Comment

Cactus Environmental requested clarification regarding whether fresh water, obtained from a fresh water system at the facility, that is used to test the sumps at a facility, can be reused for additional sump testing at the specific facility without conducting a lab test for the level of contamination. The water used would be left at the site in a sealed identified barrel for proper disposal at a licensed facility with manifests.

Response

The commission agrees that liquids used for testing sumps may be reused for further liquid testing in other sumps. Discharge must be in accordance with any applicable wastewater discharge requirements or disposal must be in accordance with Chapter 330 or 335. No changes were made based on this comment.

Comment

Cactus Environmental requested clarification regarding whether sump sensors or interstice sensors for a UST system installed prior to 2009 but are not being used as a primary component of leak detection need to be tested annually.

Response

The commission does not require that sump sensors or interstice sensors for UST systems installed prior to 2009 that are not being used as a primary component of

leak detection be tested annually. No changes were made based on this comment.

Comment

EPA commented that drawing on 30 TAC §37.880 nearly matches 40 CFR §280.112, except it does not have a comparable 40 CFR §280.112(d), which describes how a local government guarantee without standby trust should make payments. Because Texas incorporates the local government financial assurance mechanisms by reference, Texas might want to include a comparable subsection in §37.880 to address this.

Response

The commission acknowledges the comment from EPA, but would respectfully state that it considers its incorporation by reference to achieve the same substantive goal. Commission rule §37.820(2) states: "A local government owner or operator may use any one or a combination of the mechanisms listed in 40 Code of Federal Regulations §§280.104–280.107 (relating to Local Government Bond Rating Test, Local Government Financial Test, Local Government Guarantee, Local Government Fund, respectively) to demonstrate financial assurance under this subchapter for one or more USTs." The commission believes this incorporation necessarily incorporates other federal rule sections related to those mechanisms, including 40 CFR §280.112(d). No changes were made based on this comment.

Comment

EPA commented on release from the financial responsibility requirements and stated that 40 CFR §280.113 does not allow for release from financial responsibility requirements until tank is permanently closed or undergoes a change-in-service or, until corrective action has been completed and the tank has been permanently closed or undergoes a change-in-service.

Response

The commission acknowledges EPA's comment regarding an owner's or operator's release from financial responsibility requirements at a UST site when the tanks are temporarily removed from service in accordance with §334.54. Pursuant to the commission's current rules, a tank owner or operator can be released from financial assurance requirements if they properly temporarily remove the UST system from service. In Texas, while a UST system is temporarily out of service, owners or operators are required to comply with all release reporting, investigation, and corrective action requirements if a release of a regulated substance is suspected or confirmed. However, the commission acknowledges that EPA's change-in-service procedure in 40 CFR §280.71(c) requires an owner or operator to assess whether a release has occurred, regardless of whether a release is suspected. Accordingly, in order to be as stringent as EPA's change-in-service procedures, the commission has amended §334.54 so that financial assurance is required at all times that a UST system is properly temporarily removed from service unless an owner or operator has emptied the USTs and performed a site check in accordance with all of the

requirements in §334.74. With these amendments, an owner or operator would not be allowed to be without financial assurance while there is the possibility of an unaddressed release. In the event that these amendments irreconcilably conflict with 30 TAC Chapter 37, these amendments will control.

Comment

EPA commented on TCEQ rules regarding bankruptcy in 30 TAC §37.890 and found that the TCEQ rule nearly matches 40 CFR §280.114, except it does not have a comparable 40 CFR §280.114(c) and (d), which deal with local governments. Since Texas incorporates the local government financial assurance mechanisms by reference, Texas might want to include comparable subsections in §37.890 to address this.

Response

The commission acknowledges the comment from EPA, but would respectfully state that it considers its incorporation by reference to achieve the same substantive goal. Commission rule §37.820(2) states: "A local government owner or operator may use any one or a combination of the mechanisms listed in 40 Code of Federal Regulations §§280.104-280.107 (relating to Local Government Bond Rating Test, Local Government Financial Test, Local Government Guarantee, Local Government Fund, respectively) to demonstrate financial assurance under this subchapter for one or more USTs." The commission believes this necessarily incorporates other federal regulation sections related to those mechanisms,

including 40 CFR §280.114(c) and (d). No changes were made based on this comment.

§334.2, Definitions

Comment

EPA noted that the federal definition of "Accidental release" was updated in 2015 and recommends that TCEQ do the same.

Response

The commission acknowledges the comment. The term "Accidental release" is defined in 30 TAC §37.802 and is substantively the same as the federal definition in 40 CFR §280.92. No change was made in response to this comment.

Comment

§334.2(16)

EPA noted that the federal definition for "Beneath the surface of the ground" includes the word "earthen" while TCEQ's definition does not include the word.

Response

In response to this comment, the commission has added the word "earthen" to the definition.

Comment

§334.2(21)

An individual suggested adding "aboveground tank" to the definition of "Common carrier" to clarify that the delivery prohibition applies to ASTs.

Response

The commission agrees that the intent of the proposed rule is that delivery prohibition applies to ASTs and has added the language to the definition in adopted §334.2(21) clarifying the delivery prohibition applicability to ASTs.

Comment

EPA requested that the TCEQ define the word "Compatible."

Response

In response to this comment, the commission agrees that a definition for "Compatible" is warranted for clarification purposes in light of the new requirements addressing fuel and UST system compatibility and has adopted a definition matching the federal definition as §334.2(22).

Comment

§334.2(25)

An individual requested that the commission revise the definition of "Containment

sump" because under dispenser containment (UDC) is not liquid tight since they are open at the top.

Response

In response to this comment, the commission believes that the definition is technically appropriate and consistent with 40 CFR Part 280. The term "liquid tight" as it relates to UDCs means that the sump can contain any release of contaminants from the dispensers to the environment. No change was made in response to this comment.

Comment

§334.2(54)

An individual suggested adding language to the definition of "Installer" to indicate that an installer must have the required license to perform certain functions.

Response

In response to this comment, the commission declines to add the suggested language. The commission does not typically include substantive requirements into a definition. The commission additionally notes that Chapter 30, Subchapter I, Underground Storage Tank On-Site Supervisor Licensing and Contractor Registration, contains licensing and registration requirements for certain functions. No changes were made based on this comment.

Comment

§334.2(56)

An individual commented that the word "testable" should be added before "noncorrodible" in the definition for "Jacketed tank."

Response

The commission acknowledges this comment. Since the proposed rule language did not include changes to the definition of "Jacketed tank," the public and other interested parties would not have an opportunity to comment. Therefore, the suggested change is outside the scope of this rulemaking. No changes were made in response to this comment.

Comment

§334.2(65)

An individual requested that the TCEQ remove the word "system" from the definition of "New dispenser," commenting that the additional piping and connectors are objects defined elsewhere.

Response

In response to this comment, the commission declines to make the suggested change. The commission notes that the definition of "New dispenser" reflects the

amended language used in 40 CFR Part 280. The commission additionally notes that installing a dispenser where none previously existed is not possible without the transitional piping components connecting the dispenser to the UST system. No changes were made based on this comment.

Comment

§334.2(66)

An individual requested the commission amend the language in the definition for "New underground storage tank (UST) system" to include the statement, "UST systems that are converted must meet all applicable requirements of a new UST system."

Response

In response to this comment, the commission declines to make the suggested change. The commission notes that converted UST systems are included in the definition for "New underground storage tank (UST) system" and, therefore, subject to all the requirements as such. No changes were made based on this comment.

Comment

§334.2(87)

EPA commented that the definition of "Pipeline facilities (including gathering lines)" referencing the Natural Gas Pipeline Safety Act of 1968 was out of date. EPA recommended that TCEQ update the reference to 49 United States Code Chapter 601.

Response

The commission agrees that the reference is obsolete and has updated the definition to instead reference the following: "Hazardous Liquid Pipeline Safety Act of 1979 (49 United States Code, §60101, *et seq.* and its subsequent amendments or a succeeding law). "

Comment

§334.2(88)

An individual requested the commission amend the definition of "Piping" to include the words "vent lines."

Response

In response to this comment, the commission declines to make the suggested change. The definition for "Piping" applies to equipment through which regulated substances flow or in which regulated substances are contained or stored in liquid form. Additionally, the commission notes that vent lines are defined in adopted §334.2(126). Additionally, because this suggestion is not within the scope of this rulemaking, the commission does not believe it is appropriate to make this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.2(96)

An individual commented that the wording of the definition of "Release" is confusing and inconsistent with the EPA's definition of "Release."

Response

The commission respectfully disagrees and responds that it believes the existing language is clear and consistent with federal requirements. No change has been made in response to this comment.

Comment

§334.2(116)

An individual requested that the commission replace the word "preventing" with "determining" in the definition for "Tightness test (or tightness testing)."

Response

The commission respectfully disagrees with this comment and responds that UST systems are designed to contain the regulated substance so that it does not enter the environment (i.e., as a release). The commission notes that the intent of tightness testing is preventing a release. Additionally, because this suggestion is not within the scope of this rulemaking, the commission does not recommend this type of substantive change without full comment on it from the regulated

community. No changes were made based on this comment.

Comment

§334.2(117)

An individual requested that the commission amend the wording of the definition for "Under-dispenser containment (UDC)" to explain that the UDC does not prevent leaks as the dispenser has components external to the UDC.

Response

The commission acknowledges this comment and responds that the definition for "Under-dispenser containment (UDC)" clearly indicates that a UDC is only designed to prevent a release from entering into the environment. No change was made in response to this comment.

Comment

EPA comments that by not expressly exempting airport hydrant systems and field constructed tanks, it will cause release detection and other requirements to apply to those systems. EPA recommends considering separating the requirements of these types of systems from other UST systems.

Response

The commission acknowledges this comment. The commission notes that Texas has

fully regulated airport hydrant systems and field constructed tanks for many years and created specific exceptions from certain requirements for these types of systems. The commission believes that because there are very few of these types of systems in Texas, there is no need to create separate rules specific to these types of systems. No changes were made based on this comment.

Comment

§334.3(a)(10)

EPA comments that Texas rules are out of date with regard to the codes listed in the definition of a UST. EPA recommends Texas update the codes to match 40 CFR §280.12.

Response

The commission notes that the section of rules that EPA commented on is not part of the rulemaking package and the change therefore is outside the scope of the rulemaking. The current TCEQ rule exempts from UST regulation "pipeline facilities, including gathering lines, if such facilities are regulated under: (A) the Natural Gas Pipeline Safety Act of 1968 (49 United States Code, §§1671, *et seq.*); or (B) the Hazardous Liquid Pipeline Safety Act of 1979 (49 United States Code, §2001, *et seq.*)" Current 40 CFR §280.12 exempts a pipeline facility "(i) Which is regulated under 49 U.S.C. Chapter 601; or (ii) Which is an intrastate pipeline facility regulated under state laws as provided in 49 U.S.C. Chapter 601, and which is determined by

the Secretary of Transportation to be connected to a pipeline, or to be operated or intended to be capable of operating at pipeline pressure or as an integral part of a pipeline." TCEQ agrees to propose updating these citations in a future rulemaking. No change was made in response to this comment.

Comment

§334.4(b)(2) and (3)

EPA recommends that TCEQ amend its language to match the federal language in §280.10(c)(4) regarding tanks regulated under the United States Nuclear Regulatory Commission and licensed under other appendices.

Response

The commission agrees and has amended language in §334.4(b)(2) and (3) to make it similar to federal regulations.

Comment

§334.6, Construction Notification for Underground Storage Tanks (USTs) and UST Systems

EPA requested that notification for storing biofuels be required prior to the owner storing them.

Response

The commission agrees that notification is required. The proposed changes in §334.6(b)(1)(A)(ix) require a 30-day notice to the commission prior to storing biofuels. No change was made in response to this comment.

Comment

§334.6(b)(6)(B)

An individual suggested that construction notification forms be allowed to be accepted with electronic signatures.

Response

The TCEQ has a system known as the "State of Texas Environmental Electronic Reporting Systems" (STEERS), which is available for the electronic submission of certain documents, such as PST Registration and Self Certification forms. That system has built-in mechanisms for validating electronic signatures. But, the commission does not presently accept PST Construction Notifications via the STEERS system. Therefore, although the TCEQ recognizes the convenience associated with non-handwritten signatures on paper documents or faxed documents, at this time, because of the importance of being able to validate the identity of the person submitting a form, the TCEQ will continue to require faxed and mailed construction notifications to have handwritten signatures. No changes were made based on this comment.

Comment

§334.7, Registration for Underground Storage Tanks (USTs) and UST Systems

TFFA recommended further clarification regarding registration for higher ethanol blends. Clarification was requested that registration is only required when the retailer is responsible for the control of the blending amount because fuel from the pipeline sometimes has higher ethanol than 10%. TFFA requested that registration is only required when a retailer intentionally introduces this type of fuel into a UST system.

Response

The commission intends to accept the amount of ethanol listed on the bill of lading from the common carrier as verification of the ethanol percentage. The commission finds that the proposed language is sufficient. No change was made in response to this comment.

Comment

§334.7(e)(3)

An individual suggested amending the language in §334.7(e)(3) to allow for submission of an additional form if a facility has more than four tanks.

Response

The commission has always accepted additional pages for locations with more than four tanks or compartments. Accordingly, no change was made in response to this

comment.

Comment

§334.8, Certification for Underground Storage Tanks (USTs) and UST Systems

EPA noted that there is no similar requirement to the federal certification that is required in 40 CFR §280.111(11).

Response

In response to this comment, the commission believes that an equally stringent standard is achieved through the use of TCEQ Form #0724, which tank owners and operators are required to submit to the commission annually, as well as be maintained in accordance with §334.10(b)(2)(A). Section 8 of TCEQ Form #0724 requires submission of the same information as 40 CFR §280.111(11). No change was made in response to this comment.

Comment

§334.10, Reporting and Recordkeeping

AAFES commented that TCEQ should allow facilities to provide electronic records to an inspector in place of hard copies.

Response

The commission notes that recordkeeping requirements in §334.10 require that

owners and operators keep records for a specified period of time and provide records to inspectors when requested. However, the rule does not require the records to be maintained in any particular form. Therefore, electronic records are acceptable. No change was made in response to this comment.

Comment

§334.10(b)(2)(B)(iv)

EPA recommends that the list of records required to be maintained be amended to include records of new testing and inspections requirements in §334.48.

Response

The commission agrees that the list of records required to be maintained can be improved for clarity. The commission has amended §334.10(b)(2)(B)(iv) to specifically list each of the new records that must be maintained.

Comment

§334.10(b)(2)(B)(vii)

EPA recommends that the recordkeeping requirement for spill and overfill control records be amended to include the words "and containment sumps used for interstitial monitoring" to match the federal definition of recordkeeping.

Response

The commission acknowledges the comment and agrees that the recordkeeping requirement for spill and overfill control records can be improved for clarity. The commission has added the suggested language to spill and overfill control recordkeeping requirements in adopted §334.10(b)(2)(B)(iv)(II).

§334.18, Limits on Liability of Taxing Unit

Comment

Citing the definition of "Taxing unit," Texas Property Tax Code, §1.04(12), EPA commented that EPA does not provide exclusion for units of local governments in its definition of owner/operator. In the case where a local government or state agency involuntarily acquires a UST via some sort of property transfer (e.g., foreclosure), that local government or state agency is considered the owner under federal UST regulations. Excluding a taxing unit from liability as owner/operator is less stringent than the federal definition for SPA purposes.

Response

TCEQ shares EPA's concern with non-compliant UST facilities being foreclosed on for non-payment of local taxes by a taxing unit. Per TWC, §26.3516, taxing units have some limits on liability for tank systems at properties that are foreclosed on. TCEQ would note, however, that this statute-based limitation is narrow in scope and does not appear to rise to the level of being less stringent than EPA's requirements when applied by TCEQ. Per TWC, §26.3516, a taxing unit is not liable as an owner or

operator "solely because it holds indicia of ownership because of a tax foreclosure sale." If a county, city, or other entity constituting a taxing unit purchases property with existing USTs or if they install them for use of the facility in a normal manner (for example, for storage and fueling of city vehicles), it is liable as any tank owner or operator would be. The vast majority of PST facilities which a taxing unit forecloses on are sold at auction to a private party who then becomes a new owner or operator, that owner or operator is then responsible for tank compliance.

Regarding the smaller number of situations where a taxing unit might foreclose on a property but then take ownership of the property itself, TCEQ notes that the Texas statute requires that if a taxing unit removes a tank from service or takes corrective action at any time after foreclosure, the taxing unit shall perform corrective action in accordance with requirements adopted by the commission under TWC, §26.3516(c). If the taxing unit forecloses on a property with tanks but takes no action regarding the tanks at all (i.e., they do not remove the tank from service, nor do they "participate in management" of the site per TWC, §26.3516(d)), TCEQ has other statutory provisions which authorize us to ensure that the tanks are properly addressed. No changes were made based on this comment.

Comment

TFFA objected to the TCEQ's proposed insertion of the statutory maximums of the fee in §334.19(a)(1) - (4). TFFA also objected to the idea, already present in the current

rule, that fee rates may be adjusted through a notification process rather than through a rulemaking process. In addition, TFFA raised concerns about the potential that the TCEQ may increase the fee rate in the future. Finally, TFFA suggested that the Comptroller of Public Accounts (Comptroller) be consulted on the determination of the fee.

Response

Regarding TFFA's first comment, the TCEQ proposed to change §334.19(a)(1) - (4) because the dollar amounts stated in the existing rule are no longer current. With the proposed rule, the TCEQ seeks to reduce any confusion that may result from out-of-date fee rates remaining in the rule. The current fee rates were published in the August 28, 2015, issue of the *Texas Register* (40 TexReg 5513), and are lower than those listed in the existing rule ("effective September 1, 2015, the fees are \$1.70 for each delivery into a cargo tank or a barge having a capacity of less than 2,500 gallons; \$3.45 for 2,500 to 5,000 gallons; \$5.45 for 5,000 to 8,000 gallons; \$6.95 for 8,000 to 10,000 gallons; and \$3.45 for each increment of 5,000 gallons delivered into a cargo tank or barge having a capacity of more than 10,000 gallons."). Those lower fee amounts remain unchanged with this rulemaking.

Regarding TFFA's second comment, when §334.19 was first adopted, as published in the April 13, 2012, issue of the *Texas Register* (37 TexReg 2674), the TCEQ noted in the adoption preamble that the fee would have to be adjusted on an ongoing

basis, based on legislative appropriations. Partly in the interest of a more expeditious reduction in fee rates after a legislative session than would be achievable through rulemaking, the TCEQ published a rule that described the methodology of setting the fee, while allowing for actual fee amounts to be determined and published in the *Texas Register*. As a general observation, the rulemaking process often takes one year from initiation to completion. The approach of setting fees by *Texas Register* publication provides the TCEQ with the flexibility to respond to changing conditions in a timely way. The rates established by the TCEQ have accomplished the goal of reducing the fund balance as required by statute. If the agency did not have the flexibility to modify the rates the reduction would not have gone into effect until the following year.

In its third comment, TFFA stated, "in terms of future funding, the PST fund balance is still in excess of \$100 million, TCEQ is going to need to demonstrate the need to increase funding for the program in a much more detailed fashion if TFFA is going to support any change in the funding amounts at this time." The TCEQ reiterates that we are not changing the delivery fee amounts with this rulemaking. Rather, the lowered rates published in the August 28, 2015, issue of the *Texas Register* (40 TexReg 5513) are still current. The TCEQ acknowledges the concern of TFFA, particularly regarding future potential increases in the fee. While no changes to the proposed rule language were made, the TCEQ will ensure that any future fee changes are preceded by solicitation of stakeholder input and a 30-day public

comment period.

Finally, regarding TFFA's fourth comment, that the Comptroller be consulted on determination of the fee, the TCEQ agrees, and we have done so in the past and will continue to do so in the future. TCEQ staff have worked with the Comptroller's office when implementing new rates, and we have worked closely with them during the development of the state's Biennial Revenue Estimates. Previous estimates of receipts have served as an accurate predictor of actual revenue, and we anticipate they will in the future as well.

Comment

§334.42(b)(1) and (2)

EPA commented that TCEQ failed to limit compatibility requirements to only applying to biofuels.

Response

The commission agrees that the intent of the compatibility requirements is limited to biofuels. Accordingly, the commission has amended this section to specify that the requirements for notification and documentation of compatibility for tanks are limited to tanks storing biofuels. In addition, the commission amended the recordkeeping requirements in §334.10(b)(2)(B)(xii) to clarify the applicability of those rules to documentation concerning a UST system's compatibility.

§334.42(i)

Comment

An individual commented that the term "overspill containers" as written in §334.42(i) was not correct industry terminology.

Response

The commission agrees that the term used could be amended to be more consistent with industry terminology. The commission has amended this term to "spill containment equipment."

Comment

§334.42(i) and §334.48(e), (g), (h), and (i)

TFFA commented that they support the inclusion of the delayed implementation date January 1, 2021 to allow enough time to determine some of the outstanding issues related to the newly required testing of spill equipment and sumps.

Response

The commission appreciates TFFA's support for the proposal.

Comment

§§334.42(i), 334.45(d)(1)(E)(vii), and 334.48(h)(1)

TFFA commented that they support the removal of the immediate disposal

requirement from the current rules to allow the most efficient method of disposal for the accumulated liquids removed from the equipment.

Response

The commission acknowledges the comment from TFFA.

Comment

§334.45(b)(4)(B)

An individual requested the commission amend wording to "under all accessible tank openings" instead of only fill and gauge openings.

Response

The commission acknowledges the comment. However, the regulated community has not reported tank failures due to a lack of striker plates other than those openings used for fill and gauging purposes. Therefore, there is no apparent need to be more stringent than the federal requirement. No change was made in response to this comment.

Comment

§334.45(c)(3)(A)

An individual requested the commission add the phrase "including residual fuel contained in the dispenser body" to §334.45(c)(3)(A).

Response

The commission acknowledges this comment. Because this suggestion is not within the scope of this rulemaking, the commission does not recommend making this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.45(d)(1)(E)(i)

An individual commented that §334.45(d)(1)(E)(i) does not allow liners for secondary containment and that other sections of the rule do allow liners as secondary containment.

Response

The commission respectfully disagrees with this comment. Section 334.45(d)(1)(E)(i) prohibits the use of external liners as secondary containment for new tanks or lines (i.e., those installed on or after January 1, 2009). Other parts of the rule indicate that external liners are an acceptable secondary containment method for specific types of UST systems. No change was made in response to this comment.

Comment

§334.45(d)(1)(E)(ii)

EPA commented that TCEQ was using lines and piping interchangeably in this rule and noted that while "Piping" has been defined in §334.2, lines were not.

Response

The commission acknowledges this comment and agrees that consistency should be maintained. The commission has removed references to "line" and "lines" and replaced them with "piping" in the places where the words had the same meaning.

Comment

§334.45(d)(1)(E)(v)(II)

An individual commented that §334.45(d)(1)(E)(v)(II) is very confusing and the commission should consider revising it.

Response

The commission acknowledges this comment. The specific language referenced in the comment has been deleted. The commission has adopted new language as part of the definition of "New dispenser."

Comment

§334.45(d)(1)(E)(viii)(II)

An individual requested the commission delete the word "manways" from the rule language and stated that this term has a different meaning in the petroleum industry.

Response

The commission respectfully disagrees with this comment. The term "manway" is used in 40 CFR Part 280 and is commonly used when discussing UST regulations that refer to a sump that a person can easily access. No change was made in response to this comment.

Comment

§334.45(d)(3)(A)(i)

An individual commented that jacketed double wall tanks at full capacity may not be able to be monitored for releases.

Response

The commission acknowledges this comment. The commission believes that a jacketed double wall tank at full capacity would still provide a large enough interstitial space to transmit fuel to the sensor. No change was made in response to this comment.

Comment

§334.45(d)(3)(B)

An individual commented that §334.45(d)(3)(B) should be deleted in total for multiple reasons related to concerns about external liners.

Response

The commission acknowledges this comment. Because this suggestion is not within the scope of this rulemaking, the commission does not believe it is appropriate to make this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.45(d)(4)(B)

An individual commented that trench liners should be considered only as a tertiary containment and otherwise removed as an acceptable containment product.

Response

The commission respectfully disagrees with this comment. The commission believes that because the rules require trench liners to meet the same requirements as other allowable external liners, trench liners are equally as protective of the environment. Additionally, because this suggestion is not within the scope of this rulemaking, the commission does not believe it is appropriate to make this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.45(e)(2)(D)

An individual requested the commission amend the wording in §334.45(e)(2)(D) to change the requirement for fill pipes from 12 inches to 6 inches from the bottom of the tank.

Response

The commission acknowledges this comment. Because this suggestion is not within the scope of this rulemaking, the commission does not believe it is appropriate to make this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.45(e)(4)(B)(ii)

An individual commented that if liners are acceptable, then observation wells with electronic monitoring should be required within and external to the liner.

Response

The commission acknowledges this comment. The commission notes that the requirements for liners and any related installation requirements for observation wells are clearly defined in other sections of this subchapter. Additionally, because this suggestion is not within the scope of this rulemaking, the commission does not believe it is appropriate to make this type of substantive change without full

comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.46(a)(3)(C)

An individual requested the commission amend the wording of §334.46(a)(3)(C) to add "repaired and certified by the manufacturer for tanks only."

Response

In response to this comment, the commission declines to make the suggested change. Requiring repairs to be performed according to the manufacturers' specifications insures that tank integrity is maintained. Additionally, because this suggestion is not within the scope of this rulemaking, the commission does not recommend making this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.46(a)(4)(A)

An individual requested the commission amend the wording of §334.46(a)(4)(A) to include "per the manufacturers' installation specifications" after the words "and associated equipment."

Response

In response to this comment, the commission declines to make the suggested change. Installation specifications in §334.46(a)(1) are required to follow one of several approved standards. Additionally, because this suggestion is not within the scope of this rulemaking, the commission does not recommend making this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.46(c)(2)

Buc-ee's, OPW, and an individual commented that the requirement that piping shall slope 1/8" per foot in the direction of the tank was no longer necessary and should be removed.

Response

The commission acknowledges this comment. Because this suggestion is not within the scope of this rulemaking, the commission does not recommend making this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.46(d)(4)(B)(i) and (ii)

An individual commented that §334.46(d)(4)(B)(i) and (ii) are not relevant to the installation of a new UST system because a used cathodic protection system is not suitable for a new UST system.

Response

The commission acknowledges the comment. The commission notes that the requirements in §334.46(d)(4)(B)(i) and (ii) do not refer specifically to a used cathodic protection system. Additionally, because this suggestion is not within the scope of this rulemaking, the commission does not recommend making this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.46(f)(4)

An individual commented that liners should be allowed in Texas only as tertiary containment.

Response

The commission acknowledges this comment. The commission notes that the rules do not allow external liners to be used as a secondary containment method for tanks, liners, and dispensers installed on or after January 1, 2009. Additionally, because this suggestion is not within the scope of this rulemaking, the commission

does not recommend making this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.46(i)(2)(C)(ii)

An individual requested the commission amend the contact information requirements in §334.46(i)(2)(C)(ii) to require only the contact information for the manufacturer.

Response

The commission acknowledges this comment. Because this suggestion is not within the suggestion of this rulemaking, the commission does not believe it is appropriate to make this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.48, General Operating and Management Requirements

TFFA commented that the retrofitting of double-walled installations with interstitial monitoring may create compliance issues for facilities because of limited contractor and equipment availability due to the short time frame.

Response

The commission acknowledges this comment. The commission notes that existing facilities (i.e., facilities that have been in use prior to September 1, 2018) with double-walled sump and/or spill bucket installations who opt for periodic monitoring instead of sump testing (per the requirements in §334.48(g)) have until January 1, 2021, to come into compliance. The commission believes this to be an adequate amount of time for all such facilities to retrofit their equipment. No changes were made in response to this comment.

Comment

An individual commented that the implementation dates were not consistent. Some of the dates were "on or before" and some were "on or after."

Response

The commission acknowledges this comment and has edited the sections with implementation dates to consistently use either "before" or "on or after."

Comment

§334.48(c)

AAFES commented that the requirement for retail stations to perform release detection monitoring by monthly inventory control should be deleted. Additionally, AAFES commented that if deleting monthly inventory control was not possible, then an exemption should be granted for a UST system which uses double-walled tanks and

pipng with UDC and submersible turbine pump sumps.

Response

In response to this comment, the commission respectfully declines to make either of the suggested changes. The commission notes that monthly inventory control at retail service stations is similarly required by Section 9.2.1 of the 2012 edition of the National Fire Protection Association Code for Motor Fuel Dispensing Facilities and Repair Garages (NFPA 30A-2012), which was adopted by reference into 28 TAC §34.5 by the Texas Department of Insurance pursuant to the requirements in Texas Health and Safety Code, §753.003. No changes were made based on this comment.

Comment

§334.48(e)

Cactus Environmental and Harris County commented that TCEQ should reconsider the testing of sensors if there is no evidence of malfunction or potential release because interstitial and sump sensors might be damaged during removal and reinstallation during testing. Cactus Environmental commented that manufacturer's recommendations do not require removal during inspection.

Response

The commission acknowledges these comments and responds that the adopted rules allow owners and operators to annually test sensors by using the

manufacturer's standards, a code of practice developed by a nationally recognized association or independent testing laboratory, or another method approved by the executive director. As such, owners and operators may choose between the listed methods to achieve compliance with this rule. No change was made in response to this comment.

Comment

§334.48(g)

Harris County recommends providing waivers or extensions in the compliance deadlines for the sump testing rule on a case-by-case basis for sites which would require significant effort and time to comply, particularly in the cases of local governmental agencies which have established fiscal and procurement procedures that require long-range planning and annual budgeting to comply with new regulatory requirements.

Response

The commission acknowledges the comment and responds that for existing facilities, the commission has delayed implementation of the new annual release detection equipment testing, triennial sump and spill bucket testing, triennial inspection of overfill prevention equipment, and periodic walkthrough inspections until January 1, 2021. The commission believes this delay is sufficient time for owners and operators to plan, budget, and implement the new regulatory

requirements. The commission notes that §334.43 concerns variance procedures.

No change was made in response to this comment.

§334.48(g)(1)(A)(ii)(III)

Comment

Harris County and an individual commented that the low-level liquid test does not address testing the functionality of additional penetration points within the sump, such as sump entry fittings, electrical conduits, or piping which may be located more than three inches above the sensor activation point.

Response

The commission acknowledges this comment and responds that the low liquid level test was approved as an acceptable test method by the EPA in May 2017. The commission has weighed the environmental impacts of the various approaches and believes this method is sufficient for testing overall functionality with the added benefit of generating much less wastewater, which may be potentially contaminated with hydrocarbons. No change was made in response to this comment.

Comment

Buc-ee's commented that they are encouraged by TCEQ's willingness to implement common-sense solutions such as low liquid level testing of spill buckets and sumps.

Response

The commission appreciates Buc-ee's support for the proposal.

Comment

Harris County requests that the TCEQ consider adding the Massachusetts Method as an alternative for fulfilling the testing requirements for containment sump testing.

Response

In response to this comment, the commission declines to make the suggested change. The commission notes that containment sump testing methods determined by the executive director to be no less protective of human health and the environment than those listed in adopted §334.48(g) may be approved on a case-by-case basis. No change is being made in response to this comment.

Comment

RaceTrac requests an alteration to the requirement that the sensor be calibrated to activate positive shutdown. RaceTrac recommends that in the event that a sensor can distinguish between hydrocarbons and liquid alone, the rule language should allow positive shutdown to be activated in the presence of hydrocarbons alone.

Response

The commission acknowledges this comment and responds that the purpose of the sensor is to ensure that the sump(s) are liquid tight; thus, the sensor must have the capability to detect the presence of both fuel and water. No change was made in response to this comment.

Comment

§334.48(g)(1)(A)(ii)(III)(-c)(-1-)

An individual commented that a sensor calibrated to shut down the individual dispenser associated with the sump in the event of a release is not always also capable of notifying the operator of the shutdown, which could result in a delay in the discovery of the shutdown.

Response

The commission acknowledges this comment and responds that the purpose of the sensor is to shut down the dispenser, thereby preventing the sump from overflowing and releasing regulated substances. The commission believes that the operator will receive adequate notification of the shutdown from customers or the automatic tank gauge if the system is wired in such a manner. No change was made in response to this comment.

§334.48(g)(1)(A)(iii)

Comment

Harris County is requesting that the TCEQ clarify what, if any, records are required to be maintained for the test water and what type of testing is required to determine proper disposal.

Response

A permit is required to discharge petroleum contaminated wastewater into or adjacent to water in the state. There are two types of permits available: an individual permit or the Petroleum Contaminated Water General Permit Number TXG830000. The current analytical testing and recordkeeping requirements for Petroleum Contaminated Water General Permit Number TXG830000 can be viewed online at:

https://www.tceq.texas.gov/permitting/wastewater/general/TXG83_steps.html. In contrast, individual permits are developed based on site specific information. Consequently, individual permits will have unique testing and recordkeeping requirements based on such factors as the receiving waterbody type and flow characteristics, and the wastewater sources and influent characteristics.

Comment

TFFA commented that they appreciate TCEQ's approach to "test" water disposal from spill bucket and sump testing.

Response

The commission appreciates TFFA's support for the proposal.

Comment

§334.48(h)

Cactus Environmental commented that they are pleased the TCEQ has established rules on sump inspections that were included in the 2009 Chapter 334 update.

Response

The commission appreciates Cactus Environmental's support for the proposal.

Comment

§334.48(h)(1)(A)(ii)

Buc-ee's and TFFA commented that the proposed requirements for walkthrough inspections include verification that no alarms or unusual operating conditions are present. Buc-ee's and TFFA recommended that the rules be clarified to specify that "alarms" in this context are limited to release detection alarms.

Response

The commission agrees that the intent of the walkthrough inspections under this section is to verify that release detection alarms are not present and has amended the rule language accordingly. The commission has amended rule language to clarify that "alarms" in this context is limited to release detection alarms.

Comment

§334.48(h)(1)(B)

TFFA commented that it supports TCEQ's approach on exempting sumps installed before 2009 from requirements that would appear to require water to be removed from the sumps. TFFA further stated that this approach uses "good common sense" by recognizing it is improbable for a vessel not designed to be "liquid tight" to pass a liquid tightness test.

Response

The commission appreciates TFFA's support for the proposal.

Comment

§334.48(i)

An individual requested that the implementation dates of the airport hydrant rule changes be delayed similarly to the other new requirements in §334.48.

Response

The commission acknowledges this comment and agrees with the commenter. Accordingly, the commission has amended the proposed language to delay the implementation date for airport hydrant systems to begin conducting periodic walkthrough inspections to no later than January 1, 2021.

Comment

§334.49(b)(7)

EPA commented that they did not see a state requirement for "record of corrosion expert's analysis," but noted that the requirement would not be necessary if TCEQ required all tanks to have corrosion protection.

Response

In response to this comment, the commission notes that if a corrosion expert's analysis is an allowable exemption from corrosion protection requirements in §334.49(b)(7). No change was made in response to this comment.

Comment

§334.50, Release Detection

TFFA commented that the retrofitting of double-walled installations with interstitial monitoring may create compliance issues for facilities because of limited contractor and equipment availability due to the short time frame. In addition, TFFA stated that the new requirement that release detection be monitored every 30 days instead of "monthly (not to exceed 35) days" will create compliance issues because of the strict compliance window and the size of the UST universe and state of Texas. TFFA states that the "30 days" requirement will place particular hardship on "mom and pop" stores, rural facilities, and large chains for various reasons.

Response

The commission acknowledges these comments. The commission notes that new installations have been required to have secondary containment and interstitial monitoring since January 1, 2009, per the requirements in §334.45(d)(1)(E) and that retrofitting will not apply to facilities already following the existing rules. No changes were made in response to this comment.

Regarding TFFA's second comment, the commission notes that federal regulations specifically require 30 days and EPA has not allowed any flexibility on compliance monitoring periods. The commission will continue to work with EPA to explore any flexibility with the new 30-day requirement. No changes were made in response to this comment.

Comment

§334.50(b)(1) and (2), and (c)(4)

EPA commented to specify that its new rules were intended to make interstitial monitoring required to be the primary release detection method for facilities installed 180 days after the effective date of the rule.

Response

The commission acknowledges this comment and responds that new installations

in Texas have been required to have secondary containment and interstitial monitoring since January 1, 2009, per the requirements in §334.45(d)(1)(E). The commission has determined that the rule language could be improved for clarity by including "primary release detection method" in the sections requiring interstitial monitoring for UST systems installed after the effective date of required secondary containment and interstitial monitoring. The following were modified:

§334.50(b)(1)(B); (b)(2)(A)(iii) and (B)(ii); and (c)(4)(B).

Comment

§334.50(d)(1)(B)(iii)(III)

An individual commented that it is unreasonable to expect an operator to have direct knowledge of the dispenser calibration. He requested that the commission replace the current language with the alternative phrase, "with an accuracy for dispensers meeting NIST Handbook 44" or with the Texas Department of Agriculture standards.

Response

The commission acknowledges the comment. Because this suggestion is not within the scope of this rulemaking, the commission does not believe it is appropriate to make this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.50(d)(8)(B)

An individual commented that the rule language for a liner system or for a jacketed or double wall tank to determine a release or a breach should be identical to avoid creating a double standard.

Response

The commission respectfully disagrees with this comment. A secondary containment liner system is a different release detection method than a double walled or jacketed tank. Each requires specific site assessments as described in the rule. Additionally, because this suggestion is not within the scope of this rulemaking, the commission does not believe it is appropriate to make this type of substantive change without full comment on it from the regulated community. No changes were made in response to this comment.

Comment

§334.51(a)(4)

An individual requested the commission amend the rule language to include the phrase, "flow restrictor devices may not be used when overflow prevention is installed or replaced after September 1, 2018."

Response

The commission acknowledges the comment and notes that adopted

§334.51(b)(2)(C)(ii) states that flow restrictor devices may not be used when overflow prevention is installed or replaced on or after September 1, 2018. No change was made in response to this comment.

Comment

§334.51(b)(2)(C)(ii)

Dow recommends that the rule disallowing the installation of flow restrictor devices be amended to specify "in vent lines." EPA's regulation specified this but TCEQ's does not.

Response

In response to this comment, the commission declines to add the suggested language. The commission does not believe this clarification is necessary because the use of a flow restrictor (ball float) for overfill prevention requires it to be installed at the vent line connection for it to function correctly. No changes were made based on this comment.

Comment

§334.51(b)(4)(C)

EPA commented that the variance in this rule had been worded in a way that it can be interpreted to mean a facility could go without spill and overfill.

Response

The commission acknowledges this comment and agrees the language can be improved. Therefore, proposed §334.51(b)(4)(C) has been removed as the commission believes it is unnecessary and partially duplicative of adopted §334.51(b)(4)(B).

Comment

§334.52(b)(4)

EPA commented that the rules were missing a requirement to periodically inspect relined tanks.

Response

In response to this comment, the commission agrees that periodic inspection of relined tanks is warranted and has adopted requirements that are substantively the same as the federal requirements.

Comment

§334.54, Temporary Removal from Service

Burns Pump Service and Cactus Environmental commented that A/B operator training requirements should be removed for USTs which are temporarily removed from service.

Response

In response to this comment, the commission declines to make the suggested change. The commission notes that federal regulations require operator training for all UST systems, regardless of their operational status. The commission additionally notes that UST systems which are temporarily removed from service remain subject to requirements applicable to all UST systems, including release detection, financial assurance, corrosion protection, construction notification, and self-certification and registration. No changes were made based on this comment.

Comment

§334.54(c)

EPA commented that they could not find a requirement in §334.54(c) to maintain corrosion protection while a UST system is temporarily out of service.

Response

The commission acknowledges this comment and agrees that §334.54(c) requiring corrosion protection for temporarily out of service systems could be improved for clarity. Existing §334.54(c)(1) has been moved to adopted §334.54(b)(3) so that corrosion protection is now listed as being required for all UST systems. The remaining paragraph has been renumbered accordingly.

Comment

§334.55(a)(9)

EPA suggested amending the rule to make it similar to 40 CFR §280.73.

Response

The commission acknowledges this comment and agrees that §334.55(a)(9) could be improved for clarity. Accordingly, the existing language has been replaced with language more closely matching its federal counterpart while still remaining substantively the same.

Comment

§334.74, Release Investigation and Confirmation Steps

EPA commented that TCEQ's requirement to conduct an initial suspected release investigation within 30 days was too long. Federal regulations require investigations within seven days, or another reasonable time period specified by the implementing agency.

Response

The commission acknowledges this comment. Under 40 CFR §280.52 owners and operators must immediately investigate and confirm all suspected releases of regulated substances requiring reporting under 40 CFR §280.50 within seven days, or another reasonable time period specified by the implementing agency. Texas rules also require immediate investigation, but confirmation is allowed within 30 days, which the commission would respectfully suggest is "another reasonable time

period." An immediate investigation and a no-more-than-30-day confirmation meets the stringency requirement of the federal regulation and is protective of the environment. No changes were made based on this comment.

Comment

§334.74(1)(A) - (D)

EPA commented that the usage of the phrase "leak exists" was misleading and should be amended.

Response

The commission respectfully disagrees with this comment and believes that the language used in the subparagraphs for system check and site check is substantively the same as their federal counterparts. No change was made in response to this comment.

Comment

§334.121, Purpose and Applicability for Aboveground Storage Tanks (ASTs)

EPA commented that this section indicates that ASTs associated with airport hydrant systems or field constructed tanks are not partially excluded and are instead fully regulated.

Response

In response to this comment, the commission notes that it has fully regulated airport hydrant systems and field constructed tanks subject to some exceptions and exclusions, which are listed in §334.123 and §334.124. No change was made in response to this comment.

Comment

§334.407(a)

An individual suggested that upon termination or lapsing of required insurance coverage, that a UST contractor must cease all work, bidding, stop all projects, and notify the TCEQ.

Response

The commission acknowledges this comment. Because this suggestion is not within the scope of this rulemaking, the commission does not believe it is appropriate to make this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.407(d)

An individual suggested that the agency-issued registration number should be displayed on all company or contracted vehicles.

Response

The commission acknowledges this comment. Because this suggestion is not within the scope of this rulemaking, the commission does not believe it is appropriate to make this type of substantive change without full comment on it from the regulated community. No changes were made based on this comment.

Comment

§334.534(a)

EPA requested that the commission define the term "month."

Response

The commission respectfully declines to define the term "month" in this section, which relates to overpayments from the PST remediation account, because in the accounting and auditing context, it is clear that "interest rate determined on the first business day of each month" refers to a calendar month. No changes were made based on this comment.

Comment

§334.605(d)

Harris County recommended that the deadline for operator training on the new requirements be extended from April 1, 2019, to prevent additional training costs to owners and operators.

Response

The commission agrees that an extension of the deadline for operator training on the new requirements may decrease the financial burden for owners and operators. Accordingly, the commission has extended the training deadline in adopted §334.605(d) from April 1, 2019, to January 1, 2020.

Comment

§§334.601, 334.604, and 334.606

EPA asked for confirmation that §§334.601, 334.604, and 334.606 will be unchanged.

Response

The commission confirms that the sections were not part of this rulemaking and, therefore, were not amended.

Comment

§334.602(b)(2)(B)

EPA suggested adding "testing and inspections" to the list of topics required for Class A and B operators.

Response

The commission agrees and has amended the list of topics in §334.602(b)(1)(B) and

(2)(B) to clarify that Class A and B operator training must include training covering the required testing and inspection of UST systems.

SUBCHAPTER A: GENERAL PROVISIONS
§§334.2, 334.4, 334.6, 334.7, 334.10, 334.19

Statutory Authority

The amendments are adopted under Texas Water Code (TWC), §5.012, which provides that the commission is the agency responsible for implementing the constitution and laws of the state relating to the conservation of natural resources and protection of the environment; TWC, §5.103, which authorizes the commission to adopt any rules necessary to carry out its powers and duties under the TWC and other laws of this state; TWC, §5.105, which directs the commission to establish and approve all general policy of the commission by rule; TWC, §26.011, which requires the commission to control the quality of water by rule; TWC, §26.345, which authorizes the commission to develop a regulatory program and to adopt rules regarding underground and aboveground storage tanks; and TWC, §26.3574(b-1), which requires the commission to set the amount of the petroleum products delivery fee.

The United States Environmental Protection Agency (EPA) has amended the regulations pertaining to underground storage tank technical requirements (40 Code of Federal Regulations (CFR) Part 280) and state program approval (40 CFR Part 281), effective October 13, 2015. TWC, §26.357, requires standards and rules concerning underground storage tanks adopted by the commission to be at least as stringent as federal requirements.

The adopted rules implement or track as closely as possible the amended federal regulations. The adopted rules reflect the changed law of this state regarding petroleum products delivery fee made in House Bill (HB) 2694, 82nd Texas Legislature, 2011, in particular changes made to TWC, §26.3574, which have previously been implemented.

§334.2. Definitions.

The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise.

(1) Abandonment in-place--A method of permanent removal of an underground storage tank from service where the tank is left in the ground after appropriate preparation and filling with an acceptable solid inert material in accordance with the requirements of §334.55 of this title (relating to Permanent Removal from Service).

(2) Abatement--The process of reducing in sufficient degree or intensity the source of the release or impacted area, and potential fire, explosion, or vapor hazards, such that immediate threats to human health no longer exist. This includes the removal, as necessary, of all regulated substances from any confirmed or suspected release source (including associated aboveground or underground tanks,

individual tank compartments, or associated piping) and the removal of phase-separated regulated substances from the impacted area.

(3) Aboveground release--Any release to the surface of the land or to surface water, including, but not limited to, releases from the aboveground portion of an underground storage tank (UST) system and releases associated with overfills and transfer operations during the dispensing, delivering, or removal of regulated substances into or out of a UST system.

(4) Aboveground storage tank (AST)--A non-vehicular device (including any associated piping) that is made of non-earthen materials; located on or above the surface of the ground, or on or above the surface of the floor of a structure below ground, such as mineworking, basement, or vault; and designed to contain an accumulation of petroleum products.

(5) Action level--The concentration of constituents of any substance or product listed in §334.1(a)(1) of this title (relating to Purpose and Applicability) in the soil or water at which corrective action will be required.

(6) Airport hydrant system--An underground storage tank system which fuels aircraft and operates under high pressure with large diameter piping 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, railcar, or other motor fuel carrier.

(7) Allowable cost--As defined by §334.308 of this title (relating to Allowable Costs and Restrictions on Allowable Costs).

(8) American National Standards Institute (ANSI)--A nationally recognized organization which provides certifications and standards for consumer products and services.

(9) American Petroleum Institute (API)--A nationally recognized organization which provides certifications and standards for petroleum equipment and services.

(10) Ancillary equipment--Any devices that are used to distribute, meter, or control the flow of petroleum substances or hazardous substances into or out of an underground storage tank, including, but not limited to, piping, fittings, flanges, valves, and pumps.

(11) Appropriate regional office--The agency's regional field office which has jurisdiction for conducting authorized agency regulatory activities in the area

where a particular underground storage tank system or aboveground storage tank system is located.

(12) Association for Composite Tanks (ACT)--A trademark of the former Association for Composite Tanks, now a licensed trademark of the Steel Tank Institute.

(13) ASTM International (formerly known as American Society of Testing and Materials)--A nationally recognized organization which provides certifications and standards for products and services.

(14) Backfill--The volume of materials or soils surrounding the underground storage tank bounded by the ground surface, walls, and floor of the tank pit.

(15) Below-ground release--Any release to the subsurface of the land or to groundwater, including, but not limited to, releases from the below-ground portions of an underground storage tank (UST) system and releases associated with overfills and transfer operations during the dispensing, delivering, or removal of regulated substances into or out of a UST system.

(16) Beneath the surface of the ground--Beneath the ground surface or otherwise covered with earthen material.

(17) Cathodic protection--A technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell, normally by means of either the attachment of galvanic anodes or the application of impressed current.

(18) Change-in-service--A method of permanent removal from service involving the permanent conversion of a regulated underground storage tank to a tank which is not regulated under this chapter, where all regulated substances are properly removed by emptying and cleaning, and the tank is left in the ground for the storage of materials other than regulated substances.

(19) Closure letter--A letter issued by the agency which states that, based on the information available, the agency agrees that corrective action has been completed for the referenced release in accordance with agency requirements.

(20) Commingled--A combination or mixture of a petroleum product and a substance other than a petroleum product (excluding soil and/or water).

(21) Common carrier--With respect to delivery prohibitions, a person (as defined in this section) who physically delivers a regulated substance into an underground storage tank or an aboveground storage tank directly from a cargo tank

which is affixed or mounted to a self-propelled, towable, or pushable vehicle (e.g., wagon, truck, trailer, railcar, aircraft, boat, or barge).

(22) Compatible--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 underground storage tank.

(23) Composite tank--A single-wall or double-wall steel tank, to which a fiberglass-reinforced plastic laminate or cladding has been factory-applied to the external surface of the outer tank wall.

(24) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)--The federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended.

(25) Consumptive use--With respect to heating oil, the utilization and consumption of heating oil on the premises where stored.

(26) Containment sump--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. Containment

sumps may be single walled or secondarily contained and located at the top of tank (tank top or submersible turbine pump sump), underneath the dispenser (under dispenser containment sump), or at other points in the piping run (transition or intermediate sump).

(27) Corporate fiduciary--An entity chartered by the Texas Department of Banking, the Texas Department of Savings and Mortgage Lending, or the United States Office of the Comptroller of the Currency that acts as a receiver, conservator, guardian, executor, administrator, trustee, or fiduciary of real or personal property.

(28) Corrective action--Any assessment, monitoring, and remedial activities undertaken to investigate the extent of, and to remediate, contamination.

(29) Corrective action plan (or remedial action plan)--A detailed plan developed to address site remediation of soil, groundwater, or surface water contamination that provides for required protection of human health, safety, and the environment. The selection of the most effective and efficient remedial method will be dictated by the nature and location of the release, the site soils, hydrogeological conditions, and the required degree of remediation. The remedial method selection should take into consideration such factors as cost, time, and state compliance requirements with each method. The title of any report which contains a corrective action plan must include the designation "remedial action plan."

(30) Corrosion specialist--A person who, by reason of a 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, and who is either:

(A) certified as a corrosion specialist or a cathodic protection specialist by NACE International; or

(B) licensed as a professional engineer by the Texas Board of Professional Engineers in a branch of engineering that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks.

(31) Corrosion technician--A person who can demonstrate an understanding of the principles of soil resistivity, stray current, structure-to-soil potential, and component electrical isolation measurements related to corrosion protection and control on buried or submerged metal tanks and metal piping systems; who is qualified by appropriate training and experience to engage in the practice of inspection and testing for corrosion protection and control on such systems, including

the inspection and testing of all common types of cathodic protection systems; and
who is either:

(A) certified by NACE International as a corrosion technician,
corrosion technologist, or senior corrosion technologist;

(B) employed under the direct supervision of a corrosion specialist
(as defined in this section), where the corrosion specialist maintains responsible
control and oversight over all corrosion testing and inspection activities; or

(C) certified as a cathodic protection tester, in a manner
satisfactory to the agency, by either NACE International or the Steel Tank Institute.

(32) Date installation is complete--The date any regulated substance is
initially placed in an underground storage tank or the date any petroleum product is
initially placed in an aboveground storage tank.

(33) Dielectric material--A material that does not conduct direct electrical
current, as related to coatings, bushings, and other equipment and materials used with
underground storage tank systems.

(34) Dispenser--Equipment located aboveground that dispenses regulated substances from the underground storage tank system.

(35) Electrical equipment--Underground equipment which contains dielectric fluid which is necessary for the operation of equipment such as transformers and buried electrical cable.

(36) Emergency generator--A standby electrical generating system powered by an internal combustion engine (including a turbine), where such system is designed to supply temporary electrical service only when service from the normal or primary electrical source is disrupted. Such systems include, but are not necessarily limited to, those providing emergency electrical service for hospitals, life support systems, and other medical service facilities; telephone and electrical utilities; heating, lighting, ventilation, security, elevator, fire control, and other essential building operations systems; uninterruptible power systems; essential air conditioning and refrigeration; and motors, machinery, and controls used for other essential or critical purposes.

(37) Excavation zone--The space containing the underground storage tank (UST) system and backfill material, which is bounded by the ground surface and the walls and floor of the pit and trenches into which the UST system is placed at the time of installation.

(38) Existing underground storage tank (UST) system--A UST system which is used or designed to contain an accumulation of regulated substances for which installation either had commenced prior to December 22, 1988, or had been completed on or prior to December 22, 1988. Installation will be considered to have commenced if the owner or operator had obtained all federal, state, and local approvals or permits necessary to begin physical construction at the site or installation of the tank system, and if either a continuous on-site physical construction or installation program had begun or the owner or operator had entered into contractual obligations (which could not be canceled or modified without substantial loss) which required that the physical construction at the site or installation of the tank system was to be completed within a reasonable time.

(39) External release detection--A method of release detection which includes equipment or procedures designed to effectively monitor or measure for the presence of regulated substances in the excavation zone, soil, or other media outside of a single-wall or double-wall underground storage tank system.

(40) Facility--The site, tract, or other defined area where one or more underground storage tank systems or one or more aboveground storage tank systems are located.

(41) Farm--A tract or tracts of land (including all associated structures and improvements) which are principally devoted to the raising of agricultural or other types of crops, domestic or other types of animals, or fish for the production of food, fiber, or other products or for other useful purposes, including fish hatcheries, rangeland, and plant nurseries with growing operations, but not including timber-growing land and operations dedicated primarily to recreational, aesthetic, or other non-agricultural activities (e.g., golf courses and parks).

(42) Farm tank--A tank located on a farm where the stored regulated substance is or will be utilized directly in the farm activities.

(43) Field-constructed tank--A tank constructed in the field. For example, a tank constructed of concrete that is poured in the field or a steel or fiberglass tank primarily fabricated in the field is considered field-constructed.

(44) Flow-through process tank--A tank through which regulated substances flow in a steady, variable, recurring, or intermittent manner during, and as an integral part of, a production process (such as petroleum refining, chemical production, and industrial manufacturing), but specifically excluding any tank used for the static storage of regulated substances prior to their introduction into the production process and any tank used for the static storage of regulated substances which are products or by-products of the production process.

(45) Free product (or non-aqueous phase liquid)--A regulated substance in its free-flowing non-aqueous liquid phase at standard conditions of temperature and pressure (i.e., that portion of the product not dissolved in water or adhering to soil).

(46) Gathering lines--Any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operation.

(47) Hazardous substance--Any substance defined or listed in the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980, §101(14) (42 United States Code (USC), §§9601, *et seq.*), and which is not regulated as a hazardous waste under the federal Solid Waste Disposal Act, Subtitle C (42 USC, §§6921, *et seq.*).

(48) Hazardous substance underground storage tank (UST) system--A UST system that contains an accumulation of either a hazardous substance, a mixture of two or more hazardous substances, or a mixture of one or more petroleum substances with one or more hazardous substances, and which does not meet the definition of a petroleum UST system in this section.

(49) Heating oil--A petroleum substance which is typically used in the operation of heating, boiler, or furnace equipment and which either is one of the

following seven technical grades of fuel oil: Number 1, Number 2, Number 4-light, Number 4-heavy, Number 5-light, Number 5-heavy, and Number 6; is a residual fuel oil derivative of the refining process (such as Navy Special and Bunker C residual fuel oils); or is another fuel (such as kerosene or diesel) used for heating purposes as a substitute for one of the fuel oils or residual fuel oil derivatives listed in this paragraph.

(50) Hydraulic fluid--Any regulated substance that is normally used in a hydraulic lift system.

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

(52) Impressed current system--A method of cathodic protection where a rectifier is used to convert alternating current to direct current, where the current then flows in a controlled electrically connected circuit to non-sacrificial anodes, then through the surrounding soil or backfill to the protected metallic structure or component, and back to the rectifier.

(53) In operation--The description of an in-service underground storage tank which is currently being used on a regular basis for its intended purpose.

(54) In service--The status of an underground storage tank (UST) beginning at the time that regulated substances are first placed into the tank and continuing until the tank is permanently removed from service by means of either removal from the ground, abandonment in-place, or change-in-service. An in-service UST may or may not contain regulated substances, and may be either in operation or out of operation at any specific time.

(55) Installer--A person who participates in or supervises the installation, repair, or removal of underground storage tanks.

(56) Inventory control--Techniques used to identify a loss of product that are based on volumetric measurements in the tank and reconciliation of those measurements with product delivery and withdrawal records.

(57) Jacketed tank--A factory-constructed tank consisting of a single-wall or double-wall steel internal (or primary) tank that is completely enclosed in an external secondary-containment jacket made of noncorrodible material, and which is designed so that releases of stored substances from the internal tank can be contained and monitored within a liquid-tight interstitial space between the internal tank and the external jacket.

(58) Lender--A state or national bank; a state or federal savings bank; a credit union; a state or federal savings and loan association; a state or federal government agency that customarily provides financing; or an entity that is registered with the Office of Consumer Credit Commissioner under Chapter 7, Title 79, Revised Statutes (Texas Civil Statutes, Article 5069-7.01, *et seq.*) if the entity is regularly engaged in the business of extending credit and if extending credit represents the majority of the entity's total business activity.

(59) Liquid trap--A collection device (such as a sump, well cellar, and other trap) which is 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, and which either 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.

(60) Leaking petroleum storage tank (LPST) site--A site at which a confirmed release of a petroleum substance from an underground storage tank or aboveground storage tank has occurred. Petroleum substance contamination which results from multiple sources may be deemed as one LPST site by the agency.

(61) Maintenance--The normal and routine operational upkeep of underground storage tank systems necessary for the prevention of releases of stored regulated substances.

(62) Monitoring well--An artificial excavation constructed to measure or monitor the quantity or movement of substances, elements, chemicals, or fluids below the surface of the ground. The term does not include any monitoring well which is used in conjunction with the production of oil, gas, or any other minerals.

(63) Motor fuel--A complex blend of hydrocarbons typically used for the operation of a motor engine, such as and which is one of the following types of fuels: motor gasoline, aviation gasoline, Number 1 or Number 2 diesel fuel, or any blend containing one or more of these substances (for example, motor gasoline blended with alcohol).

(64) NACE International (NACE) (formerly National Association of Corrosion Engineers)--A nationally recognized organization which provides certifications and standards for corrosion protection services.

(65) National Fire Protection Association (NFPA)--A nationally recognized organization which provides certifications and standards for fire protection equipment and services.

(66) New dispenser--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 at an underground storage tank facility. The equipment necessary to connect the dispenser to the underground storage tank system includes check valves, shear valves, unburied risers or flexible connectors, or other transitional components that are underneath the dispenser and connect the dispenser to the underground piping.

(67) New underground storage tank (UST) system--A UST system which is used or designed to contain an accumulation of regulated substances for which installation commenced after December 22, 1988, or an underground storage system which is converted from the storage of materials other than regulated substances to the storage of regulated substances after December 22, 1988.

(68) Non-aqueous phase liquid (NAPL)--See "Free product (or non-aqueous phase liquid)" as defined in this section.

(69) Non-commercial purposes--With respect to motor fuel, all purposes except resale.

(70) Noncorrodible material--A material used in the construction, maintenance, or upgrading of any component of an underground storage tank (UST) system which is designed to retain its physical and chemical properties without significant deterioration or failure for the operational life of the UST system when placed in contact with (and subjected to the resulting electrical and chemical forces associated with) any surrounding soil, backfill, or groundwater, any connected components constructed of dissimilar material, or the stored regulated substance.

(71) Observation well--A monitoring well or other vertical tubular structure which is constructed, installed, or placed within any portion of an underground storage tank excavation zone (including the tank hole and piping trench), and which is designed or used for the observation or monitoring of groundwater, or for the observation, monitoring, recovery, or withdrawal of either released regulated substances (in liquid or vapor phase) or groundwater contaminated by such released regulated substances.

(72) Occurrence--An incident, including continuous or repeated exposure to conditions, which results in a release from an underground storage tank or aboveground storage tank or tank system.

(73) On the premises where stored--With respect to heating oil, refers to underground storage tank systems located on the same property where the stored heating oil is used.

(74) Operational life--The actual or anticipated service life of an underground storage tank system, which begins when regulated substances are first placed into the tank system and which continues until the tank system is permanently removed from service by means of either removal from the ground, abandonment in-place, or change-in-service.

(75) Operator--Any person in day-to-day control of, and having responsibility for, the daily operation of the underground storage tank system or the aboveground storage tank system, as applicable.

(76) Out of operation--The description of an in-service underground storage tank which is not currently being used on a regular basis for its intended purpose.

(77) Overfill--A release that occurs when an underground storage tank system is filled beyond its capacity, thereby resulting in a discharge of a regulated substance to the surface or subsurface environment.

(78) Owner--Any person who holds legal possession or ownership of an interest in an underground storage tank (UST) system or an aboveground storage tank (AST). For the purposes of this chapter, if the actual ownership of a UST system or an AST is uncertain, unknown, or in dispute, the fee simple owner of the surface estate of the tract on which the UST system or the AST is located is considered the UST system or AST owner unless that person can demonstrate by appropriate documentation, including a deed reservation, invoice, bill of sale, or by other legally acceptable means that the UST system or AST is owned by another person. A person who has registered as an owner of a UST system or AST with the commission under §334.7 of this title (relating to Registration for Underground Storage Tanks (USTs) and UST Systems) (or a preceding rule section concerning tank registration) after September 1, 1987, shall be considered the UST system owner and/or AST owner until such time as documentation demonstrates to the executive director's satisfaction that the legal interest in the UST system or AST was transferred to a different person subsequent to the date of the tank registration. This definition is subject to the limitations found in Texas Water Code (TWC), §26.3514, Limits on Liability of Lender; TWC, §26.3515, Limits on Liability of Corporate Fiduciary; and TWC, §26.3516, Limits on Liability of Taxing Unit.

(79) Permanent removal from service--The termination of the use and the operational life of an underground storage tank by means of either removal from the ground, abandonment in-place, or change-in-service.

(80) Person--As defined in §3.2 of this title (relating to Definitions).

(81) Petroleum Equipment Institute (PEI)--A nationally recognized organization which provides certifications and standards for petroleum equipment and services.

(82) Petroleum marketing facilities--All facilities at which a petroleum substance is produced or refined and all facilities from which a petroleum substance is sold or transferred to other petroleum substance marketers or to the public.

(83) Petroleum marketing firms--All firms owning petroleum marketing facilities. Firms owning other types of facilities with underground storage tanks as well as petroleum marketing facilities are considered to be petroleum marketing firms.

(84) Petroleum product--A petroleum substance obtained from distilling and processing crude oil that is liquid at standard conditions of temperature and pressure, and that is capable of being used as a fuel for the propulsion of a motor vehicle or aircraft, including, but not limited to, motor gasoline, gasohol, other alcohol blended fuels, aviation gasoline, kerosene, distillate fuel oil, Number 1 and Number 2 diesel, and biodiesel blended with Number 1 or Number 2 diesel. The term does not include naphtha-type jet fuel, kerosene-type jet fuel, or a petroleum product destined for use in chemical manufacturing or feedstock of that manufacturing.

(85) Petroleum storage tank--

(A) Any one or combination of aboveground storage tanks that contain petroleum products and that are regulated by the commission; or

(B) Any one or combination of underground storage tanks and all connecting underground pipes that contain petroleum products and that are regulated by the commission.

(86) Petroleum substance--A crude oil or any refined or unrefined fraction or derivative of crude oil which is liquid at standard conditions of temperature and pressure (except for any substance regulated as a hazardous waste under the federal Solid Waste Disposal Act, Subtitle C (42 United States Code, §§6921, *et seq.*)). For the purposes of this chapter, a petroleum substance is limited to one or a combination of the substances or mixtures in the following list:

(A) basic petroleum substances (crude oils, crude oil fractions, petroleum feedstocks, and petroleum fractions);

(B) motor fuels (see definition for "Motor fuel" in this section);

(C) aviation gasolines (e.g., Grade 80, Grade 100, and Grade 100-LL);

(D) aviation jet fuels (e.g., Jet A, Jet A-1, Jet B, JP-4, JP-5, and JP-8);

(E) distillate fuel oils (e.g., Number 1-D, Number 1, Number 2-D, and Number 2);

(F) residual fuel oils (e.g., Number 4-D, Number 4-light, Number 4, Number 5-light, Number 5-heavy, and Number 6);

(G) gas-turbine fuel oils (e.g., Grade 0-GT, Grade 1-GT, Grade 2-GT, Grade 3-GT, and Grade 4-GT);

(H) illuminating oils (e.g., kerosene, mineral seal oil, long-time burning oils, 300 oil, and mineral colza oil);

(I) solvents (e.g., Stoddard solvent, petroleum spirits, mineral spirits, petroleum ether, varnish makers' and painters' naphthas, petroleum extender oils, and commercial hexane);

(J) lubricants (automotive and industrial lubricants);

(K) building materials (e.g., liquid asphalt and dust-laying oils);

(L) insulating and waterproofing materials (e.g., transformer oils and cable oils); or

(M) used oils (see definition for "Used oil" in this section).

(87) Petroleum underground storage tank (UST) system--A UST system that contains, has contained, or will contain a petroleum substance (as defined in this section), a mixture of two or more petroleum substances, or a mixture of one or more petroleum substances with very small amounts of one or more hazardous substances. In order for a UST system containing a mixture of petroleum substances with small amounts of hazardous substances to be classified as a petroleum UST system, the hazardous substance must be at such a dilute concentration that the overall release detectability, effectiveness of corrective action, and toxicity of the basic petroleum substance is not altered to any significant degree.

(88) Pipeline facilities (including gathering lines)--New and existing pipeline rights-of-way, including any equipment, facilities, or buildings therein which are used in the transportation or associated treatment (during transportation) of gas or hazardous liquids (which include petroleum and other liquids as designated by the

Secretary of the United States Department of Transportation), and which are regulated under the federal Hazardous Liquid Pipeline Safety Act of 1979 (49 United States Code, §§60101, *et seq.* and its subsequent amendments or a succeeding law); or (for intrastate pipeline facilities) the Texas Natural Resources Code, Chapter 111 or 117, or Texas Civil Statutes, Articles 6053-1 and 6053-2.

(89) Piping--All underground pipes in an underground storage tank system, including valves, elbows, joints, flanges, flexible connectors, and other fittings attached to a tank system through which regulated substances flow or in which regulated substances are contained or stored.

(90) Piping trench--The portion of the excavation zone at an underground storage tank facility which contains the piping system and associated backfill materials.

(91) Pressurized piping--Product or delivery piping in an underground storage tank system which typically operates at greater than atmospheric pressure.

(92) Professional engineer--A person who is currently duly licensed by the Texas Board of Professional Engineers to engage in the practice of engineering in the State of Texas.

(93) Professional geoscientist--A person who is currently duly licensed by the Texas Board of Professional Geoscientists to engage in the public practice of geoscience in the State of Texas.

(94) Qualified personnel--Persons who possess the appropriate competence, skills, and ability (as demonstrated by sufficient education, training, experience, and/or, when applicable, any required certification or licensing) to perform a specific activity in a timely and complete manner consistent with the applicable regulatory requirements and generally accepted industry standards for such activity.

(95) Radioactive materials--Radioactive substances or radioactive waste materials (e.g., high-level radioactive wastes and low-level radioactive cooling waters) which are classified as hazardous substances under the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980, §101(14), 42 United States Code (USC), §§9601, *et seq.*, except for radioactive materials regulated as a hazardous waste under the federal Solid Waste Disposal Act, Subtitle C, 42 USC, §§6921, *et seq.*

(96) Regulated substance--An element, compound, mixture, solution, or substance that, when released into the environment, may present substantial danger to the public health, welfare, or the environment. For the purposes of this chapter, a regulated substance is limited to any hazardous substance (as defined in this section),

any petroleum substance (as defined in this section), any mixture of two or more hazardous substances and/or petroleum substances, and any other substance designated by the commission to be regulated under the provisions of this chapter.

(97) Release--Any spilling including overfills, leaking, emitting, discharging, escaping, leaching, or disposing from an underground storage tank or aboveground storage tank into groundwater, surface water, or subsurface soils. In this definition, the term "subsurface soils" does not include backfill or native material in the tank hole that is placed immediately adjacent to or surrounding an underground storage tank system when the system is installed or the system's individual components are replaced unless petroleum free product is present in the backfill or native material.

(98) Release detection--The process of determining whether a release of a regulated substance is occurring, or has occurred, from an underground storage tank system.

(99) Repair--The restoration, renovation, or mending of a damaged or malfunctioning tank or underground storage tank system component.

(100) Replaced--

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

(B) For piping - to remove 35% or more of piping and install other piping, excluding connectors, connected to a single tank. For tanks with multiple piping runs, this definition applies independently to each piping run.

(101) Residential tank--A tank located on property used primarily for dwelling purposes.

(102) Retail service station--A facility where flammable liquids used as motor fuels are stored and dispensed from fixed equipment into the fuel tanks of motor vehicles and where such dispensing is an act of retail sale.

(103) Risk-based corrective action--Site assessment or site remediation, the timing, type, and degree of which is determined according to case-by-case consideration of actual or potential risk to public health from environmental exposure to a regulated substance released from a leaking underground storage tank or aboveground storage tank.

(104) Secondary containment--A containment method by which a secondary wall, jacket, or barrier is installed around the primary storage vessel (e.g., tank or piping) in a manner designed to prevent a release from migrating beyond the

secondary wall or barrier before the release can be detected. Secondary containment systems include, but are not limited to: double-wall tank and/or piping systems, impervious liners, jackets, containment boots, sumps, or vaults surrounding a primary (single-wall) tank and/or piping system.

(105) Septic tank--As defined in §285.2 of this title (relating to Definitions).

(106) Spill--A release of a regulated substance which results during the filling, placement, or transfer of regulated substances into an underground storage tank (UST) or an aboveground storage tank (AST), or during the transfer or removal of regulated substances from a UST system or an AST.

(107) Standard conditions of temperature and pressure--A temperature of 60 degrees Fahrenheit and an atmospheric pressure of 14.7 pounds per square inch absolute.

(108) Steel Tank Institute (STI)--A nationally recognized organization which provides certifications and standards for steel tanks.

(109) Stormwater or wastewater collection system--The piping, pumps, conduits, and any other equipment necessary to collect and transport surface water

runoff 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 stormwater and wastewater does not include treatment except where incidental to conveyance.

(110) Suction piping--Product or delivery piping in an underground storage tank system which typically operates below atmospheric pressure.

(111) Sump--Any man-made pit or reservoir that meets the definition of a tank in this section (including any connected troughs or trenches) that serves to collect and temporarily store regulated substances.

(112) Surface impoundment--A natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (but possibly lined with man-made materials) that is designed to hold an accumulation of regulated substances.

(113) Tank--A stationary device (generally exclusive of any associated ancillary equipment) designed or used to contain an accumulation of regulated substances which is constructed of a non-earthen material (e.g., concrete, steel, or plastic) that provides structural support.

(114) Tank hole--The portion of the excavation zone at an underground storage tank facility which contains the tanks and associated backfill materials.

(115) Tank system--An underground storage tank system.

(116) Temporary removal from service--The procedure by which an underground storage tank system may be temporarily taken out of operation without being permanently removed from service.

(117) Tightness test (or tightness testing)--A procedure for testing and analyzing a tank or piping system to determine whether the system(s) is capable of preventing the inadvertent release of a stored substance into the environment.

(118) Under-dispenser containment (UDC)--Containment underneath a dispenser system designed to prevent leaks from the dispenser and piping within or above the UDC from reaching soil or groundwater.

(119) Underground area--An underground room, basement, cellar, shaft, or vault, which provides enough space for physical inspection of the exterior of a tank or tank system situated on or above the surface of the floor.

(120) Underground storage tank (UST)--Any one or combination of underground tanks and any connecting underground pipes used to contain an accumulation of regulated substances, the volume of which, including the volume of the connecting underground pipes, is 10% or more beneath the surface of the ground.

(121) Underground storage tank (UST) system--An underground storage tank, all associated underground piping and underground ancillary equipment, spill and overfill prevention equipment, release detection equipment, corrosion protection system, secondary containment equipment (as applicable), and all other related systems and equipment.

(122) Underwriters Laboratories, Inc. (UL)--A nationally recognized organization which provides certifications and standards for consumer products and services.

(123) Unsaturated zone--The subsurface zone containing water under pressure less than that of the atmosphere (including water held by capillary forces within the soil) and containing air or gases generally under atmospheric pressure. This zone is bounded at the top by the ground surface and at the bottom by the upper surface of the zone of saturation (i.e., the water table).

(124) Upgrading--The addition, improvement, retrofitting, or renovation of an existing underground storage tank system with equipment or components as required to meet the corrosion protection, spill and overflow prevention, and release detection requirements of this chapter.

(125) Used oil--Any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use is contaminated by physical or chemical impurities.

(126) Vent lines--All pipes including valves, elbows, joints, flanges, flexible connectors, and other fittings attached to a tank system, which are intended to convey the vapors emitted from a regulated substance stored in an underground storage tank to the atmosphere.

(127) Wastewater treatment tank--A tank that is designed to receive and treat an influent wastewater through physical, chemical, or biological methods.

§334.4. Exclusions for Underground Storage Tanks (USTs) and UST Systems.

(a) Complete exclusions. In addition to the tanks exempted from regulation under §334.3 of this title (relating to Exemptions for Underground Storage Tanks

(USTs) and UST Systems), the following USTs are completely excluded from regulation under this chapter:

(1) any UST system containing a hazardous listed waste or identified under the federal Solid Waste Disposal Act, Subtitle C (42 United States Code (USC), §6921, *et seq.*), or containing a mixture of such hazardous waste and other regulated substances, where such system is already subject to regulation under the federal Solid Waste Disposal Act, Subtitle C;

(2) any wastewater treatment tank (including an oil-water separator and any pretreatment facility), which is an integral part of a wastewater treatment facility which is either:

(A) permitted under the federal Clean Water Act, either §307(b) or §402 (33 USC, §1251, *et seq.*); or

(B) permitted pursuant to the Texas Water Code (TWC), Chapter 26;

(3) sumps which have a capacity of less than 110 gallons;

(4) emergency spill protection or emergency overflow containment tanks, including certain sumps and secondary containment systems, which are used solely for

the temporary storage or containment of regulated substances resulting from a leak, spill, overflow, or other unplanned release, and where the regulated substances are routinely removed within 48 hours of the discovery of the release; provided that such tanks must be inspected for a release no less than once every month; or

(5) UST systems which during their entire operational life have exclusively contained only regulated substances at such dilute concentrations that any release would not pose any significant threat to human health and safety or the environment.

(b) Partial exclusions. The following USTs are subject to all provisions of this chapter, except for Subchapter C of this chapter (relating to Technical Standards); Subchapter N of this chapter (relating to Operator Training); Chapter 30, Subchapter I of this title (relating to Underground Storage Tank On-Site Supervisor Licensing and Contractor Registration); Chapter 37, Subchapter I of this title (relating to Financial Assurance for Petroleum Underground Storage Tank Systems); and the certification requirements of §334.8 of this title (relating to Certification for Underground Storage Tanks (USTs) and UST Systems):

(1) any wastewater treatment tank (including oil-water separators), where such tank is not an integral part of a wastewater treatment facility which is either:

(A) permitted under the federal Clean Water Act, either §307(b) or §402 (33 USC, §1151, *et seq.*); or

(B) permitted pursuant to the TWC, Chapter 26;

(2) any UST systems containing radioactive material that are regulated under the Atomic Energy Act of 1954 (42 USC, §2011, *et seq.*);

(3) any UST system that is part of an emergency generator system at nuclear power generation facilities licensed by the United States Nuclear Regulatory Commission and subject to United States Nuclear Regulatory Commission requirements regarding design and quality criteria, including but not limited to 10 Code of Federal Regulations Part 50.

(c) Other exclusion. In addition to the partial exemption for hydraulic lifts covered under §334.3(b) of this title, all other in-ground hydraulic lifts that use a compressed air/hydraulic fluid system and which hold 100 gallons or more of hydraulic oil are similarly excluded from regulation under this chapter, except that such lifts remain subject to the release reporting and corrective action requirements under Subchapter D of this chapter (relating to Release Reporting and Corrective Action).

(d) Upon request by the agency, the owner and operator of a tank claimed to be excluded under this section must provide appropriate documentation or other information in a timely manner to support that claim.

§334.6. Construction Notification for Underground Storage Tanks (USTs) and UST Systems.

(a) General requirements.

(1) Beginning September 1, 1987, any person who intends either to install a new or replacement underground storage tank (UST), to remove a UST from the ground, or to conduct a permanent abandonment in-place of a UST must comply with the notification requirements of this section prior to initiating such activity.

(2) On or after September 29, 1989, any person who intends to perform any construction activity listed in subsection (b)(1) of this section must comply with the notification requirements of this section prior to initiating such activity.

(3) In addition to the construction notification requirements of this section, the owner or operator of an existing or proposed UST system that is located or will be located on the designated recharge or transition zones or contributing zone within the transition zone of the Edwards Aquifer must also secure the requisite

approval from the agency prior to conducting certain regulated UST activities, as prescribed under Chapter 213 of this title (relating to Edwards Aquifer).

(4) Any UST construction activity performed or completed pursuant to a notification submitted under the provisions of this section must meet the applicable technical standards and procedural requirements under Subchapter C of this chapter (relating to Technical Standards).

(5) In situations where a proposed UST construction activity is necessitated by a suspected or confirmed release of regulated substances, or where the activity contributes to or causes such a release, the owner or operator must comply with the release reporting, investigation, and corrective action requirements of Subchapter D of this chapter (relating to Release Reporting and Corrective Action).

(6) Construction notifications required under this section may be provided to the agency's central office in Austin or to the agency's appropriate regional office in the area of the activity, unless otherwise specified in this section. The official date of notification must be the date on which the notification is first received in an agency office.

(7) Construction notification required under this section must be provided by the owner or operator, or an authorized agent or representative of the

owner or operator (e.g., a contractor or consultant who has contracted for such construction activity). Construction notifications filed by unauthorized persons are null and void.

(b) Notification for major construction activities.

(1) Applicable activities.

(A) For the purposes of this section, a major UST construction activity includes any of the following:

(i) installation of new or previously used tank systems at a new facility, and the addition or replacement of tanks at an existing facility;

(ii) removal of existing tank systems from the ground (either temporarily or permanently);

(iii) permanent abandonment in-place or change-in-service of existing tank systems;

(iv) tank repairs, including interior and exterior relining or recoating;

(v) installation of new or replacement piping for existing tanks;

(vi) addition of secondary containment equipment for new or existing tank or piping systems;

(vii) any tank integrity assessment or other activities requiring the entrance of any persons into a tank;

(viii) addition or replacement of any of the following items at existing facilities, when such addition or replacement is necessary for compliance with the minimum upgrading requirements in §334.47(b) of this title (relating to Technical Standards for Existing Underground Storage Tank Systems):

(I) cathodic protection systems;

(II) release detection systems;

(III) spill and overfill prevention equipment; or

(IV) monitoring well; and

(ix) switching to a regulated substance containing greater than 10% ethanol or greater than 20% biodiesel.

(B) The requirements of this section are not applicable to routine and minor maintenance activities related to the tank and piping systems, such as tightening loose fittings and joints, adjusting and calibrating equipment, conducting routine inspections and tests, and the substitution or in-kind replacement of any obsolete or malfunctioning UST system component for any purpose other than required upgrading.

(C) When a UST system has been taken temporarily out-of-service under §334.54 of this title (relating to Temporary Removal from Service), the owner or operator must first submit a construction notification form before returning the UST system to service.

(2) Filing requirements. Except as provided under subsection (c) of this section, any owner or operator who intends to perform a major UST construction activity as described in paragraph (1) of this subsection must file a written notification with the agency at least 30 days prior to initiating the activity.

(A) Such notification should be submitted on the agency's authorized form, as described in paragraph (6) of this subsection.

(B) When requested by the agency, any person who intends to perform a major UST construction activity must also submit additional supporting information to assure that the construction activity is in compliance with the requirements of this chapter. Supporting information which may be requested by the agency includes, but is not limited to, the following items:

- (i) detailed design plans and specifications (drawn to scale);
- (ii) installation standards and operating instructions for major system components;
- (iii) quality assurance plans;
- (iv) compatibility data related to the stored substances and the materials of construction;
- (v) specific geological, hydrological, and environmental site information;

(vi) qualifications and experience records of consultants, equipment installers, and contractors;

(vii) formal plan or procedures for tank removals, changes-in-service, and abandonments in-place;

(viii) disposal procedures for removed tanks;

(ix) general contingency plan for release abatement and the clean-up and disposal of any residual regulated substances, contaminated soils, or contaminated water (including wash water, groundwater, or surface water); and

(x) basis and description for any proposed change-in-service.

(C) Between 24 and 72 hours prior to the scheduled time of initiation of the proposed activity, the owner or operator must contact the agency's appropriate regional office in the area of the activity to confirm the time of the initiation of the proposed activity. Any revisions to the proposed construction start date must be in accordance with paragraph (3) of this subsection. This subparagraph does not apply to paragraph (1)(A)(ix) of this subsection.

(3) Rescheduling. If after the submittal of the initial construction notification, the owner or operator determines that a revision to the previously reported scope or start date for the construction is necessary, the owner or operator must immediately report the revised construction information to the commission's appropriate regional office in the area of the activity. This paragraph does not apply to paragraph (1)(A)(ix) of this subsection.

(A) If an earlier start date is proposed, and if this date is less than 30 days from the original notification date, then the owner or operator must comply with the requirements of paragraph (4) of this subsection.

(B) An owner or operator may revise the proposed construction start to a later date as necessary, provided that the agency's appropriate regional office is notified, and provided that original written notifications are properly renewed upon expiration in accordance with paragraph (5) of this subsection.

(4) Waiver requests. Normally a notification period of at least 30 days is required prior to the initiation of any major UST construction activity. However, if after the submittal of the construction notification, the owner or operator has good cause for an accelerated construction schedule, then the owner or operator may request approval of an earlier construction start date. Such request must be made directly to the agency's appropriate regional office in the area of the activity. The regional

director (or the director's designated representative) has the authority to approve or deny such requests, and such decision will be based on the following criteria:

(A) good cause shown by the owner or operator for an earlier construction start date; and

(B) the ability of agency personnel to arrange and schedule an adequate inspection of the activity.

(5) Expiration. A written construction notification for a major UST construction activity is valid for only 180 days after the original notification date or 150 days after the originally anticipated construction start date, whichever is earlier. If the proposed construction has not commenced within this period, the original notification will expire. If the owner or operator still plans to perform the construction after the expiration of this period, a new and updated construction notification form must be filed.

(6) Notification form.

(A) Any person who intends to perform a major UST construction activity (as described in paragraph (1) of this subsection) must provide all the

applicable construction notification information indicated on the agency's authorized construction notification form.

(B) The construction notification form must be filled out completely and accurately. Upon completion, the form must be dated and signed by the owner, the operator, or the authorized representative of the owner or operator, and must be timely filed in accordance with subsection (a)(6) of this section.

(c) Alternative notification procedures.

(1) Only for UST construction activities involving situations described under paragraph (2) of this subsection, the owner or operator may comply with the following alternative notification and reporting procedures in lieu of the normal notification requirements of subsection (b) of this section.

(A) The owner or operator must provide verbal or written notification to the agency as soon as possible prior to initiating the construction activity. Such notification must be submitted directly to the agency's appropriate regional office in the area of the activity.

(B) After providing the construction notification prescribed under subparagraph (A) of this paragraph, the owner or operator may proceed with the

construction activity, as directed by the regional director (or the regional director's designated representative). The owner or operator must maintain detailed records of the construction. No later than 30 days after completion of the construction, the owner or operator must submit to the agency a detailed report describing the activity. If the agency determines that the information in such report is insufficient to assure compliance with the applicable requirements of this chapter, then the owner or operator may be required to submit additional information to demonstrate such compliance.

(2) The alternative notification procedures of paragraph (1) of this subsection may be used only when the following situations occur:

(A) when an owner or operator of a UST can demonstrate that a release or suspected release of a regulated substance has occurred or is likely to occur as a result of the operation of the UST, when such release is considered an immediate threat to human health or safety or the environment, and when the owner or operator can demonstrate that the expeditious initiation and completion of the proposed construction activity is necessary to prevent or abate such release;

(B) when an out-of-operation UST system is discovered during unrelated construction activities (e.g., the construction of building excavations, streets, highways, utilities, etc.), when the property owner can reasonably demonstrate no prior

knowledge of the existence of the tank, when the expeditious removal or abandonment in-place of the tank is considered necessary or advisable for the completion of the unrelated construction activity, and where any delays in completion of the tank removal or abandonment in-place would cause unreasonable financial hardship due to contract schedules and completion times;

(C) when any duly authorized public official (e.g., any federal, state, or local fire or safety officer, health or environmental official, law officer, etc.) orders the immediate removal or repair of all or portions of a UST system which poses an immediate threat to human health, safety, or the environment;

(D) when the activity is necessary to maintain the operational readiness of an emergency generator, as defined by §334.2 of this title (relating to Definitions);

(E) in any other case where the agency determines that compliance with the notification provisions of subsection (b) of this section would be unreasonable or impractical, or could increase the threat to human health or safety or the environment.

§334.7. Registration for Underground Storage Tanks (USTs) and UST Systems.

(a) General provisions.

(1) All underground storage tanks (USTs) in existence on or after September 1, 1987, must be registered with the agency on authorized agency forms in accordance with subsection (e) of this section, except for those tanks which:

(A) are completely exempted or partially exempted from regulation under §334.3(a) or (b) of this title (relating to Exemptions for Underground Storage Tanks (USTs) and UST Systems);

(B) are completely excluded or partially excluded from regulation under §334.4(a) or (c) of this title (relating to Exclusions for Underground Storage Tanks (USTs) and UST Systems);

(C) were properly registered with the agency prior to September 29, 1989, under the provisions of the federal Solid Waste Disposal Act, §9002 (42 United States Code, §§6921, *et seq.*), provided that the owner or operator must submit notice of all changes and additional information in accordance with the provisions of subsection (d) of this section;

(D) have been permanently removed from usage by either:

(i) were permanently removed from the ground before May 8, 1986; or

(ii) remain in the ground, but were emptied, cleaned, and filled with solid inert materials on or before January 1, 1974, in accordance with accepted industry practices in effect at the time the UST was taken out of operation; or

(E) were out of operation and empty of regulated substances at the time of their discovery, provided that:

(i) the facility owner and operator can reasonably demonstrate no prior knowledge of the existence of the USTs; and

(ii) the USTs are permanently removed from service in accordance with §334.55 of this title (relating to Permanent Removal from Service) no later than September 29, 1990, or within 60 days of their discovery, whichever is later.

(2) The owner and operator of a UST are responsible for compliance with the tank registration requirements of this section. An owner or operator may designate an authorized representative to complete and submit the required registration information. However, the owner and operator remain responsible for compliance with the provisions of this section by such representatives.

(3) All USTs subject to the registration requirements of this section are also subject to the fee provisions of Subchapter B of this chapter (relating to Underground Storage Tank Fees), except where specifically exempted in this chapter. The failure by a tank owner or operator to properly or timely register any tanks does not exempt the owner from such fee assessment and payment provisions.

(4) Proper completion of the tank registration portions of the UST registration and self-certification form will result in the agency's issuance of a UST registration certificate for the tanks at the facility covered by that registration. This certificate is tied to the delivery prohibitions detailed in §334.5(b)(2) of this title (relating to General Prohibitions for Underground Storage Tanks (USTs) and UST Systems).

(b) Existing tanks. Any person who owns a UST that was in existence on September 1, 1987, must register such tank with the agency not later than September 1, 1987, on an authorized agency form, except for those tanks exempted and excluded under subsection (a)(1)(A) - (D) of this section. Upon November 23, 2000, the obligation becomes joint and several with the tank operator as well.

(c) New or replacement tanks. Any person who owns a new or replacement UST that is placed into service on or after September 1, 1987, must register the tank with

the agency on an authorized agency form within 30 days after the date any regulated substance is placed into the tank, except for those tanks exempted or excluded under subsection (a)(1)(A) - (D) of this section. Upon November 23, 2000, the obligation becomes joint and several with the tank operator as well.

(d) Changes or additional information.

(1) The owner or operator of a UST system must provide written notice to the agency of any changes or additional information concerning such system. Types of changes or additional information subject to this requirement must include, but are not limited to, the following:

(A) change in owner or operator, or change in owner or operator information (e.g., authorized representative, mailing address, and/or telephone number), provided that:

(i) amended registrations of owner or operator information (other than ownership transfers) may be submitted by the owner, operator, or an authorized representative of the owner or operator; and

(ii) amended registrations reflecting UST ownership transfers must be provided by the new UST owner or a legally-authorized

representative of the new UST owner (i.e., registrations of ownership transfers submitted by others will be returned and will not be recorded);

(B) change in the operational status of any tank system (e.g., in service, temporarily out-of-service, removed from the ground, permanently abandoned in-place, change-in-service to provide for the storage of a substance other than a regulated substance, or change to exempt or excluded status);

(C) change in the type of stored regulated substance, including switching to a regulated substance containing:

(i) greater than 10% ethanol; or

(ii) greater than 20% biodiesel;

(D) installation of additional tanks and/or ancillary equipment at an existing facility;

(E) change in the type of piping for an existing tank;

(F) the addition of, or a change in the type of, internal or external corrosion protection for the tanks, piping, and/or ancillary equipment;

(G) the addition of, or a change in the type of, spill and overflow prevention equipment for the tanks;

(H) the addition of, or a change in the type of, release detection equipment or methods for the tanks and/or piping;

(I) change in the location of documents and records for the facility;
and

(J) change in financial assurance information related to the facility as specified in Chapter 37, Subchapter I of this title (relating to Financial Assurance for Petroleum Underground Storage Tank Systems).

(2) Notice of any change or additional information must be submitted on an authorized agency form which has been completed in accordance with subsection (e) of this section. The agency's UST facility number for the facility must be included in the appropriate space on the form.

(3) Notice of any change or additional information must be filed with the agency within 30 days from the date of the occurrence of the change or addition, or

within 30 days from the date on which the owner or operator first became aware of the change or addition, as applicable.

(4) However, for the initial filing of the UST registration and self-certification form (which is described in §334.8(c)(4) of this title (relating to Certification for Underground Storage Tanks (USTs) and UST Systems)) for all regulated UST systems at a facility, all UST owners and operators must complete the "Tank Identification/Description" section of the UST registration portion of the form by the same deadline given in §334.8(c)(4)(A)(vi) of this title. This requirement does not relieve an owner or operator from any other registration requirements under this section.

(e) Required form for providing UST registration information.

(1) Any UST owner or operator required to submit UST registration information under subsections (a) - (d) of this section must provide all the information indicated on the agency's authorized form for each regulated UST. The UST registration information must be provided on the appropriate agency form, as specified in paragraph (6) of this subsection.

(2) The UST registration portion of the form must be filled out completely and accurately. Upon completion, the form must be dated and signed by the owner, or

the operator, or an authorized representative of the owner or operator, and must be filed with the agency within the specified time frames.

(3) All UST owners or operators required to submit UST registration information under subsections (a) - (d) of this section must provide the registration information for all USTs located at a particular facility on the same form.

(4) UST owners or operators who own or operate USTs located at more than one facility must complete and file a separate form for each facility where regulated USTs are located.

(5) If additional information, drawings, or other documents are submitted with new or revised registration data, specific facility identification information (including the facility identification number, if known) must be conspicuously indicated on each document and all such documents must be attached to and filed with the form.

(6) For any UST registration information filed with the agency on or after November 23, 2000, UST owners and operators must provide the required information on an authorized agency UST registration and self-certification form, as prescribed by §334.8(c)(4) of this title.

(7) Owners and operators of petroleum UST systems should also see the financial assurance requirements in §37.870(b) of this title (relating to Reporting, Registration, and Certification).

(f) Inadequate information. When any of the required UST registration information submitted to the agency is determined to be inaccurate, unclear, illegible, incomplete, or otherwise inadequate, the agency may require the owner and/or operator to submit additional information. An owner or operator must submit any such required additional information within 30 days of receipt of such request.

§334.10. Reporting and Recordkeeping.

(a) Reporting. Owners and operators of underground storage tank (UST) systems must assure that all reporting and filing requirements in this chapter are met, including the following (as applicable):

(1) construction notification, in accordance with §334.6 of this title (relating to Construction Notification for Underground Storage Tanks (USTs) and UST Systems);

(2) application for approval of any proposed UST system on the regulated zones of the Edwards Aquifer, in accordance with §334.6(a)(3) of this title and Chapter 213 of this title (relating to Edwards Aquifer);

(3) registration of UST systems and changes in information, in accordance with §334.7 of this title (relating to Registration for Underground Storage Tanks (USTs) and UST Systems);

(4) certification of construction activities, financial assurance, and compliance self-certification in accordance with §334.8 of this title (relating to Certification for Underground Storage Tanks (USTs) and UST Systems);

(5) request for approval of any variance or alternative procedure, in accordance with §334.43 of this title (relating to Variances and Alternative Procedures);

(6) documentation of release determination or site assessment conducted when a UST system is permanently removed from service, in accordance with §334.55(a)(6) of this title (relating to Permanent Removal from Service);

(7) payment of UST fees, in accordance with Subchapter B of this chapter (relating to Underground Storage Tank Fees);

(8) reports, plans, and certifications related to suspected and confirmed releases of regulated substances, including:

(A) release reports and notifications, in accordance with §334.72 of this title (relating to Reporting of Suspected Releases), §334.75 of this title (relating to Reporting and Cleanup of Surface Spills and Overfills), and §334.76 of this title (relating to Initial Response to Releases);

(B) report and certification of site check methods, in accordance with §334.74(3) of this title (relating to Release Investigation and Confirmation Steps);

(C) initial abatement report, in accordance with §334.77(b) of this title (relating to Initial Abatement Measures and Site Check);

(D) initial site assessment report, in accordance with §334.78(c) of this title (relating to Site Assessment);

(E) non-aqueous phase liquid removal report, in accordance with §334.79(4) of this title (relating to Removal of Non-Aqueous Phase Liquids (NAPLs));

(F) soil and groundwater contamination information, in accordance with §334.80(b) of this title (relating to Investigation for Soil and Groundwater Cleanup);

(G) corrective action plan, in accordance with §334.81 of this title (relating to Corrective Action Plan);

(H) notification of cleanup initiation, in accordance with §334.81(e) of this title;

(I) certification of compliance with corrective action plan, in accordance with §334.81(h) of this title; and

(J) public notices related to corrective action plans, in accordance with §334.82(b) of this title (relating to Public Participation);

(9) notifications and reports relating to financial assurance requirements, in accordance with Chapter 37, Subchapter I of this title (relating to Financial Assurance for Petroleum Underground Storage Tank Systems); and

(10) any other reports, filings, notifications, or other submittals required by this chapter, or otherwise required by the agency to demonstrate compliance with the provisions of this chapter. When agency requirements specify documents that must be prepared by, or prepared under, the supervision of a duly licensed professional engineer, a duly licensed professional geoscientist, or a duly licensed

professional surveyor, those documents must be prepared in accordance with all requirements of statute and rule applicable to that respective professional.

(b) Recordkeeping.

(1) General recordkeeping requirements.

(A) Owners and operators of UST systems are responsible for developing and maintaining all records required by the provisions of this chapter.

(B) Except as provided in subparagraphs (C) and (D) of this paragraph, legible copies of all required records pertaining to a UST system must be maintained in a secure location on the premises of the UST facility, must be immediately accessible for reference and use by the UST system operator, and must be immediately available for inspection upon request by agency personnel.

(C) Except as provided in clause (v) of this subparagraph, in the event that copies of the required records cannot reasonably be maintained on the premises of the UST facility, then such records may be maintained at a readily accessible alternate site, provided that the following conditions are met.

(i) If the UST system is in operation, the records must be readily accessible for reference and use by the UST system operator.

(ii) The records must be readily accessible and available for inspection upon request by agency personnel.

(iii) The owner or operator must provide the following information (in writing) to the agency's central office and to the agency's appropriate regional office:

(I) the specific location where the required records are maintained; and

(II) the name, address, and telephone number of the authorized custodian of such records.

(iv) The filing of the written information required in clause (iii) of this subparagraph must be accomplished no later than October 29, 1989, 30 days after a UST installation or replacement has been completed, or 30 days after the UST records are moved to an alternate site, whichever is later or applicable, as provided in §334.7(d) of this title.

(v) The conditional authorization otherwise allowed under this subparagraph for records maintenance at an alternative, off-premises location is not applicable to the UST delivery certificate (or temporary delivery authorization, if applicable) issued by the agency under §334.8(c) of this title. This UST delivery certificate must be maintained on the premises of all facilities with regulated USTs, must be posted by the UST system operator, and must be visible to the person(s) performing deliveries to the UST system.

(D) For UST systems which have been permanently removed from service in accordance with the applicable provisions of §334.55 of this title, the facility owner may submit the appropriate records required by this chapter to the agency in lieu of maintaining the records on the premises or at an alternative site, provided that the following conditions are met:

(i) the facility is no longer operated in a manner that requires the underground storage of regulated substances, and all UST systems at the facility have been permanently removed from service;

(ii) the facility owner must provide written justification adequate to explain why such records cannot be maintained on the premises of the UST facility or at a readily accessible alternative site; and

(iii) the records must be submitted at one time in one package for each UST facility, and the records must be appropriately labeled with the UST facility location information and the UST facility identification number.

(2) Required records and documents. Owners and operators of UST systems must assure that all recordkeeping requirements in this chapter are met, including the following records and documentation (as applicable).

(A) Legible copies of the following general records must be maintained for the operational life of the UST system:

(i) original and amended registration documents, in accordance with §334.7 of this title;

(ii) original and amended certifications for UST installations and financial assurance, in accordance with §334.8 of this title;

(iii) notification to UST purchaser, in accordance with §334.9 of this title (relating to Seller's Disclosure).

(B) Legible copies of applicable records and documents related to technical standards for UST systems must be maintained in accordance with the following provisions:

(i) application documents and the agency's approval letter for any variances or alternative procedures, in accordance with §334.43 of this title;

(ii) records demonstrating compliance with technical standards and installation standards for new UST systems, in accordance with §334.45(f) of this title (relating to Technical Standards for New Underground Storage Tank Systems) and §334.46(i) of this title (relating to Installation Standards for New Underground Storage Tank Systems);

(iii) records demonstrating compliance with the minimum upgrading requirements for existing UST systems, in accordance with §334.47(e) of this title (relating to Technical Standards for Existing Underground Storage Tank Systems);

(iv) operation and maintenance records, in accordance with §334.42 and §334.48 of this title (relating to General Standards; and General Operating and Management Requirements) including:

(I) documentation of compliance with operational requirements for release detection equipment;

(II) documentation of periodic testing of spill prevention equipment and containment sumps used for interstitial monitoring of piping and periodic inspection of overfill prevention equipment; and

(III) documentation of periodic operation and maintenance walkthrough inspections.

(v) corrosion protection records, in accordance with §334.49(e) of this title (relating to Corrosion Protection);

(vi) release detection records, in accordance with §334.50(e) of this title (relating to Release Detection);

(vii) spill and overfill control records, in accordance with §334.51(c) of this title (relating to Spill and Overfill Prevention and Control);

(viii) records for repairs and relining of a UST system, in accordance with §334.52(e) of this title (relating to Underground Storage Tank System Repairs and Relining);

(ix) records for reuse of used tanks, in accordance with §334.53(c) of this title (relating to Reuse of Used Tanks);

(x) records for temporary removal of UST systems from service, in accordance with §334.54(e)(4) of this title (relating to Temporary Removal from Service);

(xi) records for permanent removal of UST systems from service, in accordance with §334.55(f) of this title;

(xii) compatibility data related to the stored substances and the materials of construction in accordance with the requirements for documentation of biofuel compatibility in §334.42(b)(2) of this title.

(C) Legible copies of all required financial assurance records must be maintained in accordance with the applicable provisions of Chapter 37, Subchapter I of this title.

(D) Legible copies of previous and current registration and self-certification forms required to be filed annually with the agency under §334.8(c) of this

title, as well as UST delivery certificates, must be maintained for at least five years from the original date of submittal.

§334.19. Fee on Delivery of Petroleum Product.

(a) A fee is imposed on the delivery of a petroleum product on withdrawal from bulk of that product as provided by this subsection and pursuant to Texas Water Code (TWC), §26.3574. "Withdrawal from bulk" means the removal of a petroleum product from a bulk facility storage tank for delivery directly into a cargo tank or a barge to be transported to another location other than another bulk facility for distribution or sale in this state. Each supplier on withdrawal from bulk of a petroleum product shall collect from the person who orders the withdrawal a fee in an amount determined as follows, subject to future adjustments made under subsection (b) of this section:

(1) not more than \$3.75 for each delivery into a cargo tank having a capacity of less than 2,500 gallons.

(2) not more than \$7.50 for each delivery into a cargo tank having a capacity of 2,500 gallons or more but less than 5,000 gallons.

(3) not more than \$11.75 for each delivery into a cargo tank having a capacity of 5,000 gallons or more but less than 8,000 gallons.

(4) not more than \$15.00 for each delivery into a cargo tank having a capacity of 8,000 gallons or more but less than 10,000 gallons; and

(5) not more than \$7.50 for each increment of 5,000 gallons or any part thereof delivered into a cargo tank having a capacity of 10,000 gallons or more.

(b) TCEQ may adjust the fee rates in subsection (a) of this section through an appropriate notification process, such as but not limited to *Texas Register* publication with public comment, based on the agency's cost of administering this chapter in accordance with TWC, §26.3574(b-1), but not to exceed the maximum rates set by TWC, §26.3574. The projected rates will account for the biennial appropriations to the agency from the Petroleum Storage Tank Remediation Account Number 655, as well as fund obligations for Account Number 655, with projected revenue from the fee based on such factors as estimated fuel sales, population growth, consumer price index, and gas production.

SUBCHAPTER C: TECHNICAL STANDARDS

§§334.42, 334.45 - 334.52, 334.54

Statutory Authority

The amendments are adopted under Texas Water Code (TWC), §5.012, which provides that the commission is the agency responsible for implementing the constitution and laws of the state relating to the conservation of natural resources and protection of the environment; TWC, §5.103, which authorizes the commission to adopt any rules necessary to carry out its powers and duties under the TWC and other laws of this state; TWC, §5.105, which directs the commission to establish and approve all general policy of the commission by rule; TWC, §26.011, which requires the commission to control the quality of water by rule; TWC, §26.345, which authorizes the commission to develop a regulatory program and to adopt rules regarding underground and aboveground storage tanks; TWC, §26.347, which requires the commission to adopt performance standards, including design, construction, installation, release detection, and compatibility standards for existing and new underground storing tank systems; TWC, §26.3475, which requires underground storage tank systems to comply with commission requirements for tank release detection equipment and spill and overflow equipment; and TWC, §26.348, which directs the commission to adopt standards of performance for maintaining a leak detection system.

The United States Environmental Protection Agency has amended the regulations pertaining to underground storage tank requirements and standards (40 Code of Federal Regulations (CFR) Part 280) and state program approval (40 CFR Part 281), effective October 13, 2015. TWC, §26.357, requires standards and rules concerning underground storage tanks adopted by the commission to be at least as stringent as federal requirements. The rules implement or track as closely as possible the amended federal regulations.

§334.42. General Standards.

(a) All components of any new or existing underground storage tank (UST) system subject to the provisions of this subchapter shall be designed, installed, maintained, and operated in a manner that will prevent releases of regulated substances due to structural failure or corrosion.

(b) Compatibility.

(1) Owners and operators must use a UST system made of or lined with materials that are compatible with the substance stored in the UST system.

(2) Biofuels.

(A) Owners and operators must notify the executive director at least 30 days prior to switching to a regulated substance containing greater than 10% ethanol or greater than 20% biodiesel in accordance with §334.6(b)(1) of this title (relating to Construction Notification for Underground Storage Tanks (USTs) and UST Systems). In addition, owners and operators with UST systems storing these regulated substances must meet one of the following:

(i) demonstrate compatibility of the UST system (including the tank, piping, containment sumps, pumping equipment, release detection equipment, spill equipment, and overfill equipment). Owners and operators may demonstrate compatibility of the UST system by using one of the following options:

(I) certification or listing of UST system equipment or components by a nationally recognized, independent testing laboratory for use with the regulated substance stored (such as American Petroleum Institute Recommended Practice 1626, "Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Filling Stations."); or

(II) for equipment or component manufacturer approval, the manufacturer's approval must be in writing, indicate an affirmative statement of compatibility, specify the range of biofuel blends the equipment or

component is compatible with, and be from the equipment or component manufacturer; or

(ii) use another option determined by the executive director to be no less protective of human health and the environment than the options listed in this subsection.

(B) Owners and operators must maintain records in accordance with §334.10(b) of this title (relating to Reporting and Recordkeeping) documenting compliance with subparagraph (A)(i) of this paragraph for as long as the UST system is used to store the regulated substance.

(c) The owners and operators of UST systems subject to the provisions of this subchapter and those persons and/or business entities who engage in, perform, or supervise the installation, repair, or removal of UST systems shall be responsible for ensuring that those UST systems are designed, installed, repaired, removed, and operated in accordance with the provisions of this subchapter, as provided under §334.12(b) of this title (relating to Other General Provisions) and under the provisions of Chapter 70 of this title (relating to Enforcement).

(d) When provisions of this subchapter require compliance with a specific code or standard of practice developed by a nationally recognized association or

independent testing laboratory, the most recent version of the referenced code in effect at the time of the regulated UST activity shall be applicable.

(e) Compliance with the provisions of this subchapter shall not relieve an owner or operator of a UST system from compliance with other applicable regulations legally developed by other governmental entities. This requirement is more fully discussed in §334.12(a) of this title.

(f) Unless otherwise stated in a variance approved by the agency in accordance with §334.43 of this title (relating to Variances and Alternative Procedures), the requirements of this subchapter shall take precedence if and when such requirements are determined to be in conflict with any provisions contained in the following:

(1) any code or standard of practice developed by a nationally recognized association or independent testing laboratory; and

(2) the manufacturer's specifications and instructions for installation and operation of UST equipment.

(g) Any underground component of a UST system installed on or after September 29, 1989, shall be properly protected from corrosion by one or more of the allowable methods in §334.49(b) of this title (relating to Corrosion Protection).

(h) Any new tank or piping or dispenser installed as part of a UST system on or after January 1, 2009, shall incorporate secondary containment meeting the applicable requirements of §334.45(d) of this title (relating to Technical Standards for New Underground Storage Tank Systems).

(i) Any sumps (including dispenser sumps) or manways installed prior to January 1, 2009, which are utilized as an integral part of a UST release detection system to monitor the interstitial space of a secondarily contained piping system, and any spill containment equipment installed at any time, which are associated with a UST system must be inspected at least once every 60 days to assure that their sides, bottoms, and any penetration points are maintained liquid tight. Any liquid or debris found in them during that inspection or an agency or agency-authorized inspection must be removed within 96 hours of discovery and properly disposed. This requirement applies through December 31, 2020, after which the requirements in §334.48(h) of this title (relating to General Operating and Management Requirements), shall apply.

§334.45. Technical Standards for New Underground Storage Tank Systems.

(a) General requirements.

(1) Any new underground storage tank (UST) system installed on or after September 29, 1989, shall be in compliance with the provisions of this section during the entire operational life of the UST system.

(2) Any new UST system shall be designed, installed, and operated in a manner that will prevent releases due to structural failure or corrosion for the operational life of the UST system.

(3) The surfaces of all components of the new UST system which are in direct contact with a regulated substance shall be constructed of or lined with materials that are compatible with such regulated substances.

(4) All components of the new UST system which convey, contain, or store regulated substances shall be properly protected from corrosion in accordance with the applicable provisions in §334.49 of this title (relating to Corrosion Protection).

(5) All tanks, piping, and other ancillary equipment in a new UST system shall be installed in accordance with the requirements of §334.46 of this title (relating to Installation Standards for New Underground Storage Tank Systems).

(b) Technical standards for new tanks.

(1) Tank design and construction. Each new tank shall be properly designed, constructed, and protected from corrosion in accordance with one or more of the methods listed in subparagraphs (A) - (G) of this paragraph, and in accordance with specific codes and standards of practice developed by nationally recognized associations and independent testing laboratories, as referenced in the following subparagraphs:

(A) The tank may be constructed of fiberglass-reinforced plastic. Tanks constructed under this method shall meet an industry code of practice such as:

(i) Underwriters Laboratories, Inc. (UL) Standard 1316, "Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols, and Alcohol-Gasoline Mixtures;" or

(ii) Underwriter's Laboratories of Canada (ULC) S615, "Standard for Fibre Reinforced Plastic Underground Tanks for Flammable and Combustible Liquids."

(B) The tank may be constructed of coated steel and equipped with a factory-installed cathodic corrosion protection system. Any tank constructed under this method shall be thoroughly coated with a suitable dielectric material, shall be equipped with a factory-installed cathodic corrosion protection system meeting the

appropriate design and operational requirements in §334.49(c)(1) of this title, and shall meet an industry code of practice such as:

(i) UL Standard 58, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids;"

(ii) Part I of UL Standard 1746, "Standard for External Corrosion Protection Systems For Steel Underground Storage Tanks;" or

(iii) Steel Tank Institute (STI) Standard, " sti-P₃ Specification and Manual for External Corrosion Protection of Underground Steel Storage Tanks."

(C) The tank may be constructed of coated steel and equipped with a field-installed cathodic corrosion protection system. Any tank constructed under this method shall be thoroughly coated with a suitable dielectric material, shall be equipped with a field-installed cathodic protection system meeting the appropriate design and operational requirements in §334.49(c)(2) of this title, and shall meet the following standards:

(i) UL Standard 58, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids;" and

(ii) NACE International Standard SP0285, "External Corrosion Control of Underground Storage Tank Systems by Cathodic Protection."

(D) The tank may be factory-constructed either as a steel/fiberglass-reinforced plastic composite tank, or as a steel tank with a bonded fiberglass-reinforced plastic external cladding or as a steel tank with a bonded fiberglass reinforced polyurethane coating. Any tank constructed under this method is not required to be equipped with a cathodic protection system, provided that the tank meets the following requirements:

(i) The tank shall be equipped with a factory-applied external fiberglass-reinforced plastic or fiberglass reinforced polyurethane cladding or laminate which has a total dry film thickness of 100 mils minimum and 125 mils nominal;

(ii) The tank shall be operated and maintained in accordance with the requirements of §334.49 of this title;

(iii) The tank shall be electrically isolated from all other metallic structures by use of dielectric bushings or other appropriate methods utilized in accordance with applicable industry standards; and

(iv) The tank shall be designed and fabricated in accordance with one or more of the following standards:

(I) Part II of UL Standard 1746, "Standard for External Corrosion Protection Systems For Steel Underground Storage Tanks;"

(II) STI ACT-100, "Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks;" or

(III) any other UL, STI, or ULC standard which incorporates the requirements contained in the standards listed in either subclause (I) or (II) of this clause.

(E) The tank may be factory-constructed as a steel tank with a bonded polyurethane external coating. Any tank constructed under this method is not required to be equipped with a cathodic protection system, provided that the tank meets the following requirements:

(i) The tank shall be equipped with a factory-applied external polyurethane coating which has a minimum dry film thickness of 70 mils;

(ii) The tank shall be operated and maintained in accordance with the applicable requirements of §334.49 of this title;

(iii) The tank shall be electrically isolated from all other metallic structures by use of dielectric bushings or other appropriate methods utilized in accordance with applicable industry standards; and

(iv) The tank shall be designed and fabricated in accordance with one or more of the following standards:

(I) Part IV of UL Standard 1746, "Standard for External Corrosion Protection Systems For Steel Underground Storage Tanks;"

(II) STI ACT-100-U, "Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks;" or

(III) any other UL, STI, or ULC standard which incorporates the requirements contained in the standards listed in either subclause (I) or (II) of this clause.

(F) The tank may be factory-constructed as a steel tank completely contained within a nonmetallic external tank jacket. Any tank constructed under this method is not required to be equipped with a cathodic protection system, provided that the tank meets the following requirements:

(i) The tank shall be equipped with a factory-constructed nonmetallic external jacket which provides both secondary containment and corrosion protection;

(ii) The tank shall be operated and maintained in accordance with the applicable requirements of §334.49 of this title;

(iii) The tank shall be electrically isolated from all other metallic structures by use of dielectric bushings or other appropriate methods utilized in accordance with applicable industry standards; and

(iv) The tank shall be designed and fabricated in accordance with the following:

(I) Part III of UL Standard 1746, "Standard for External Corrosion Protection Systems For Steel Underground Storage Tanks;" or

(II) STI Specification F922, "Steel Tank Institute Specification for Permatank;" or

(III) any other UL, STI, or ULC standard which incorporates the requirements contained in the standard listed in subclause (I) or (II) of this clause.

(G) The tank may be designed, constructed, and protected from corrosion by an alternate method which has been reviewed and determined by the agency to control corrosion and prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and safety and the environment than the methods described in subparagraphs (A) - (F) of this paragraph, in accordance with the procedures in §334.43 of this title (relating to Variances and Alternative Procedures).

(2) Spill and overflow prevention equipment. All new tanks shall be equipped with spill and overflow prevention equipment, in accordance with §334.51(b) of this title (relating to Spill and Overflow Prevention and Control).

(3) Release detection for new tanks. All new tanks shall be monitored for releases of regulated substances in accordance with §334.50 of this title (relating to Release Detection).

(4) Other new tank components.

(A) Fittings. All metallic tank fittings (e.g., bung hole plugs) shall be protected from corrosion and shall be either:

(i) isolated from the backfill material and groundwater or any other water;

(ii) thoroughly coated with a suitable dielectric material, in accordance with the tank manufacturer's specifications; or

(iii) cathodically protected in accordance with the applicable provisions in §334.49(c) of this title.

(B) Striker plates. Factory-installed striker plates shall be located on the interior bottom surface of each tank under all fill and gauge openings.

(C) Dielectric bushings or fittings. In order to provide electrical isolation of the tank from other connected metal components, all coated steel tanks equipped with either a factory-installed cathodic protection system or a factory-applied fiberglass-reinforced plastic laminate or cladding shall also be fitted with dielectric bushings or fittings at each tank opening where other metal UST system components are connected, except for unused openings closed with metal plugs and for openings where the connected component is non-metallic.

(c) Technical standards for new piping.

(1) Piping design and construction. All new underground piping (including associated valves, fittings, and connectors) in a UST system shall be properly designed, constructed, and protected from corrosion in accordance with one of the methods listed in subparagraphs (A) - (D) of this paragraph and in accordance with specific codes and standards of practice developed by nationally recognized associations and independent testing laboratories, as referenced in the following subparagraphs.

(A) The piping may be constructed of fiberglass-reinforced plastic. Piping constructed under this method shall meet the following standards:

(i) UL Standard 971, "Standard for Nonmetallic Underground Piping For Flammable Liquids;" and

(ii) ULC Standard S660, "Standard for Nonmetallic Underground Piping for Flammable and Combustible Liquids."

(B) The piping may be constructed of coated steel. Piping constructed under this method shall be thoroughly coated with a suitable dielectric material, shall be cathodically protected with a field-installed cathodic protection system meeting the appropriate design and operational requirements in §334.49(c) of this title, and shall meet the applicable provisions of the following standards.

(i) UL Standard 971A, "Outline of Investigation for Metallic Underground Fuel Pipe;"

(ii) STI Recommended Practice R892, "Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems;"

(iii) American Petroleum Institute Publication 1632, "Cathodic Protection of Underground Storage Tanks and Piping Systems;"

(iv) NACE International Standard Practice SP0169, "Control of External Corrosion on Underground or Submerged Metallic Piping Systems; and"

(v) NACE International Standard Practice SP0285, "External Corrosion Control of Underground Storage Tank Systems by Cathodic Protection."

(C) The piping may be constructed of flexible nonmetallic material. Piping constructed under this method shall meet the following standards:

(i) UL Standard 971, "Standard for Nonmetallic Underground Piping For Flammable Liquids;" and

(ii) ULC Standard S660, "Standard for Nonmetallic Underground Piping for Flammable and Combustible Liquids."

(D) The piping may be designed, constructed, and protected from corrosion by an alternate method which has been reviewed and determined by the agency to prevent the release of any stored regulated substance in a manner that is no less protective of human health and the environment than the methods described in subparagraphs (A) and (B) of this paragraph. Any alternative methods must be submitted and approved in accordance with the procedures in §334.43 of this title.

(2) Release detection for new piping. All new piping shall be monitored for releases of regulated substances in accordance with §334.50(b)(2) of this title.

(3) Other new piping components.

(A) For piping systems in which regulated substances are conveyed under pressure to an aboveground dispensing unit, a UL-listed (or agency accepted equivalent listing by ULC) emergency shut-off valve (also called a shear or impact valve) shall be installed in each pressurized delivery or product line and shall be securely anchored at the base of the dispenser. This shut-off valve shall include a fusible link, and shall be designed to provide a positive shut-off of product flow in the event that a fire, collision, or other emergency occurs at the dispenser end of the pressurized line.

(B) UL-listed (or agency accepted equivalent listing by ULC, or Factory Mutual Research Corporation (FMRC)) flexible connectors shall be installed at both ends of each pressurized product or delivery line to provide flexibility and to allow for vertical and horizontal movement in the piping, unless inherently flexible piping is installed in accordance with manufacturer's requirements and in accordance with an applicable code or standard of practice developed by a nationally recognized association or independent testing laboratory. The use of metal swing joints in a pressurized UST piping system is specifically prohibited.

(C) If buried and in contact with soil or backfill materials, all metallic pipe, valves, and fittings (including flexible connectors) shall be equipped with corrosion protection meeting the applicable requirements in §334.49 of this title.

(D) Only UL-listed (or agency accepted equivalent listing by ULC, or FMRC) flexible connectors or nonmetallic piping listed for aboveground use or listed for use in sumps can be used without backfill cover in sumps, manways, or dispenser pans.

(d) Secondary containment for UST systems.

(1) Applicability.

(A) A secondary containment system meeting the requirements of this subsection shall be installed as part of any hazardous substance UST system.

(B) A double-wall tank and piping system (or approved alternative) meeting the applicable requirements of this subchapter shall be installed for any UST system situated on the Edwards Aquifer recharge or transition zones or contributing zone within the transition zone, in accordance with Chapter 213 of this title (relating to Edwards Aquifer).

(C) A UST system, at a minimum, shall incorporate secondary containment as specified in Texas Water Code, §26.3476, if the UST system is located in an area described in that provision.

(D) The agency may specifically require the installation of a secondary containment system meeting the requirements of this subsection at other times when necessary for the protection of human health or safety or the environment.

(E) Requirements applicable to new tanks, piping and/or dispensers (including related sumps or manways) installed on or after January 1, 2009:

(i) Any new tank or piping installed as part of a UST system must incorporate secondary containment in accordance with the applicable requirements of this subchapter, except that external liners will not be allowed as a secondary containment method.

(ii) Up to 35% of the total original length of an existing single-wall piping can be replaced with new single-wall piping in accordance with the applicable requirements of this subchapter without triggering the secondary containment requirement for that piping, unless the new piping segment connects the existing piping to a new dispenser. If more than 35% of the total original length of an

existing single-wall piping is to be replaced, or the new piping segment connects the existing piping to a new dispenser, that piping segment must be replaced with a piping which incorporates secondary containment.

(iii) The interstice of the secondarily contained tank and/or piping must be monitored in accordance with the requirements of §334.50(d)(7) of this title.

(iv) Any sumps (including dispenser sumps) or manways which are used for interstitial monitoring of piping must be compatible with the stored substance(s), must be installed and maintained in a manner that assures that their sides, bottoms, and any penetration points are liquid tight, and must be inspected in accordance with the requirements in §334.42 and §334.48 of this title (relating to General Standards; and General Operating and Management Requirements).

(v) Under-dispenser containment in the form of a dispenser sump is required for any new dispenser. A new dispenser is defined in §334.2 of this title (relating to Definitions). New dispensers must employ a dispenser sump which is compatible with the stored substance; is installed and maintained in a manner that assures that its sides, bottoms, and any penetration points are liquid tight; and must be inspected for tightness annually and tested for tightness, immediately after installation and at least once every three years thereafter.

(vi) Any sumps (including dispenser sumps) or manways which are used for interstitial monitoring of piping must be equipped with a liquid sensing probe(s) which will alert the UST system owner or operator if more than two inches of liquid collects in any sump or manway.

(vii) Liquids and/or debris found in any sumps (including dispenser sumps) or manways which are used for interstitial monitoring of piping must be removed within 96 hours of alert or discovery and properly disposed.

(viii) Inspections and testing.

(I) Inspections must be performed by a qualified person who is competent to conduct the inspection in accordance with recognized industry practices and in accordance with industry standards, if applicable.

(II) Testing of tanks and/or piping shall be performed in accordance with the applicable requirements of this chapter. Testing of sumps (including dispenser sumps) or manways must be performed by a qualified person who is competent to conduct the inspection in accordance with recognized industry practices and in accordance with industry standards, if applicable.

(2) General performance standards. All secondary containment systems installed as part of a UST system shall be:

(A) designed, installed, and operated in a manner that will prevent the release of regulated substances from such secondary containment system into the surrounding soil, backfill, groundwater, or surface water during the operational life of the UST system;

(B) capable of collecting and containing releases of regulated substances from any portion of the primary containment vessels (e.g., tanks and piping) until such released substances are removed;

(C) constructed of or lined with materials which are compatible with the stored regulated substance;

(D) constructed of materials having sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrological forces), physical contact with the stored regulated substance (and any other substance to which they may normally be exposed), climatic conditions, the stresses of installation, and the stresses of daily operation (including stresses from nearby vehicular traffic); and

(E) installed on a properly designed and properly placed bedding or backfill material which is capable of providing adequate support for the secondary containment system, capable of providing adequate resistance to any pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift.

(3) Secondary containment for tanks. One or more of the following methods may be used to provide secondary containment for tanks.

(A) Double-wall tanks. Double-wall tanks may be used to comply with the secondary containment requirements of this subchapter, provided that such tanks shall meet the following additional provisions.

(i) The secondary wall of such double-wall tanks shall be structurally designed to contain and support the full-load capacity of the primary tank without failure.

(ii) The double-wall tank (including both the primary and secondary tank walls) shall be protected from corrosion in accordance with one or more of the allowable methods included in §334.49 of this title.

(iii) The double-wall tank shall be designed, installed, operated, and maintained in accordance with one of the applicable codes or standards of practice listed as follows:

(I) for fiberglass-reinforced plastic tanks: UL Standard 1316, "Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols, and Alcohol-Gasoline Mixtures; "

(II) for steel tanks: STI Standard F841, "Standard for Dual Wall Underground Steel Storage Tanks; " UL Standard 58, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids; " and other applicable UL standards for double-wall steel tanks; and

(III) any other code or standard of practice developed by a nationally recognized association or independent testing laboratory that has been reviewed and determined by the agency to be no less protective of human health and safety and the environment than the standards described in subclauses (I) and (II) of this clause, in accordance with procedures in §334.43 of this title.

(iv) The double-wall tank system shall be installed in accordance with the requirements in §334.46(f)(2) of this title.

(B) External liners. Tank excavation liners may be used to comply with the secondary containment requirements of this paragraph, provided that such liners shall meet the following additional provisions.

(i) The tank excavation liner shall consist of an artificially constructed material that is of sufficient strength, thickness, puncture-resistance, and impermeability (i.e., allow permeation at a rate of no more than 0.25 ounces per square foot per 24 hours for the stored regulated substance) in order to permit the collection and containment of any releases from the UST system. The criteria for evaluation of the liner for compliance with this clause shall be in accordance with accepted industry practices for materials testing. Types of liners which may be used include certain reinforced and unreinforced flexible-membrane liners, rigid fiberglass-reinforced plastic liners, and reinforced concrete vaults.

(ii) The liner shall be protected from corrosion in accordance with one or more of the allowable methods included in §334.49 of this title.

(iii) The liner shall be sufficiently compatible with the stored regulated substance, so that any regulated substance collected in the liner system shall not cause any substantial deterioration of the liner that would allow the regulated substances to be released into the environment.

(iv) The liner shall be designed to provide a containment volume of no less than 100% of the full capacity of the largest tank within its containment area.

(v) The liner shall be installed in accordance with the requirements in §334.46(f)(4) of this title.

(4) Secondary containment for piping. One or more of the following methods shall be used to provide secondary containment for piping.

(A) Double-wall piping. Double-wall piping systems may be used to comply with the secondary containment requirements of this subchapter, provided that such piping systems meet the following additional provisions.

(i) The double-wall piping system shall be designed to contain a release from any portion of the primary piping within the secondary piping walls.

(ii) The double-wall piping system (including both the primary and secondary piping) shall be protected from corrosion in accordance with one or more of the allowable methods included in §334.49 of this title.

(iii) The double-wall piping system shall be designed, installed, and operated in accordance with a code or standard of practice developed by a nationally recognized association or independent testing laboratory.

(iv) The double-wall piping system shall be installed in accordance with the requirements in §334.46(f)(3) of this title.

(B) External liners. External piping trench liners may be used to comply with the secondary containment requirements of this paragraph, provided that such liners meet the additional provisions in paragraph (3)(B) of this subsection.

(e) Technical standards for other new UST system equipment.

(1) Vent lines. All underground portions of the vent lines (including all associated underground valves, fittings, and connectors) shall be designed and constructed in accordance with the piping requirements in subsection (c)(1) of this section, shall be properly protected from corrosion in accordance with one of the allowable methods in §334.49 of this title, and shall be installed in accordance with a code or standard of practice developed by a nationally recognized association or independent testing laboratory.

(2) Fill pipes. All fill pipes (including any connected fittings) shall be:

(A) designed and constructed in accordance with the piping requirements in subsection (c)(1) of this section;

(B) properly protected from corrosion in accordance with one of the allowable methods in §334.49 of this title;

(C) properly enclosed in or equipped with spill and overflow prevention equipment as required in §334.51(b) of this title; and

(D) equipped with a removable or permanent factory-constructed drop tube which shall extend to within 12 inches of the tank bottom.

(3) Release detection equipment. All release detection equipment shall be designed and constructed in accordance with the requirements for the particular type of equipment, as described in the applicable provisions in §334.50 of this title.

(4) Monitoring wells and observation wells.

(A) All monitoring wells and observation wells installed on or after September 29, 1989, shall be designed, constructed, and installed in accordance with the requirements in §334.46(g) of this title.

(B) Each separate tank hole in a new UST system installed on or after September 29, 1989, shall include a minimum number of four-inch diameter (nominal) observation wells, as specified in the following clauses:

(i) for a tank hole containing only one tank, a minimum of one observation well shall be required; and

(ii) for a tank hole containing two or more tanks, a minimum of two observation wells shall be required.

(f) Records for technical standards for new UST systems. Owners and operators of new UST systems shall maintain adequate records to demonstrate compliance with the applicable provisions in this section, which at a minimum, shall include all records required in §334.46(i) of this title. All records shall be maintained in accordance with §334.10(b) of this title (relating to Reporting and Recordkeeping).

§334.46. Installation Standards for New Underground Storage Tank Systems.

(a) General installation procedures. Any new underground storage tank (UST) system installed on or after September 29, 1989, shall be installed in compliance with the provisions of this section.

(1) Standards. All tanks, piping, and associated equipment shall be installed in accordance with at least one of the following standards, as applicable:

(A) Petroleum Equipment Institute Publication RP-100, "Recommended Practices for Installation of Underground Liquid Storage Systems;"

(B) American Petroleum Institute Publication 1615, "Installation of Underground Petroleum Storage Systems;"

(C) National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code" and Standard 30A, "Code for Motor Fuel Dispensing Facilities and Repair Garages;" or

(D) any other code or standard of practice developed by a nationally recognized association or independent testing laboratory that has been reviewed and determined by the agency to be no less protective of human health and safety and the environment than the standards described in subparagraphs (A) - (C) of

this paragraph, in accordance with the procedures in §334.43 of this title (relating to Variances and Alternative Procedures).

(2) Installation personnel. All tanks, piping, and associated equipment shall be installed by personnel possessing the appropriate skills, experience, competence, and, if applicable, any required certification or license to complete the installation in accordance with recognized industry practices and this chapter, and in a manner designed to minimize the possibility of UST system failures and the releases of regulated substances.

(3) Damages.

(A) All reasonable precautions shall be taken to prevent improper handling and damaging of the tanks and piping during the unloading and installation processes.

(B) Tanks and piping shall be physically inspected by the installer prior to installation.

(C) Any damage shall be repaired in accordance with the manufacturer's specifications; otherwise, damaged tanks and/or piping shall be replaced.

(4) Excavation.

(A) The tank excavation zone and piping trenches shall provide adequate vertical and horizontal space for the tanks, piping, and associated equipment, for the proper placement and compaction of bedding and backfill materials (particularly under the lower quadrant of the tank's circumference), and for adequate cover and paving to accommodate anticipated traffic loads.

(B) Tank excavation shall be performed in a manner that will avoid the undermining of foundations and other existing structures, and shall be constructed not less than three feet from the base of adjacent structures (unless specifically approved by a licensed professional engineer) and not less than three feet from any underground utility easements and property lines.

(5) Bedding and backfill.

(A) The bedding and backfill shall consist of clean, washed, suitably graded, and noncorrosive sand, crushed rock, or pea gravel.

(B) The bedding and backfill material shall be selected and placed in accordance with the tank and piping manufacturer's specifications, and shall be

placed and compacted in uniform lifts, as appropriate, to assure proper support and protection of the tank and piping after installation.

(C) Minimum bedding and backfill requirements shall be in accordance with the applicable industry standard for the construction, as prescribed in this subsection.

(D) The placement of tanks or piping directly on native soils, concrete pads or saddles, or any other underlayment except the bedding materials listed in this paragraph is specifically prohibited.

(b) Anchoring systems. Unless otherwise approved by the agency in accordance with §334.43 of this title, all USTs located in areas subject to high water tables or flooding shall be protected from any flotation or movement which could jeopardize the integrity of the UST system.

(1) Methods to prevent tank flotation shall be in accordance with the tank manufacturer's specifications and shall be one (or a combination) of the following methods:

(A) the provision of ample backfill and/or paving on top of the tank to offset the buoyancy forces;

(B) the installation of a properly designed deadman anchoring system, where the concrete beams shall be placed outside the vertical extension of the tank diameter and where the length of the beams shall extend at least one foot beyond the ends of the tank; or

(C) the installation of a properly designed concrete hold-down pad anchoring system beneath the tank, where the pad's width and length shall extend at least one foot beyond the tank sides and ends in all directions.

(2) The installation of anchoring straps or cables shall be in accordance with the tank manufacturer's specifications. All parts of the straps, cables, and hardware shall be of corrosion-resistant material or, if metallic, shall be thoroughly coated or wrapped with a suitable dielectric material.

(c) Piping system installation.

(1) The piping layout shall be designed in a manner that will minimize the crossing of other lines and conduits, and the crossing of tanks and other UST system components. Where such crossing is unavoidable, adequate clearance shall be provided to prevent contact.

(2) Traps, sumps, or sags in the piping shall be avoided, and all piping shall slope at least 1/8 inch per foot in the direction of the tank.

(3) All piping joints shall be accurately cut, deburred, cleaned, and sealed with appropriate piping sealant, bonding agent, or adhesive in accordance with the piping manufacturer's specifications so as to provide liquid-tight connections.

(d) Installation testing for new tanks and piping.

(1) Air testing of new tanks shall be conducted in accordance with the tank manufacturer's specifications.

(A) Air testing for single-wall tanks shall include the soaping of all surfaces, seams, and fittings, pressurizing and gauging with three to five pounds per square inch gauge (psig) air pressure for at least one hour, monitoring the gauge for pressure drops, and inspecting for bubbles.

(B) Air testing for double-wall tanks shall be in accordance with subsection (f)(2)(B) of this section.

(C) Gauges used in air testing procedures shall have a maximum range not exceeding 15 psig. All tanks undergoing air pressure testing shall be

equipped with a pressure relief device capable of relieving the total output of the compressed air source at a pressure of not more than six psig.

(2) Air testing of new piping, fittings, and valves shall be conducted in accordance with the manufacturer's specifications. New piping shall be tested before being covered and placed into use. Air testing of piping shall include the soaping of all joints, pressurizing with compressed air to 150% of the maximum piping operating pressure, or a minimum of 50 psig, for at least one hour, and inspecting for bubbles. Air testing for secondary containment piping shall be in accordance with subsection (f)(3)(B) of this section.

(3) In addition to the air tests, a tank tightness test and a piping tightness test meeting the requirements of §334.50(b)(2)(A)(ii)(I) and (d)(1)(A) of this title (relating to Release Detection) shall be performed after the backfill has been placed but prior to bringing the new UST system into operation.

(4) Additional tests required. In addition to the air tests and tightness tests required in this subsection, the following additional installation tests shall be required, as applicable.

(A) For fiberglass-reinforced plastic tanks, the tank diameter shall be accurately measured prior to and after installation to ascertain the amount of

vertical deflection, as specified in the tank manufacturer's installation procedures.

Except when specifically authorized in writing by an authorized representative of the tank manufacturer, tanks shall not be placed into operation if the measured vertical deflection exceeds the manufacturer's maximum allowable deflection ratings.

(B) For steel tanks and other underground UST system components which are equipped with factory-installed or field-installed cathodic corrosion protection systems, the cathodic protection systems shall be tested for operability and adequacy of protection by a qualified corrosion technician or qualified corrosion specialist after the UST system installation is completed but prior to placing the system into operation.

(i) If the test indicates that the cathodic protection system is inoperable or inadequate, a qualified corrosion specialist shall review the test results and thoroughly inspect the UST system to ascertain the extent of corrosion protection.

(ii) If the qualified corrosion specialist determines that the UST system component is no longer adequately protected from corrosion, then the owner or operator shall assure that one or more of the following procedures are completed before the UST system is placed into operation.

(I) Appropriate repairs or modifications shall be made to restore the cathodic corrosion protection to the applicable UST system components.

(II) The cathodic protection system shall be replaced with another operable cathodic protection system which will provide adequate corrosion protection to the applicable UST system components, in accordance with the requirements in §334.49(c)(2) of this title (relating to Corrosion Protection).

(e) Installation of cathodic protection systems. The installation of any field-installed cathodic protection system in a new or existing UST system shall be in accordance with the applicable requirements of §334.49(c)(2) of this title.

(f) Installation of secondary containment systems.

(1) Secondary containment. Any secondary containment system shall meet the technical standards of §334.45(d) of this title (relating to Technical Standards for New Underground Storage Tank Systems).

(2) Installation of double-wall tanks.

(A) The installation of double-wall tanks shall be in compliance with the manufacturer's specifications and the applicable tank installation procedures in this section.

(B) Air testing for double-wall tanks shall be in accordance with the manufacturer's specifications or the following procedures.

(i) The primary tank shall be pressurized and gauged with three to five psig of air pressure. The primary tank shall be pressurized for at least one hour, and the gauge pressure shall be periodically monitored for any pressure drops.

(ii) After disconnecting the outside air pressure source, the interstitial area between the tank walls shall be pressurized with air pressure from the primary tank. A second gauge shall be used to measure the pressure in the interstitial space.

(iii) The exterior of the tank shall be soaped, and the integrity of the system shall be inspected by monitoring the gauges and inspecting for air bubbles for at least one hour prior to releasing the pressure.

(iv) Gauges used in air testing procedures shall have a maximum range not exceeding 15 psig. All tanks undergoing air testing shall be

equipped with a pressure relief device capable of relieving the total output of the compressed air source at a pressure of not more than six psig.

(3) Installation of double-wall piping.

(A) The installation of double-wall piping shall be in compliance with the manufacturer's specifications and the applicable piping installation procedures in this section.

(B) After successful air testing of the completed primary piping system (in accordance with subsection (d)(2) of this section), the secondary containment piping shall be air tested in accordance with the manufacturer's specifications and the following procedures.

(i) The secondary containment piping shall be pressurized and gauged with three to five psig of air pressure.

(ii) The exterior of the secondary containment piping shall be soaped and the integrity of the system shall be inspected by monitoring for air bubbles for at least one hour.

(iii) The secondary containment piping system shall remain pressurized, and the gauges shall be periodically monitored for pressure losses, until the entire UST system installation is complete in order to monitor for damages during the remaining construction activities.

(4) Installation of external liners.

(A) External liners shall be installed in accordance with the manufacturer's specifications, and in accordance with the requirements in this paragraph.

(B) The installation, field-seaming, and field-repair of any liners shall be performed only by qualified personnel who have been properly trained and certified by the liner manufacturer.

(C) The liner shall be protected from puncture, abrasion, or any other damage during placement and during installation of other UST system components. A protective layer of puncture-resistant filter fabric shall be required when the liner is placed in an excavation area where the presence of sharp paving, rocks, or other debris presents a threat to the liner integrity.

(D) The liner shall be installed in a manner that will allow sufficient enclosure of the secondarily protected component to prevent lateral and vertical migration of any collected regulated substances.

(E) For UST systems which are equipped with cathodic protection equipment, the liner shall be installed so as not to jeopardize or inhibit the proper operation of such cathodic protection equipment.

(F) The liner installation shall include the provision of an appropriate number of recessed collection/detection points, and all portions of the liner shall be sloped toward such points to permit the detection of any releases from the primary storage component.

(G) The installation of the liner shall be performed in a manner that will ensure that groundwater, soil moisture, and stormwater runoff will not adversely affect the liner's ability to collect and contain regulated substances or the ability of the selected release detection methods to operate effectively.

(H) The liner shall be designed and installed to ensure that it will always be situated above the highest groundwater level and outside the 25-year floodplain, unless the liner and the release detection system are properly designed for use under such conditions. The owner or operator may be required to provide

documentation of the methods used to determine groundwater and floodplain information.

(I) After completion of the liner installation, but prior to placing the UST system into service, the liner shall be properly tested in accordance with the manufacturer's specifications.

(g) Installation of monitoring wells and observation wells. All monitoring wells and observation wells installed in conjunction with a UST system on or after September 29, 1989, shall be constructed and installed in accordance with the requirements of this subsection.

(1) General requirements for both monitoring wells and observation wells.

(A) All monitoring wells and observation wells shall be constructed or installed by personnel possessing the appropriate skills, experience, competence, and, if applicable, any required license or certification to complete the construction or installation in accordance with recognized industry standards and the requirements of this subsection.

(B) Except for observation wells installed under §334.45(e)(4)(B) of this title, the determination of the appropriate number and the appropriate diameters of monitoring wells or observation wells shall be based on the planned purpose of such well and on the specific procedures, methods, and equipment to be utilized in achieving such purpose.

(C) The slotted or screened portion of the monitoring well or observation well casing shall be designed and sized so as to prevent the migration of natural soils, backfill material, or filter pack material into the well, and to allow the unrestricted entry of any released regulated substances (liquid-phase or vapor-phase, as applicable) into the well at all times, regardless of the groundwater levels.

(D) The well casing material shall be sufficiently compatible with the stored regulated substance such that prolonged exposure to such substances will not cause failure or excessive deterioration of the casing.

(E) When installed or constructed for the purposes of compliance with one or more of the release detection methods in §334.50(d) of this title, the specific number and positioning of the monitoring wells and/or observation wells shall be based on the results of an assessment of the underground areas within and immediately surrounding the UST system excavation zone to assure compliance with the specific criteria and requirements for the applicable release detection method.

Such assessment shall be performed by qualified personnel who are familiar with the characteristics of the stored regulated substance and the groundwater, soil, and geologic conditions at the site.

(F) All monitoring wells and observation wells shall be equipped with a properly designed and properly installed bottom cap.

(G) All monitoring well and observation well installations shall include an appropriate access vault or manhole, which shall be equipped with a liquid-tight cover and be designed to divert surface runoff away from the well.

(H) All monitoring wells and observation wells shall be properly capped, labeled, and secured (or locked) to prevent unauthorized access, tampering, and any deliberate or accidental depositing of unauthorized substances.

(2) Additional requirements for monitoring wells. In addition to the general requirements of paragraph (1) of this subsection, all monitoring wells installed in conjunction with a UST system shall be constructed or installed in accordance with the applicable requirements of 16 TAC Chapter 76 (relating to Water Well Drillers and Water Well Pump Installers), and Texas Occupations Code, Chapter 1901 (relating to Water Well Drillers). Any person constructing or installing a monitoring well shall be appropriately licensed as required therein.

(3) Additional requirements for observation wells. In addition to the general requirements of paragraph (1) of this subsection, the following requirements shall be applicable to all observation wells installed in conjunction with a UST system.

(A) All observation wells that are regulated as monitoring wells by the Texas Department of Licensing and Regulation (TDLR) shall be constructed or installed in accordance with the applicable requirements in 16 TAC Chapter 76, and Texas Occupations Code, Chapter 1901. Any person constructing or installing such well shall be appropriately licensed as required therein.

(B) All observation wells that are not regulated as monitoring wells by the TDLR shall be constructed or installed in accordance with the following minimum requirements.

(i) All observation wells shall be designed and installed in general accordance with a code or standard of practice developed by a nationally recognized association or independent testing laboratory.

(ii) All observation wells shall be constructed or installed within the UST system excavation zone, and shall be completed to a depth of at least

two feet below the lowest part of any monitored tank, or at least one foot below the lowest part of any monitored piping, as applicable.

(iii) For observation wells installed or constructed on or after September 29, 1989, in a new or existing UST system where the backfill consists of specialized or select materials (i.e., sand, pea gravel, or crushed rock), the following minimum requirements shall be applicable.

(I) The access vault or manhole shall be properly installed in a concrete encasement which shall extend from the top of the vault to at least one foot below the base of the vault to provide adequate structural support and to prevent surface runoff and pollutants from entering the well.

(II) Beginning at the bottom of the concrete encasement beneath the access vault, the well casing shall be properly sealed with impervious bentonite or a similar impervious material for a minimum distance of either one foot below the bottom of the concrete encasement or to the top of the specialized or select backfill material, whichever is the greater depth.

(iv) For observation wells installed or constructed on or after September 29, 1989, in an existing UST system where the backfill consists of materials other than specialized or select materials (e.g., native soils), the well shall be

constructed or installed in accordance with the applicable standards in 16 TAC Chapter 76. If the observation well is not regulated as a monitoring well by the TDLR, the licensing requirements for persons constructing or installing such well shall not be applicable.

(h) Certification of installation.

(1) All owners and operators of new UST systems installed on or after September 29, 1989, shall ensure that the installation was completed in accordance with the provisions of this section, and that the UST system installation is conducted by an installer licensed by the agency.

(2) The installer of the UST system shall complete the installation certification section of the agency's authorized form, and shall certify by signature that the installation methods are in compliance with the provisions of this section, as required by §334.8(a) of this title (relating to Certification for Underground Storage Tanks (USTs) and UST Systems).

(i) Installation records.

(1) Owners and operators shall maintain all installation records required in accordance with the requirements in §334.10(b) of this title (relating to Reporting and Recordkeeping).

(2) Owners and operators shall maintain the following records for the operational life of the UST system:

(A) general information relating to the installation activity, including:

(i) date of installation activity;

(ii) names, addresses, and telephone numbers of the persons conducting the installation and performing any associated inspections or testing; and

(iii) copies of all related notifications or reports filed with the agency or others, including:

(I) registration information, as required by §334.7 of this title (relating to Registration for Underground Storage Tanks (USTs) and UST Systems); and

(II) installation certification information, as required by §334.8(a) of this title;

(B) as-built drawings (or plans), which have been drawn to scale and in sufficient detail to accurately depict and describe the sizes, dimensions, and locations of the following:

(i) all pertinent site features, including property boundaries, street and road rights-of-way, easements, utility lines, buildings and other structures, driveways, slabs, and any natural features;

(ii) all pertinent UST system components, including tanks, piping, vent piping, pumps, dispensers, excavation zone (including tank hole and piping trench), monitoring wells, spill and overflow prevention equipment, release detection system components (including monitoring and testing locations), cathodic protection system components (including test stations), secondary containment systems, anchoring systems, and any other pertinent UST system components; and

(iii) any site features or UST system components which have been added, revised, changed, modified, or removed subsequent to the preparation of the original drawings or plans; and

(C) equipment information for all UST system components

including:

(i) manufacturer's specifications, installation instructions, operating instruction, warranty information, recommended test procedures, and inspection and maintenance schedules; and

(ii) names, addresses, and telephone numbers of the manufacturer's representatives and local authorized service technicians.

(3) Owners and operators shall maintain the results of all equipment tests, including the air tests and the tightness tests conducted on the tanks and piping at the time of installation, for at least five years after the date of installation.

§334.47. Technical Standards for Existing Underground Storage Tank Systems.

(a) General requirements.

(1) Alternatives for existing underground storage tank (UST) systems. No later than the implementation dates specified in §334.44(b) of this title (relating to Implementation Schedules), all applicable components of any existing UST system (i.e.,

UST system for which installation has commenced or has been completed on or prior to December 22, 1988) shall be either installed, upgraded, improved, or replaced with equipment or components which meet or exceed either of the following requirements:

(A) the requirements for technical standards and installation of new UST systems in §334.45 of this title (relating to Technical Standards for New Underground Storage Tank Systems) and in §334.46 of this title (relating to Installation Standards for New Underground Storage Tank Systems);

(B) the minimum upgrading requirements for existing UST systems in subsection (b) of this section; or

(C) National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code" and Standard 30A, "Code for Motor Fuel Dispensing Facilities and Repair Garages."

(2) If any applicable component of an existing UST system is not brought into timely compliance with the requirements of paragraph (1) of this subsection, the UST system shall be permanently removed from service no later than 60 days after the prescribed implementation date. The permanent removal from service shall be conducted in accordance with the applicable provisions of §334.55 of this title (relating to Permanent Removal from Service).

(b) Minimum upgrading requirements for all existing UST systems.

(1) Tank integrity assessment and UST system cathodic protection. No later than December 22, 1998, all tanks in an existing UST system shall be assessed for structural integrity, and all underground metallic components of an existing UST system shall be equipped with a cathodic protection system, as provided in the following subparagraphs.

(A) Tank integrity assessment. The tank shall be assessed for structural integrity and for the presence of corrosion holes by one or more of the following methods.

(i) The tank may be equipped with one or more of the release detection systems meeting the applicable requirements of §334.50(d)(4) - (10) of this title (relating to Release Detection). Such release detection system(s) shall have been in operation for at least 60 days prior to the date of the cathodic protection system installation, and at least one of the systems shall remain in operation for the remaining operational life of the tank.

(ii) The tank may be tested by conducting at least two tank tightness tests meeting the requirements of §334.50(d)(1)(A) of this title. The first

tightness test shall be conducted prior to installing the cathodic protection system, and the second test shall be conducted between three and six months after the cathodic protection system is placed into operation. For tanks constructed of non-corrodible material, or metal tanks clad or jacketed with non-corrodible material which are electrically isolated from surrounding soil, backfill or groundwater or any other water, the tank may be tested by conducting at least one tightness test meeting the requirements of §334.50(d)(1)(A) of this title, within the 12-month period prior to December 22, 1998.

(iii) When the tank upgrading is to include the installation of an interior lining meeting the applicable provisions in §334.52(b) of this title (relating to Underground Storage Tank System Repairs and Relining), a site assessment or release determination may be conducted prior to the installation of the interior lining and the cathodic protection system. Such site assessment or release determination shall be conducted in accordance with the provisions of §334.55(e) of this title.

(iv) Prior to the installation of the cathodic protection system, the tank may be internally inspected and assessed to assure that the tank is structurally sound and free of corrosion holes, provided that such internal inspection shall be:

(I) conducted in accordance with a code or standard of practice developed by a nationally recognized association or independent testing laboratory; and

(II) performed by qualified personnel possessing the requisite training, experience, and competence to assure that any corrosion holes or structurally unsound areas are located.

(v) Prior to the installation of the cathodic protection system, the tank may be assessed for structural integrity and the presence of corrosion holes by an alternate method which has been reviewed and determined by the agency to prevent releases in a manner that is no less protective of human health and the environment than the methods described in clauses (i) - (iv) of this subparagraph, in accordance with the provisions of §334.43 of this title (relating to Variances and Alternative Procedures).

(B) Repairs or corrective action. If the results of the tank integrity assessment (required by subparagraph (A) of this paragraph) indicate that the existing tank is not structurally sound and/or that a release of regulated substances has occurred, then the owner and operator shall:

(i) comply with the applicable release reporting, investigation, and corrective action requirements of Subchapter D of this chapter (relating to Release Reporting and Corrective Action); and

(ii) conduct one of the following activities, as applicable:

(I) perform appropriate repairs or relining of the tank, in accordance with the applicable requirements of §334.52 of this title, as necessary to restore the structural integrity of the tank; or

(II) permanently remove the tank from service in accordance with the applicable provisions in §334.55 of this title.

(C) Field-installed cathodic protection system. After confirmation or restoration of the structural integrity of the tank, all underground metal components of the UST system, which are not isolated from the surrounding soil, backfill, and groundwater or any other water, and which either do or could convey, contain, or store regulated substances, shall be equipped with a field-installed cathodic protection system meeting the requirements of §334.49(c)(2) of this title (relating to Corrosion Protection).

(2) Adding spill and overflow prevention equipment. All existing USTs shall be equipped with appropriate spill and overflow prevention equipment, in accordance with the provisions in §334.51(b) of this title (relating to Spill and Overflow Prevention and Control).

(3) Adding release detection for UST system piping.

(A) Release detection for pressurized piping. No later than December 22, 1990, all piping in an existing UST system that routinely conveys regulated substances under pressure (i.e., which operates at greater than atmospheric pressure) shall be brought into compliance with the pressurized piping release detection requirements in §334.50(b)(2)(A) of this title.

(B) Release detection for suction piping and gravity-flow piping. All piping in an existing UST system that routinely conveys regulated substances either under suction (i.e., which operates at less than atmospheric pressure) or by gravity-flow shall be brought into compliance with the applicable release detection requirements in §334.50(b)(2)(B) of this title no later than the date on which release detection is required for the tank to which such piping is connected, as prescribed in paragraph (4) of this subsection.

(4) Adding release detection for tanks.

(A) Except as provided in subparagraph (B) of this paragraph, all tanks at an existing UST system shall be brought into compliance with the tank release detection requirements in §334.50(b)(1) of this title no later than the date specified in the following clauses for the time of installation applicable to such tanks:

(i) December 22, 1989, for tanks where the installation dates are undetermined or unknown;

(ii) December 22, 1989, for tanks installed during 1964 or prior years;

(iii) December 22, 1990, for tanks installed during the years 1965 - 1969, inclusive;

(iv) December 22, 1991, for tanks installed during the years 1970 - 1974, inclusive;

(v) December 22, 1992, for tanks installed during the years 1975 - 1979, inclusive;

(vi) December 22, 1993, for tanks installed during the years 1980 - 1987, inclusive; and

(vii) December 22, 1993, for tanks installed between January 1, 1988, and December 22, 1988, inclusive.

(B) For emergency generator tanks only, the compliance dates prescribed in subparagraph (A)(i) - (v) of this paragraph shall be extended by one year; however, no compliance date shall be extended past December 22, 1993.

(C) When two or more existing tanks are located in a common tank hole, and when the selected method of release detection is either vapor monitoring or groundwater monitoring in accordance with §334.50(d)(5) and (6) of this title, then all such tanks shall be brought into compliance with the applicable release detection requirements of this paragraph no later than the date specified for the oldest tank in such common tank hole.

(c) Additional upgrading requirements for existing hazardous substance UST systems. In addition to the upgrading requirements applicable to all existing UST systems in subsections (a) and (b) of this section, all existing hazardous substance UST systems (e.g., UST system for which installation has commenced or has been completed on or prior to December 22, 1988) shall be equipped or retrofitted with a

secondary containment system and an associated release detection system in accordance with the following provisions.

(1) No later than December 22, 1998, all existing hazardous substance UST systems shall be equipped with a secondary containment system meeting the design, construction, and installation requirements in §334.45(d) of this title and §334.46(f) of this title.

(2) No later than December 22, 1998, all existing hazardous substance UST systems shall be equipped with a release detection system capable of monitoring either the interstitial spaces between the primary and secondary walls of any double-walled UST component, or the spaces between the primary UST component walls and any external liners, as applicable, in accordance with the provisions in §334.50(c) of this title.

(d) A UST system, at a minimum, shall incorporate secondary containment as specified in Texas Water Code, §26.3476, if the UST system is located in an area described in that provision.

(e) Records for upgrading of existing UST systems.

(1) Owners and operators shall maintain all records related to the upgrading of existing UST systems required in this subsection in accordance with the requirements in §334.10(b) of this title (relating to Reporting and Recordkeeping).

(2) Owners and operators shall maintain the following records for the operational life of the UST system:

(A) general information related to the tank integrity assessment and cathodic protection requirements in subsection (b) of this section, including:

(i) dates of the tank integrity assessment and cathodic protection installation activities;

(ii) names, addresses, and telephone numbers of the persons conducting the tank integrity assessment and cathodic protection installation activities; and

(iii) copies of all related notifications or reports filed with the agency or others, including:

(I) registration information, as required by §334.7 of this title (relating to Registration for Underground Storage Tanks (USTs) and UST Systems); and

(II) installation certification information, as required by §334.8(a) of this title (relating to Certification for Underground Storage Tanks (USTs) and UST Systems);

(B) as-built drawings (or plans), which have been drawn to scale and in sufficient detail so as to accurately depict and describe the sizes, dimensions, and locations of any UST system components or equipment added or installed on or after September 29, 1989, which are installed pursuant to one of the construction activities included in §334.6(b)(1)(A) of this title (relating to Construction Notification for Underground Storage Tanks (USTs) and UST Systems); and

(C) equipment information for any UST system components or equipment added or installed on or after September 29, 1989, for the purpose of compliance with the upgrading requirements of this section, including manufacturer's specifications, installation instructions, operating instructions, warranty information, recommended test procedures, and inspection and maintenance schedules.

(3) Owners and operators shall maintain the results of all equipment tests and tank integrity tests required in this section including internal inspections, tank and piping tightness tests, and site assessments, for at least five years after the dates such tests are conducted.

§334.48. General Operating and Management Requirements.

(a) Prevention of releases. All owners and operators of underground storage tank (UST) systems shall ensure that the systems are operated, maintained, and managed in a manner that will prevent releases of regulated substances from such systems.

(b) UST system management. UST systems shall be operated, maintained, and managed in accordance with accepted industry practices.

(c) Inventory control. On or after September 29, 1989, regardless of which method of release detection is used for compliance with §334.50 of this title (relating to Release Detection), effective manual or automatic inventory control procedures shall be conducted for all UST systems at retail service stations as defined in §334.2 of this title (relating to Definitions). Such inventory control procedures shall be in accordance with §334.50(d)(1)(B) of this title. Complete and accurate inventory records shall be maintained in accordance with §334.10 of this title (relating to Reporting and Recordkeeping).

(d) Spill and overflow control. All owners and operators shall ensure that spills and overfills of regulated substances do not occur and that all spill and overflow prevention equipment is properly operated and maintained in accordance with §334.51 of this title (relating to Spill and Overflow Prevention and Control).

(e) Operational requirements for release detection equipment. Owners and operators of all new and existing UST systems shall ensure that all release detection equipment installed as part of a UST system pursuant to §334.50 of this title is maintained in good operating condition and electronic and mechanical components are tested for proper operation in accordance with one of the following: manufacturer's instructions, a code of practice developed by a nationally recognized association or independent testing laboratory, or requirements determined by the executive director to be no less protective of human health and the environment than listed in this subsection.

(1) Beginning on January 1, 2021, a test of the proper operation of release detection equipment must be performed at least annually and, at a minimum, as applicable to the facility, cover the following components and criteria:

(A) automatic tank gauge and other controllers: test alarm, verify system configuration, and test battery backup;

(B) probes and sensors: inspect for residual buildup, ensure floats move freely, ensure shaft is not damaged; ensure cables are free of kinks and breaks, and test alarm operability and communication with controller;

(C) automatic line leak detector: test operation to meet criteria in §334.50(b)(2)(A)(i) of this title by simulating a leak;

(D) vacuum pumps and pressure gauges: ensure proper communication with sensors and controller; and

(E) hand-held electronic sampling equipment associated with groundwater and vapor monitoring: ensure proper operation.

(2) The code of practice that may be used to comply with paragraph (1) of this subsection is: Petroleum Equipment Institute (PEI) Publication RP1200, "Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities."

(f) Operation requirements for corrosion protection systems. All owners and operators of UST systems shall ensure that all required UST system components are continuously protected from corrosion, and that all corrosion protection systems are

inspected and tested, in accordance with the applicable provisions of §334.49 of this title (relating to Corrosion Protection).

(g) Periodic testing of spill prevention equipment and containment sumps used for interstitial monitoring of piping and periodic inspection of overfill prevention equipment.

(1) Owners and operators of UST systems with spill and overfill prevention equipment and containment sumps used for interstitial monitoring of piping must meet these requirements to ensure the equipment is operating properly and will prevent releases to the environment:

(A) Spill prevention equipment (such as a catchment basin, spill bucket, or other spill containment device) and containment sumps used for interstitial monitoring of piping must prevent releases to the environment by meeting one of the following:

(i) The equipment is double-walled and the integrity of both walls is periodically monitored at a frequency not less than the frequency of the walkthrough inspections described in subsection (h) of this section. Owners and operators must begin meeting the requirements in clause (ii) of this subparagraph and

conduct a test within 30 days of discontinuing periodic monitoring of this equipment;
or

(ii) The spill prevention equipment and containment sumps used for interstitial monitoring of piping (when interstitial monitoring is the primary release detection method) are tested at least once every three years to ensure the equipment is liquid tight by using vacuum, pressure, or liquid testing in accordance with one of the following criteria:

(I) requirements developed by the manufacturer;

(II) code of practice developed by a nationally recognized association or independent testing laboratory; or

(III) low liquid level test method - the sump may be tested by filling the sump with liquid to a level that is three inches higher than the activation point of the sensor provided the following conditions are met:

(-a-) the sensor is mounted and maintained at the lowest point of the sump in accordance with the requirements in §334.45(d)(1)(E)(vi) of this title (relating to Technical Standards for New Underground Storage Tank Systems);

(-b-) the sensor is annually tested for functionality in accordance with the requirements in subsection (e)(1)(B) of this section;

(-c-) the sensor will trigger a positive shutdown of:

(-1-) the individual dispenser associated with that sump; or

(-2-) submersible turbine pump associated with that sump; and

(-d-) all on-site operators are trained to immediately notify the appropriate A or B level operator of the shutdown; or

(IV) requirements determined by the executive director to be no less protective of human health and the environment than the requirements listed in subclauses (I) - (III) of this clause.

(iii) Liquids that are used for testing as described in clause (ii) of this subparagraph may be reused for further liquid testing in other sumps, either

at the same facility or at other facilities. The discharge must be made in compliance with the applicable wastewater discharge requirements or be disposed of in accordance with Chapters 330 or 335 of this title (relating to Municipal Solid Waste and Industrial Solid Waste and Municipal Hazardous Waste).

(B) Overfill prevention equipment must be inspected at least once every three years. At a minimum, the inspection must ensure that overfill prevention equipment is set to activate at the correct level specified in §334.51(b)(2)(C) of this title and will activate when a regulated substance reaches that level.

(C) Codes of practice. The following code of practice may be used to comply with subparagraphs (A)(ii)(II) and (B) of this paragraph: PEI Publication RP1200, "Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities."

(2) Implementation dates. Owners and operators shall meet these requirements:

(A) UST systems in use before September 1, 2018:

(i) The requirements listed in paragraph (1) of this subsection shall apply on January 1, 2021.

(ii) Initial spill prevention equipment and containment sump testing, and overfill prevention inspections (relating to the requirements in paragraph (1) of this subsection) shall be conducted by January 1, 2021.

(B) UST systems brought into use on or after September 1, 2018.

(i) The requirements listed in paragraph (1) of this subsection shall apply on the date the UST system was brought into use.

(ii) Initial spill prevention equipment and containment sump testing, and overfill prevention inspections shall be conducted by the date the UST system was brought into use.

(3) Owners and operators shall maintain records as follows (in accordance with §334.10(b)(2)(B) of this title) for spill prevention equipment, containment sumps used for interstitial monitoring of piping, and overfill prevention equipment.

(A) All records of testing and inspection must be maintained for five years.

(B) For spill prevention equipment and containment sumps used for interstitial monitoring of piping not tested every three years, documentation showing that the prevention equipment is double-walled and the integrity of both walls is periodically monitored must be maintained for as long as the equipment is periodically monitored.

(h) Periodic operation and maintenance walkthrough inspections. To properly operate and maintain UST systems, not later than January 1, 2021, owners and operators must meet one of the following.

(1) Conduct a walkthrough inspection that, at a minimum, checks the following equipment as specified in the following subparagraphs.

(A) Every 30 days.

(i) Spill prevention equipment. Visually check for damage; remove any liquid or debris found within 96 hours and properly dispose of the 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 leaks in the interstitial area. For purposes of this requirement, UST systems receiving deliveries at intervals greater than every 30 days may check spill prevention equipment prior to each delivery.

(ii) Release detection equipment. Check to make sure the release detection equipment is operating with no release detection alarms or other unusual operating conditions (such as the erratic behavior of product dispensing equipment, the sudden loss of product from the UST system, or the unexplained presence of water in the tank) and ensure records of release detection testing are reviewed and current.

(B) Annually.

(i) Any containment sump installed on or after January 1, 2009, and any containment sump used for interstitial monitoring. Visually check for damage, leaks to the containment area, or releases to the environment; remove liquid or debris found in the containment sump within 96 hours of discovery and properly dispose of the liquid or debris; and, for double walled sumps with interstitial monitoring, check for a leak in the interstitial area.

(ii) Containment sumps installed before January 1, 2009, and are not used for interstitial monitoring of piping. Visually check for damage to equipment within the sump, visually check for regulated substance releases in the containment sump and to the environment, visually check for the presence of cathodic

protection if the sump contains water that is in contact with metal components that routinely contain product, and remove any debris.

(iii) Submersible turbine pump and under dispenser areas that do not have containment sumps. Visually check for damage to the equipment within the area, visually check for regulated substance releases to the environment, visually check for the presence of cathodic protection if any metal components that routinely contain product are in contact with soil or water, and remove any debris.

(iv) Hand held release detection equipment. Check devices, such as tank gauge sticks or groundwater bailers, for operability and serviceability.

(2) 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 in the same manner and frequency as requirements in paragraph (1) of this subsection. The following code of practice may be used to comply with this subsection: PEI Recommended Practice RP 900, "Recommended Practices for the Inspection and Maintenance of UST Systems."

(i) Airport hydrant systems. In addition to the periodic walkthrough inspection requirements in subsection (h) of this section, owners and operators must inspect the

following areas at least once every 30 days if confined space entry according to the Occupational Safety and Health Administration (see 29 Code of Federal Regulations §1910) is not required or at least annually if confined space entry is required and keep documentation of the inspection in accordance with §334.10(b) of this title.

(1) Hydrant pits. Visually check for any damage, remove any liquid or debris, and check for any leaks; and

(2) Hydrant piping vaults. Check for any hydrant piping leaks.

(3) Implementation dates. Owners and operators shall meet these requirements:

(A) Airport hydrant systems in use before September 1, 2018. The requirements listed in paragraphs (1) and (2) of this subsection shall apply on January 1, 2021.

(B) Airport hydrant systems brought into use on or after September 1, 2018. The requirements listed in paragraph (1) of this subsection shall apply on the date the airport hydrant system was brought into use.

(j) Operation and maintenance records. Owners and operators shall maintain records relating to the operation and maintenance of a UST system (including records related to inspection, servicing, testing, and inventory control) as prescribed in this section for at least five years, and such records shall be maintained in accordance with §334.10(b) of this title. Inspection records must include a list of each area checked, whether each area checked was acceptable or needed action taken, a description of actions taken to correct an issue, and delivery records if spill prevention equipment is checked less frequently than every 30 days due to infrequent deliveries.

§334.49. Corrosion Protection.

(a) General requirements.

(1) Owners and operators of underground storage tank (UST) systems (or underground metal UST system components) which are required to be protected from corrosion shall comply with the requirements in this section to ensure that releases due to corrosion are prevented.

(2) All corrosion protection systems shall be designed, installed, operated, and maintained in a manner that will ensure that corrosion protection will be continuously provided to all underground metal components of the UST system.

(3) Any alternative methods for corrosion protection or variances from the requirements of this section are prohibited, except when reviewed and approved by the agency pursuant to procedures for variances found in §334.43 of this title (relating to Variances and Alternative Procedures).

(4) Corrosion protection in accordance with the provisions of this section shall be provided to all underground and/or totally or partially submerged metal components of any existing or new UST system which are designed or used to convey, contain, or store regulated substances, including, but not limited to, the tanks, piping (including valves, fittings, flexible connectors, swing joints, and impact/shear valves), and also to other underground metal components associated with a UST system, including but not limited to, secondary containment devices, manways, manholes, fill pipes, vent lines, submersible pump housings, spill containers, and riser pipes.

(5) For internal corrosion protection, the interior bottom surface of new metal tanks installed on or after September 29, 1989, shall be fitted with a striker plate under all fill, gauge, and monitoring openings.

(6) When provisions of this subsection require compliance with a specific code or standard of practice developed by a nationally recognized association or independent testing laboratory, the most recent version of the referenced code in effect at the time of the regulated UST activity shall be applicable.

(7) For a UST system to be placed temporarily out of service, the owner or operator must comply with the requirements of §334.54(c) of this title (relating to Temporary Removal from Service).

(b) Allowable corrosion protection methods. All components of a UST system which are designed to convey, contain, or store regulated substances shall be protected from corrosion by one or more of the following methods.

(1) The component may be constructed of a noncorrodible material which is compatible with the stored regulated substance(s).

(2) The component may be electrically isolated from the corrosive elements of the surrounding soil, backfill, groundwater or any other water, and from other metallic components by installing the component in an open area (e.g., manway, sump, vault, pit, etc.) where periodic visual inspection of all parts of the component for the presence of corrosion or released substances is practicable.

(3) The component may be electrically isolated from the corrosive elements of the surrounding soil, backfill, groundwater or any other water, and from other metallic components by completely enclosing the component in a secondary containment device (e.g., wall, jacket, or liner), provided that:

(A) the secondary containment device is designed and installed in accordance with the applicable technical and installation standards in §334.45(d) of this title (relating to Technical Standards for New Underground Storage Tank Systems) and §334.46(f) of this title (relating to Installation Standards for New Underground Storage Tank Systems), and in accordance with an applicable code or standard of practice developed by a nationally recognized association or independent testing laboratory, and is either:

(i) constructed of a noncorrodible material which is compatible with the stored regulated substance;

(ii) electrically isolated from the protected component and other metallic components; or

(iii) cathodically protected by either a factory-installed or field-installed cathodic protection system meeting the applicable requirements of subsection (c) of this section; and

(B) the interstitial space between the protected component and the secondary containment device shall be free of any soil, backfill material, groundwater or any other water, or other substances, and the protected component shall be

regularly inspected and tested for electrical isolation in accordance with the provisions in subsection (d)(1) of this section.

(4) Tanks (only) may be factory-constructed either as a steel/fiberglass-reinforced plastic composite tank, or as a steel tank with a bonded fiberglass-reinforced plastic external cladding or laminate, or as a steel tank with a bonded fiberglass reinforced polyurethane coating, as a steel tank with a bonded polyurethane external coating, or as a steel tank completely contained within a nonmetallic external tank jacket in accordance with the requirements in §334.45(b)(1)(D), (E), or (F) of this title, as applicable.

(5) The component may be coated with a suitable dielectric material, equipped with appropriate dielectric fittings for electrical isolation, and equipped with either:

(A) a factory-installed cathodic protection system meeting the requirements of subsection (c)(1) of this section; or

(B) a field-installed cathodic protection system meeting the requirements of subsection (c)(2) of this section.

(6) Except for the tanks and the piping system components, other underground components of a UST system (including vent lines, fill risers, spill containment vessels, and tank fittings (e.g., bung hole plugs)) which do not routinely contain regulated substances may be protected from corrosion by thorough coating or wrapping with a suitable dielectric material which is compatible with the stored regulated substance without the need for the use of other corrosion protection methods.

(7) Corrosion protection in accordance with the requirements of this subchapter is not required if it is determined by a corrosion specialist that corrosion protection of an underground metal UST system or UST system component is unnecessary because the site is not corrosive enough to cause a release due to corrosion for the operational life of the UST system. The upgrade or repair of an existing corrosion protection system for an underground metal UST system or UST system component is not required if it is determined by a corrosion specialist that said upgrading or repair is unnecessary and that the protection provided by the existing corrosion protection system is sufficient to prevent a release due to corrosion for the operational life of the UST system. In either case, the determination of the corrosion specialist must be made in writing, must be signed by the corrosion specialist (corrosion specialist must also seal the written determination if he or she is a qualified duly licensed professional engineer in Texas), and must be maintained by the owner and operator as part of the records for the facility in keeping with the requirements of

subsection (e) of this section and §334.10(b) of this title (relating to Reporting and Recordkeeping).

(c) Cathodic protection systems.

(1) Factory-installed cathodic protection systems.

(A) A factory-installed cathodic protection system on any UST component shall be designed, fabricated, installed, operated, and maintained in accordance with applicable codes or standards of practice developed for such cathodic protection method by a nationally recognized association or independent testing laboratory.

(B) At a minimum, the factory-installed cathodic protection system shall include the following components:

(i) a suitable dielectric external coating or laminate, which shall thoroughly cover all exterior surfaces exposed to the soil, backfill, or groundwater or any other water, and which shall consist of materials which are compatible with the stored regulated substances;

(ii) dielectric isolation bushings, connections, or fittings, which shall be installed at all locations where the protected component connects to other metallic system components, and which shall be constructed of materials which are compatible with the stored regulated substances; and

(iii) sacrificial anodes which are firmly attached and electrically connected to the protected components and which are positioned and sized to provide complete cathodic protection for all parts of the protected component.

(2) Field-installed cathodic protection systems.

(A) A field-installed cathodic protection system on any UST system component shall be designed by a qualified corrosion specialist, and shall be designed, installed, operated, and maintained in accordance with applicable codes or standards of practice developed for such cathodic protection systems by a nationally recognized association or independent testing laboratory.

(B) Impressed current cathodic protection systems shall be designed and equipped with appropriate equipment or devices capable of indicating the operational status of the system at all times.

(C) In addition to the standard inspection and testing requirements for all cathodic protection systems required in paragraph (4) of this subsection, all impressed current cathodic protection systems shall be regularly inspected by the owner or operator (or the owner's designated representative) to ensure that the rectifier and other system components are operating properly. Such inspections shall be performed at least once every 60 days.

(3) Test stations and connections. To allow for the periodic testing required in paragraph (4) of this subsection, any factory-installed or field-installed cathodic protection system shall include appropriate connections, insulated lead wires, and accessible test stations. All lead wires connected to the tanks, anodes, reference electrodes, and other components associated with the cathodic protection system shall terminate at one or more test stations. The termination of each lead wire at a test station shall be clearly labeled or coded to properly identify the specific component to which it is connected.

(4) Inspection and testing requirements for all cathodic protection systems.

(A) Except as provided in subsection (d)(2) of this section, all cathodic protection systems which are used to provide corrosion protection for any component of a UST system shall be inspected and tested to determine the adequacy

of the cathodic protection by a qualified corrosion specialist or corrosion technician in accordance with the requirements in this paragraph.

(B) The inspection and testing criteria used to determine the adequacy of the cathodic protection shall be in accordance with a code or standard of practice developed by a nationally recognized corrosion association or independent testing laboratory, such as:

(i) NACE International Test Method TM0101, "Measurement Techniques Related to Criteria for Cathodic Protection of Underground Storage Tank Systems or Submerged Metallic Tank Systems;"

(ii) NACE International Test Method TM0497, "Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Piping Systems;"

(iii) Steel Tank Institute Recommended Practice R051, "Cathodic Protection Testing Procedures for sti-P3 USTs;"

(iv) NACE International Standard Practice SP0285, "Corrosion Control of Underground Storage Tank Systems by Cathodic Protection;" or

(v) NACE International Standard Practice SP0169, "Control of External Corrosion on Underground or Submerged Metallic Piping Systems."

(C) All cathodic protection systems shall be inspected and tested for operability and adequacy of protection within three to six months after installation and at a subsequent frequency of at least once every three years.

(d) Requirements for other corrosion protection methods.

(1) Electrically isolated components.

(A) Except for jacketed tanks meeting the requirements of §334.45(b)(1)(F) of this title, any metal component of a UST system which is protected from corrosion by one of the electrical isolation methods described in subsection (b)(2) and (3) of this section, and which is not equipped with a cathodic protection system, shall be periodically inspected and tested to ensure that the metal component remains electrically isolated from the surrounding soil, backfill, groundwater or any other water, and from other metal components in accordance with one or more of the following procedures.

(i) When visual inspection is possible, the entire exterior surface of such component may be thoroughly inspected visually by qualified personnel for the presence of corrosion or released regulated substances.

(ii) If visual inspection is not possible, the component may be inspected and tested by a qualified corrosion technician or by a qualified corrosion specialist by taking structure to soil voltage readings in accordance with procedures established by a code or standard of practice developed by a nationally recognized association or independent testing laboratory.

(iii) The component may be inspected and/or tested by an alternative method which has been reviewed and determined by the agency to ascertain electrical isolation and to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and safety and the environment than the methods described in clauses (i) and (ii) of this subparagraph, in accordance with the procedures in §334.43 of this title.

(B) The inspections and tests required in subparagraph (A) of this paragraph shall be conducted within three to six months after installation of the metal component, and then once every three years thereafter for the remaining operational life of the UST system.

(C) If the tests required in subparagraph (A) of this paragraph indicate that the metal component is no longer electrically isolated from the surrounding soil, backfill, groundwater or any other water, or from other metal components, a qualified corrosion specialist shall review the test results and thoroughly inspect the area of the metal component to ascertain the extent of electrical isolation and corrosion protection for the component.

(D) If the qualified corrosion specialist determines that the metal component is no longer adequately protected from corrosion, the owner or operator shall assure that one or more of the following procedures are completed within 60 days of the date of such determination:

(i) appropriate repairs or modifications shall be made to restore the electrical isolation of the protected component; or

(ii) a field-installed cathodic protection system meeting the requirements of subsection (c)(2) of this section shall be installed.

(2) Dual-protected tanks. If a steel/fiberglass-reinforced plastic composite tank, a steel tank with a bonded fiberglass-reinforced plastic external cladding or laminate, a steel tank with a bonded fiberglass reinforced polyurethane coating, or a steel tank with a bonded polyurethane coating is also equipped with a factory-installed

cathodic protection system, then the normal inspection and testing requirements for cathodic protection systems in subsection (c)(4) of this section may be waived. This paragraph shall be applicable only to tanks meeting the design and construction requirements in §334.45(b)(1)(D) or (E) of this title, as applicable, and when such tanks are fitted with factory-installed cathodic protection systems meeting the requirements of subsection (c)(1) of this section.

(e) Corrosion protection records.

(1) Owners and operators shall maintain all corrosion protection records required in this subsection in accordance with the requirements in §334.10(b) of this title.

(2) Owners and operators shall maintain records adequate to demonstrate compliance with the corrosion protection requirements in this section, and in accordance with the following minimum requirements.

(A) All appropriate installation records related to the corrosion protection system, as listed in §334.46(i) of this title, shall be maintained for as long as the corrosion protection system is used, including:

(i) the name, address, telephone number, and corrosion protection credentials of either the company which designed the factory-installed cathodic protection system or the corrosion specialist who designed the field-installed cathodic protection system, as applicable;

(ii) drawings or plans depicting the locations of all cathodic protection system components, including the locations of all test stations; and

(iii) operating instructions and warranty information, maintenance schedules, and testing procedures for all operational components of the cathodic protection systems.

(B) The following corrosion protection records shall be maintained for at least five years after the applicable test or inspection is conducted:

(i) results of all tests and inspections of any impressed current cathodic protection system conducted in accordance with subsection (c)(2)(C) of this section; and

(ii) results of all tests and inspections of the adequacy of any cathodic protection system conducted in accordance with subsection (c)(4) of this section; and

(iii) results of all tests and inspections to assure corrosion protection for electrically isolated components in accordance with subsection (d)(1) of this section.

§334.50. Release Detection.

(a) General requirements.

(1) Owners and operators of new and existing underground storage tank (UST) systems shall provide a method, or combination of methods, of release detection which shall be:

(A) capable of detecting a release from any portion of the UST system which contains regulated substances including the tanks, piping, and other underground ancillary equipment;

(B) installed, calibrated, operated, maintained, utilized, and interpreted (as applicable) in accordance with the manufacturer's and/or methodology provider's specifications and instructions consistent with the other requirements of this section, and by personnel possessing the necessary experience, training, and competence to accomplish such requirements; and

(C) capable of meeting the particular performance requirements of such method (or methods) as specifically prescribed in this section, based on the performance claims by the equipment manufacturer or methodology provider/vendor, as verified by third-party evaluation conducted by a qualified independent testing organization, using applicable United States Environmental Protection Agency protocol, provided that the following additional requirements shall also be met.

(i) Any performance claims, together with their bases or methods of determination including the summary portion of the independent third-party evaluation, shall be obtained by the owner and/or operator from the equipment manufacturer, methodology provider, or installer and shall be in writing.

(ii) When any of the following release detection methods are used on or after December 22, 1990 (except for methods permanently installed and in operation prior to that date), such method shall be capable of detecting the particular release rate or quantity specified for that method such that the probability of detection shall be at least 95% and the probability of false alarm shall be no greater than 5.0%:

(I) tank tightness testing, as prescribed in subsection (d)(1)(A) of this section;

(II) automatic tank gauging, as prescribed in subsection (d)(4) of this section;

(III) automatic line leak detectors for piping, as prescribed in subsection (b)(2)(A)(i) of this section;

(IV) piping tightness testing, as prescribed in subsection (b)(2)(A)(ii)(I) of this section;

(V) electronic leak monitoring systems for piping, as prescribed in subsection (b)(2)(A)(ii)(III) of this section; and

(VI) statistical inventory reconciliation (SIR), as prescribed in subsection (d)(9) of this section.

(2) When a release detection method operated in accordance with the particular performance standards for that method indicates that a release either has or may have occurred, the owners and operators shall comply with the applicable release reporting, investigation, and corrective action requirements in Subchapter D of this chapter (relating to Release Reporting and Corrective Action).

(3) Owners and operators of all UST systems shall comply with the release detection requirements of this section in accordance with the applicable schedules in §334.44 of this title (relating to Implementation Schedules).

(4) As prescribed in §334.47(a)(2) of this title (relating to Technical Standards for Existing Underground Storage Tank Systems), any existing UST system that cannot be equipped or monitored with a method of release detection that meets the requirements of this section shall be permanently removed from service in accordance with the applicable procedures in §334.55 of this title (relating to Permanent Removal from Service) no later than 60 days after the implementation date for release detection as prescribed by the applicable schedules in §334.44 of this title.

(5) Any owner or operator who plans to install a release detection method for a UST system shall comply with the applicable construction notification requirements in §334.6 of this title (relating to Construction Notification for Underground Storage Tanks (USTs) and UST Systems), and upon completion of the installation of such method shall also comply with the applicable registration and certification requirements of §334.7 of this title (relating to Registration for Underground Storage Tanks (USTs) and UST Systems) and §334.8 of this title (relating to Certification for Underground Storage Tanks (USTs) and UST Systems).

(6) Any equipment installed or used for conducting release detection for a UST system shall be listed, approved, designed, and operated in accordance with standards developed by a nationally recognized association or independent testing laboratory (e.g., Underwriters Laboratories, Inc.) for such installation or use, as specified in §334.42(d) of this title (relating to General Standards).

(7) For a UST system to be placed temporarily out-of-service, the owner or operator must comply with the requirements of §334.54(c) of this title (relating to Temporary Removal from Service).

(b) Release detection requirements for all UST systems. Owners and operators of all UST systems shall ensure that release detection equipment or procedures are provided in accordance with the following requirements.

(1) Release detection requirements for tanks.

(A) Tanks installed prior to January 1, 2009. Except as provided in subparagraph (C) of this paragraph and in subsection (d)(9) of this section, all such tanks shall be monitored in a manner which will detect a release at a frequency of at least once every 30 days by using one or more of the release detection methods described in subsection (d)(4) - (10) of this section.

(B) Tanks installed on or after January 1, 2009. All such tanks shall be monitored in a manner which will detect a release at a frequency of at least once every 30 days by using interstitial monitoring as prescribed in subsection (d)(7) of this section as the primary release detection method no later than September 1, 2018.

(C) The manual tank gauging method of release detection, as described in subsection (d)(2) of this section, may be used as the sole release detection system for tanks with a nominal capacity of 1,000 gallons or fewer only.

(D) 30-day monthly tank gauging method of release detection, as described in subsection (d)(3) of this section, may be used as the sole release detection method for emergency generator tanks only.

(2) Release detection for piping. Piping in a UST system shall be monitored in a manner which will detect a release from any portion of the piping system, in accordance with the following requirements.

(A) Requirements for pressurized piping. UST system piping that conveys regulated substances under pressure shall be in compliance with the following requirements.

(i) Each separate pressurized pipe (except for piping utilized in airport hydrant systems) shall be equipped with an automatic line leak detector meeting the following requirements.

(I) The line leak detector shall be capable of detecting any release from the piping system of three gallons per hour when the piping pressure is at ten pounds per square inch.

(II) The line leak detector shall be capable of alerting the UST system operator of any release within one hour of occurrence either by shutting off the flow of regulated substances, or by substantially restricting the flow of regulated substances.

(III) The line leak detector shall be tested at least once per year for performance and operational reliability and shall be properly calibrated and maintained, in accordance with the manufacturer's specifications and recommended procedures.

(ii) Piping installed prior to January 1, 2009. In addition to the required line leak detector prescribed in clause (i) of this subparagraph, each pressurized pipe shall also be tested or monitored for releases in accordance with at least one of the following methods.

(I) The piping may be tested at least once per year by means of a piping tightness test conducted in accordance with a code or standard of practice developed by a nationally recognized association or independent testing

laboratory. Any such piping tightness test shall be capable of detecting any release from the piping system of 0.1 gallons per hour when the piping pressure is at 150% of normal operating pressure.

(II) Except as provided in subsection (d)(9) of this section, the piping may be monitored for releases at least once every 30 days by using one or more of the release detection methods prescribed in subsection (d)(5) - (10) of this section.

(III) The piping may be monitored for releases at least once every 30 days by means of an electronic leak monitoring system capable of detecting any release from the piping system of 0.2 gallons per hour at normal operating pressure.

(iii) Piping installed or replaced on or after January 1, 2009. In addition to the required line leak detector prescribed in clause (i) of this subparagraph, each pressurized pipe shall also be tested or monitored for releases at least once every 30 days by using interstitial monitoring as prescribed in subsection (d)(7) of this section as the primary release detection method no later than September 1, 2018.

(B) Requirements for suction piping and gravity flow piping.

(i) Piping installed prior to January 1, 2009. Except as provided in clause (iii) of this subparagraph, each separate pipe in a UST piping system that conveys regulated substances either under suction or by gravity flow shall meet at least one of the following requirements.

(I) Each separate pipe may be tested at least once every three years by means of a positive or negative pressure tightness test applicable to underground product piping and conducted in accordance with a code or standard of practice developed by a nationally recognized association or independent testing laboratory. Any such piping test shall be capable of detecting any release from the piping system of 0.1 gallons per hour.

(II) Each pipe may be monitored for releases at least once every 30 days by using one or more of the release detection methods prescribed in subsection (d)(5) - (10) of this section.

(ii) Piping installed or replaced on or after January 1, 2009. Except as provided in clause (iii) of this subparagraph, each suction line shall be tested or monitored for releases at least once every 30 days by using interstitial monitoring as prescribed in subsection (d)(7) of this section as the primary release detection method no later than September 1, 2018.

(iii) No release detection methods are required to be installed or applied for any piping system that conveys regulated substances under suction when such suction piping system is designed and constructed in accordance with the following standards:

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

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

(III) no more than one check valve is included in each suction line;

(IV) the check valve is located aboveground, directly below and as close as practical to the suction pump; and

(V) verification that the requirements under subclauses (I) - (IV) of this clause have been met can be provided in the form of:

(-a-) signed as-built drawings or plans provided by the installer or by a professional engineer who is duly licensed to practice in Texas; or

(-b-) signed written documentation provided by a UST contractor who is properly registered with the agency, by a UST installer who is properly licensed with the agency, or by a professional engineer who is duly licensed to practice in Texas.

(C) Monitoring secondary containment. In addition to the requirements in subparagraphs (A) and (B) of this paragraph, all piping in a hazardous substance UST system shall also be equipped with a secondary containment system and related release detection equipment, as prescribed in subsection (c) of this section.

(c) Additional release detection requirements for hazardous substance UST systems. In addition to the release detection requirements for all UST systems prescribed in subsections (a) and (b) of this section, owners and operators of all hazardous substance UST systems shall also assure compliance with the following additional requirements.

(1) All new hazardous substance UST systems shall be in compliance with the requirements of paragraph (3) of this subsection for the entire operational life of the system.

(2) All existing hazardous substance UST systems shall be brought into compliance with the requirements of paragraph (3) of this subsection no later than December 22, 1998.

(3) Secondary containment.

All hazardous substance UST systems (including tanks and piping) shall be equipped with a secondary containment system which shall be designed, constructed, installed, and maintained in accordance with §334.45(d) and §334.46(f) of this title (relating to Technical Standards for New Underground Storage Tank Systems; and Installation Standards for New Underground Storage Tank Systems).

(4) Release detection.

(A) All hazardous substance UST systems (including tanks and piping) installed prior to January 1, 2009, shall include one or more of the release detection methods or equipment prescribed in subsection (d)(7) - (10) of this section,

which shall be capable of monitoring the space between the primary tank and piping walls and the secondary containment wall or barrier.

(B) All hazardous substance UST systems (including tanks and piping) installed on or after January 1, 2009, shall be monitored by using interstitial monitoring as prescribed in subsection (d)(7) of this section as the primary release detection method no later than September 1, 2018.

(d) Allowable methods of release detection. Tanks in a UST system may be monitored for releases using one or more of the methods included in paragraphs (2) - (10) of this subsection. Piping in a UST system may be monitored for releases using one or more of the methods included in paragraphs (5) - (10) of this subsection. Any method of release detection for tanks and/or piping in this section shall be allowable only when installed (or applied), operated, calibrated, and maintained in accordance with the particular requirements specified for such method in this subsection.

(1) Tank tightness and inventory control requirements. A combination of tank tightness testing and inventory control may be used as a tank release detection method only until December 22, 1998, subject to the following conditions and requirements.

(A) Tank tightness test. Any tank tightness test shall be conducted in conformance with the following standards.

(i) The tank tightness test shall be conducted in accordance with a code or standard of practice developed by a nationally recognized association or independent testing laboratory.

(ii) The tank tightness test shall be performed by qualified personnel who possess the requisite experience, training, and competence to conduct the test properly, who are present at the facility and who maintain responsible oversight throughout the entire testing procedure, and who have been certified by the manufacturer or developer of the testing equipment as being qualified to perform the test. The tank tightness test shall be conducted in strict accordance with the testing procedures developed by the system manufacturer or developer.

(iii) The tank tightness test shall be capable of detecting a release of 0.1 gallons per hour from any portion of the tank which contains regulated substances.

(iv) The tank tightness test shall be performed in a manner that will account for the effects of vapor pockets, thermal expansion or contraction of the stored substance, temperature of the stored substance, temperature stratification,

evaporation or condensation, groundwater elevation, pressure variations within the system, tank end deflection, tank deformation, and any other factors that could affect the accuracy of the test procedures.

(B) Inventory control. All inventory control procedures shall be in conformance with the following requirements.

(i) All inventory control procedures shall be in accordance with a code or standard of practice developed by a nationally recognized association or independent testing laboratory, such as American Petroleum Institute Publication 1621, "Bulk Liquid Stock Control at Retail Outlets;" and

(ii) Reconciliation of detailed inventory control records shall be conducted at least once every 30 days, and shall be sufficiently accurate to detect a release as small as the sum of 1.0% of the total substance flow-through for the 30-day period plus 130 gallons.

(iii) The operator shall assure that the following additional procedures and requirements are followed.

(I) Inventory volume measurement for regulated substance inputs, withdrawals, and the amount still remaining in the tank shall be recorded each operating day.

(II) The equipment used shall be capable of measuring the level of stored substance over the full range of the tank's height to the nearest 1/8 inch.

(III) Substance dispensing shall be metered and recorded within an accuracy of six or less cubic inches for every five gallons of product withdrawn.

(IV) The measurement of any water level in the bottom of the tank shall be made to the nearest 1/8 inch at least once every 30 days, and appropriate adjustments to the inventory records shall be made.

(2) Manual tank gauging. Manual tank gauging may be used as a tank release detection method, subject to the following limitations and requirements.

(A) Manual tank gauging in accordance with this subparagraph may be used as the sole method of tank release detection only for petroleum substance tanks having a nominal capacity of 1,000 gallons or less.

(B) The use of manual tank gauging shall not be considered an acceptable method for meeting the release detection requirements of this section for any tanks with a nominal capacity greater than 1,000 gallons.

(C) When used for compliance with the release detection requirements of this section, the procedures and requirements in the following clauses shall be applicable.

(i) For purposes of this subparagraph only, the following definitions are applicable.

(I) Level measurement--The average of two consecutive liquid level readings from a tank gauge, measuring stick, or other measuring equipment.

(II) Gauging period--A weekly period during which no substance is added to or removed from the tank. The duration of the gauging period is dependent upon tank volume and diameter, as specified in clause (v) of this subparagraph.

(III) Weekly deviation--The variation between the level measurements taken at the beginning and the end of one gauging period, converted to and expressed as gallons.

(IV) Monthly deviation--The arithmetic average of four consecutive weekly deviations, expressed as gallons.

(ii) Any measuring equipment shall be capable of measuring the level of stored substance over the full range of the tank's height to the nearest 1/8 inch.

(iii) Separate liquid level measurements in the tank shall be taken weekly at the beginning and the ending of the gauging period, and the weekly deviation shall be determined from such level measurements.

(iv) Once each month, after four consecutive weekly deviations are determined, a monthly deviation shall be calculated.

(v) For the purposes of the manual tank gauging method of release detection, a release shall be indicated when either the weekly deviation or the monthly deviation exceeds the maximum allowable standards indicated in the following subclauses:

(I) for a tank with a capacity of 550 gallons or less (any tank diameter): minimum duration of gauging period = 36 hours; weekly standard = ten gallons; monthly standard = five gallons;

(II) for a tank with a capacity of 551 gallons to 1,000 gallons (when tank diameter is 64 inches): minimum duration of gauging period = 44 hours; weekly standard = nine gallons; monthly standard = four gallons; and

(III) for a tank with a capacity of 551 gallons to 1,000 gallons (when tank diameter is 48 inches): minimum duration of gauging period = 58 hours; weekly standard = 12 gallons; monthly standard = six gallons.

(vi) When either the weekly standard or the monthly standard is exceeded and a suspected release is thereby indicated, the owner or operator shall comply with the applicable release reporting, investigation, and corrective action requirements of Subchapter D of this chapter.

(3) Monthly (every 30 days) tank gauging. Monthly tank gauging may be used as a tank release detection method, subject to the following limitations and requirements.

(A) Monthly tank gauging in accordance with this paragraph may be used as the sole method of tank release detection only for emergency generator tanks.

(B) The use of monthly tank gauging shall not be considered an acceptable method for meeting the release detection requirements of this section for any tanks other than emergency generator tanks.

(C) When used for compliance with the release detection requirements of this section, the procedures and requirements in the following clauses shall be applicable.

(i) For purposes of this subparagraph only, the following definitions are applicable.

(I) Level measurement--The average of two consecutive liquid level readings from a tank gauge, measuring stick, or other manual or automatic measuring equipment.

(II) Gauging period--A period of at least 36 hours during which no substance is added to or removed from the tank.

(III) Monthly deviation--The variation between the level measurements taken at the beginning and the end of one gauging 30-day period, converted to and expressed as gallons.

(ii) Any measuring equipment (whether operated manually or automatically) shall be capable of measuring the level of a stored substance over the full range of the tank's height to the nearest 1/8 inch.

(iii) Separate liquid level measurements in the tank shall be taken at least once every 30 days at the beginning and the ending of the gauging period, and the monthly deviation shall be determined from such level measurements.

(iv) For the purposes of the 30-day tank gauging method of release detection, a release shall be indicated when the monthly deviation exceeds the maximum allowable standards indicated in the following subclauses:

(I) for a tank with a capacity of 550 gallons or less:
monthly standard = five gallons;

(II) for a tank with a capacity of 551 gallons to 1,000 gallons: monthly standard = seven gallons;

(III) for a tank with a capacity of 1,001 gallons to 2,000 gallons: monthly standard = 13 gallons; and

(IV) for a tank with a capacity greater than 2,000 gallons: monthly standard = 1.0% of the total tank capacity.

(v) When the monthly standard is exceeded and a suspected release is thereby indicated, the owner or operator shall comply with the applicable release reporting, investigation, and corrective action requirements of Subchapter D of this chapter.

(4) Automatic tank gauging in combination with inventory control.

(A) A combination of automatic tank gauging and inventory control may be used as a tank release detection method, subject to the following requirements.

(i) Inventory control procedures shall be in compliance with paragraph (1)(B) of this subsection.

(ii) The automatic tank gauging equipment shall be capable of:

(I) automatically monitoring the in-tank liquid levels, conducting automatic tests for substance loss, and collecting data for inventory control purposes; and

(II) performing an automatic test for substance loss that can detect a release of 0.2 gallon per hour from any portion of the tank which contains regulated substances.

(iii) The automatic tank gauge testing must be performed with the system operating in one of the following modes:

(I) in-tank static testing conducted at least once every 30 days; or

(II) 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 30 days.

(B) For emergency generator tanks and used oil tanks only, automatic tank gauging may be used as a tank release detection method without

inventory control, provided that the automatic tank gauging equipment shall be capable of:

(i) automatically monitoring the in-tank liquid levels;

(ii) conducting continuous automatic tests for substance loss during the periods when the emergency generator engine is not in operation;

(iii) performing an automatic test for substance loss that can detect a release of 0.2 gallon per hour from any portion of the tank which contains regulated substances; and

(iv) measuring the water level at the bottom of the tank to the nearest 1/8 of an inch at least once every 30 days.

(5) Vapor monitoring. Equipment and procedures designed to test or monitor for the presence of vapors from the regulated substance (or from a related tracer substance) in the soil gas of the backfilled excavation zone may be used, subject to the following limitations and requirements.

(A) The bedding and backfill materials in the excavation zone shall be sufficiently porous to allow vapors from any released regulated substance (or

related tracer substance) to rapidly diffuse through the excavation zone (e.g., gravel, sand, crushed rock).

(B) The stored regulated substance, or any tracer substance placed in the tank system, shall be sufficiently volatile so that, in the event of a substance release from the UST system, vapors will develop to a level that can be readily detected by the monitoring devices located in the excavation zone.

(C) The capability of the monitoring device to detect vapors from the stored regulated substance shall not be adversely affected by the presence of any groundwater, rainfall, and/or soil moisture in a manner that would allow a release to remain undetected for more than 30 days.

(D) Any preexisting background contamination in the excavation zone shall not interfere with the capability of the vapor monitoring equipment to detect releases from the UST system.

(E) The vapor monitoring equipment shall be designed to detect vapors from either the stored regulated substance, a component or components of the stored substance, or a tracer substance placed in the UST system, and shall be capable of detecting any significant increase in vapor concentration above preexisting background levels.

(F) Prior to installation of any vapor monitoring equipment, the site of the UST system (within the excavation zone) shall be assessed by qualified personnel to:

(i) ensure that the requirements in subparagraphs (A) - (D) of this paragraph have been met; and

(ii) determine the appropriate number and positioning of any monitoring wells and/or observation wells, so that releases into the excavation zone from any part of the UST system can be detected within 30 days.

(G) All monitoring wells and observation wells shall be designed and installed in accordance with the requirements of §334.46(g) of this title.

(6) Groundwater monitoring. Equipment or procedures designed to test or monitor for the presence of regulated substances floating on, or dissolved in, the groundwater in the excavation zone may be used, subject to the following limitations and requirements.

(A) The stored regulated substance shall be immiscible in water and shall have a specific gravity of less than one.

(B) The natural groundwater level shall never be more than 20 feet (vertically) from the ground surface, and the hydraulic conductivity of the soils or backfill between all parts of the UST system and the monitoring points shall not be less than 0.01 centimeters per second (i.e., the soils or backfill shall consist of gravels, coarse to medium sands, or other similarly permeable material).

(C) Any automatic monitoring devices that are employed shall be capable of detecting the presence of at least 1/8 inch of free product on top of the groundwater in the monitoring well or observation well. Any manual monitoring method shall be capable of detecting a visible sheen or other accumulation of regulated substances in, or on, the groundwater in the monitoring well or observation well.

(D) Any preexisting background contamination in the monitored zone shall not interfere with the capability of the groundwater monitoring equipment or methodology to detect releases from the UST system, and the groundwater monitoring equipment or methodology shall be capable of detecting any significant increase above preexisting background levels in the amount of regulated substance floating on, or dissolved in, the groundwater.

(E) Prior to installation of any groundwater monitoring equipment, the site of the UST system (within and immediately below the excavation zone) shall be assessed by qualified personnel to:

(i) ensure compliance with the requirements of subparagraphs (A) and (B) of this paragraph; and

(ii) determine the appropriate number and positioning of any monitoring wells and/or observation wells, so that releases from any part of the UST system can be detected within 30 days.

(F) All monitoring wells and observation wells shall be designed, installed, and maintained in accordance with the requirements in §334.46(g) of this title.

(7) Interstitial monitoring for double-wall or jacketed UST systems. Equipment designed to test or monitor for the presence of regulated substance vapors or liquids in the interstitial space between the inner (primary) and outer (secondary) walls of a double-wall or jacketed UST system may be used, subject to the following conditions and requirements.

(A) Any double-wall UST system using this method of release detection shall be designed, constructed, and installed in accordance with the applicable technical and installation requirements in §334.45(d) and §334.46(f) of this title.

(B) The sampling, testing, or monitoring method shall be capable of detecting any release of stored regulated substances from any portion of the primary tank or piping within 30 days of the release.

(C) The sampling, testing, or monitoring method shall be capable of detecting a breach or failure in the primary wall and the entrance of groundwater or any other water into the interstitial space due to a breach in the secondary wall of the double-wall or jacketed tank or piping system within 30 days of such breach or failure (whether or not a stored regulated substance has been released into the environment).

(8) Monitoring of UST systems with secondary containment barriers. Equipment designed to test or monitor for the presence of regulated substances (liquids or vapors) in the excavation zone between the UST system and an impermeable secondary containment barrier immediately around the UST system may be used, subject to the following conditions and requirements.

(A) Any secondary containment barrier or liner system at a UST system using this method of release detection shall be designed, constructed, and installed in accordance with the applicable technical and installation requirements in §334.45(d) and §334.46(f) of this title.

(B) The sampling, testing, or monitoring method shall be capable of detecting any release of stored regulated substance from any portion of the UST system into the excavation zone between the UST system and the secondary containment barrier within 30 days of the release.

(C) The sampling, testing, or monitoring method shall be designed and installed in a manner that will ensure that groundwater, soil moisture, and rainfall will not render the method inoperative where a release could remain undetected for more than 30 days.

(D) Prior to installation of any secondary containment release monitoring equipment, the site of the UST system shall be assessed by qualified personnel to:

(i) ensure that the secondary containment barrier will be positioned above the groundwater level and outside the designated 25-year floodplain,

unless the barrier and the monitoring equipment are designed for use under such conditions; and

(ii) determine the appropriate number and positioning of any observation wells.

(E) All observation wells shall be designed and installed in accordance with the requirements in §334.46(g) of this title.

(9) SIR in combination with inventory control.

(A) A combination of SIR and inventory control may be used as a release detection method for UST system tanks and piping, subject to the following requirements.

(i) Inventory control procedures must be in compliance with paragraph (1)(B) of this subsection.

(ii) The SIR methodology as utilized by its provider or vendor, or by its vendor-authorized franchisee or licensee or representative must:

(I) analyze inventory control records in a manner which can detect a release of 0.2 gallons per hour from any part of the UST system; and

(II) use a threshold that does not exceed one-half the minimum detectable leak rate.

(iii) The UST system owner and/or operator must take appropriate steps to assure that they receive an analysis report from the entity which actually performs the SIR analysis for the 30-day period (either the SIR provider/vendor or the provider/vendor-authorized franchisee or licensee or representative) in no more than 15 calendar days following the last day of the 30-day period for which the analysis is performed. This analysis report must, at minimum:

(I) state the name of the SIR provider/vendor and the name and version of the SIR methodology which was utilized for the analysis as they are listed in the independent third-party evaluation of that methodology;

(II) state the name of the company and the individual (or the name of the individual if no company affiliation) who performed the analysis, if it was performed by a provider/vendor-authorized franchisee or licensee or representative;

(III) state the name and address of the facility at which analysis is performed and provide a description of each UST system for which analysis has been performed;

(IV) state the date that the analysis was conducted;

(V) quantitatively state in gallons per hour for each UST system being monitored: the leak threshold for the 30-day period analyzed, and the minimum detectable leak rate for the 30-day period analyzed, and the indicated leak rate for the 30-day period; and

(VI) qualitatively state one of the following for each UST system being monitored: "pass," "fail," or "inconclusive."

(iv) Any UST system analysis report result other than "pass" must be reported to the agency by the UST system owner or operator as a suspected release in accordance with §334.72 of this title (relating to Reporting of Suspected Releases).

(v) Any UST system analysis report result of "inconclusive" which has not been investigated and quantified as a "pass" (in the form of a

replacement UST system analysis report meeting the requirements of clause (iii) of this subparagraph) must be reported to the agency as a suspected release within 72 hours of the time of receipt of the inconclusive analysis report result by the UST system owner or operator.

(B) At least once per calendar quarter, the SIR provider/vendor must select at random, at least one of the individual UST system analyses performed by each of its authorized franchisees or licensees or representatives during that period and audit that analysis to assure that provider/vendor standards are being maintained with regard to the acceptability of inventory control record data, the acceptability of analysis procedures, and the accuracy of analysis results. The written result of that audit must be provided to the authorized franchisee or licensee or representative and to the owner and/or operator of the audited UST system(s) by the SIR provider/vendor during that calendar quarter. In addition, within 30 days following each calendar quarter, the SIR provider/vendor must provide to the agency a list containing the name and address of each of its authorized franchisees or licensees or representatives which specifies for each one, the name and address of each facility at which one or more UST system audits were performed during the previous calendar quarter.

(10) Alternative release detection method. Any other release detection method, or combination of methods, may be used if such method has been reviewed and determined by the agency to be capable of detecting a release from any portion of

the UST system in a manner that is no less protective of human health and safety and the environment than the methods described in paragraphs (2) - (9) of this subsection, in accordance with the provisions of §334.43 of this title (relating to Variances and Alternative Procedures).

(e) Release detection records.

(1) Owners and operators shall maintain the release detection records required in this subsection in accordance with the requirements in §334.10(b) of this title (relating to Reporting and Recordkeeping).

(2) Owners and operators shall maintain records adequate to demonstrate compliance with the release detection requirements in this section, and in accordance with the following minimum requirements.

(A) All appropriate installation records related to the release detection system, as listed in §334.46(i) of this title, shall be maintained for as long as the release detection system is used.

(B) All written performance claims pertaining to any release detection system used, and documentation of the manner in which such claims have been justified, verified, or tested by the equipment manufacturer, methodology

provider/vendor, or independent third-party evaluator shall be maintained for as long as the release detection system is used.

(C) Records of the results of all manual and/or automatic methods of sampling, testing, or monitoring for releases (including tank tightness tests) shall be maintained for at least five years after the sampling, testing, or monitoring is conducted.

(D) Records and calculations related to inventory control reconciliation shall be maintained for at least five years from the date of reconciliation.

(E) Written documentation of all service, calibration, maintenance, and repair of release detection equipment permanently located on-site shall be maintained for at least five years after the work is completed. Any schedules of required calibration and maintenance provided by the release detection equipment manufacturer shall be retained for as long as the release detection system is used.

(F) Records of site assessments required under subsection (d)(5) and (6) of this section (concerning vapor monitoring and groundwater monitoring) must be maintained for as long as the methods are used. Records of site assessments must be signed by a professional engineer or professional geologist, or equivalent

licensed professional with experience in environmental engineering, hydrogeology, or another relevant technical discipline acceptable to the agency.

§334.51. Spill and Overfill Prevention and Control.

(a) General spill and overfill control requirements.

(1) Owners and operators of all new and existing underground storage tank (UST) systems shall ensure that releases of regulated substances due to spills and overfills do not occur.

(2) Prior to regulated substances being transferred and deposited into a UST system, the owner or operator shall ensure that the available volume in the tank is greater than the volume of regulated substances to be transferred into the tank.

(3) During the entire time that regulated substances are being transferred into a UST system, the owner or operator shall ensure that the entire transfer operation is continuously monitored by the person conducting the transfer. Except as provided in paragraph (4) of this subsection, such monitoring may be accomplished by either of the following methods.

(A) The person conducting the transfer shall be physically present at or near the transfer point at all times during the transfer operation, and shall have an unobstructed view of the transfer point to observe the transfer and to abate any spill or overflow.

(B) The person conducting the transfer shall be physically present at the facility at all times during the transfer operation, and shall monitor the transfer operation using a central monitoring station which is electronically connected to remote sensing equipment at each transfer point, where such equipment is designed to detect and prevent any spills or overfills.

(4) When USTs are equipped with ball float valves in the vent openings (or with other similar flow restrictors) for the purposes of compliance with the overflow prevention equipment requirements of subsection (b)(2)(C) of this section, and when regulated substances are transferred into such tanks under pressure (other than routine gravity unloading from normal transport vehicles), the following requirements shall be met during the time that regulated substances are being transferred into the tank.

(A) The person conducting the transfer shall be physically present at or near the transfer point at all times during the transfer operation, and shall have

an unobstructed view of the transfer point to observe the transfer and to abate any spill or overfill.

(B) The transfer hose connection shall be equipped with an appropriate back-pressure sensor that will automatically shut off flow into the tank when the pressure in the tank reaches the tank's allowable design pressure (typically five per square inch gauge).

(5) The owners or operators shall assure that the installation and maintenance of all required spill and overfill prevention equipment, as well as the procedures used for the transfers of regulated substances to or from a UST system, are in accordance with codes or standards of practice developed by a nationally recognized association or independent testing laboratory such as:

(A) National Fire Protection Association (NFPA) Standard 385, "Standard for Tank Vehicles for Flammable and Combustible Liquids." The transfer procedures described in NFPA Standard 385 or American Petroleum Institute (API) Recommended Practice 1007, "Loading and Unloading of MC 306/DOT 406 Cargo Tank Motor Vehicles" may be used to comply with this subsection.

(B) API Recommended Practice 1007, "Loading and Unloading of MC 306/DOT 406 Cargo Tank Motor Vehicles," which also may be used to comply with paragraphs (2) and (3) of this subsection; or

(C) API Recommended Practice 1621, "Bulk Liquid Stock Control at Retail Outlets," with further guidance on spill and overfill prevention.

(6) The owner or operator shall assure that all spill and overfill prevention devices installed pursuant to subsection (b) of this section are maintained in good operating condition, and that such devices are inspected and serviced in accordance with the manufacturer's specifications. In addition, the devices shall be monitored or tested in accordance with the requirements in §334.48(g) and (h) of this title (relating to General Operating and Management Requirements).

(7) In the event a release of regulated substance(s) occurs due to a spill or overfill, the owner or operator shall comply with the release reporting, investigation, and corrective action requirements in Subchapter D of this chapter (relating to Release Reporting and Corrective Action).

(b) Spill and overfill prevention equipment. Except as provided in paragraph (4) of this subsection, all UST systems shall be equipped with spill and overfill prevention equipment which shall be designed, installed, and maintained in a manner that will

prevent any spilling or overfilling of regulated substances resulting from transfers to such systems, as provided in this subsection.

(1) Compliance schedule. All UST systems shall be in compliance with the equipment provisions of this subsection from the time of installation through the entire operational life of the system.

(2) Equipment required. UST systems shall be equipped with each of the following spill and overfill prevention equipment or devices.

(A) Tight-fill fitting. The fill pipe of the tank shall be equipped with a tight-fill fitting, adapter, or similar device which shall provide a liquid-tight seal during the transfer of regulated substances into the tank.

(B) Spill containment equipment. The fill tube of the tank either shall be equipped with an attached spill container or catchment basin, or shall be enclosed in a liquid-tight manway, riser, or sump, and such equipment shall meet the following requirements.

(i) The spill containment device shall be designed to prevent the release of regulated substances to the environment when the transfer hose or line is detached from the fill pipe.

(ii) The spill containment device shall be equipped with a liquid-tight lid or cover designed to minimize the entrance of any surface water, groundwater, or other foreign substances into the container.

(C) Overfill prevention equipment. Each tank shall be equipped with a valve or other appropriate device that shall be designed to either:

(i) automatically shut off the flow of regulated substances into the tank when the liquid level in the tank reaches a preset level which shall be no higher than the 95% capacity level for the tank;

(ii) automatically restrict the flow of regulated substances into the tank when the liquid level in the tank reaches a preset level which shall be no higher than the 90% capacity level for the tank, provided that such flow restricting device shall also alert the person responsible for the delivery when such preset level is reached. Flow restrictor devices may not be used when overflow prevention is installed or replaced on or after September 1, 2018; or

(iii) emit an audible and visible alarm capable of alerting the person responsible for the delivery when the liquid level in the tank reaches a preset level which shall be no higher than the 90% capacity level for the tank, provided that

the tank is also equipped with a valve or other device which is designed to automatically shut off or automatically restrict the flow of regulated substances into the tank when the liquid level reaches a preset level which shall be no higher than the 98% capacity level for the tank.

(3) Design and installation requirements.

(A) All spill and overflow prevention equipment shall be installed in accordance with the manufacturer's instructions and a code or standard of practice developed by a nationally recognized association or independent testing laboratory.

(B) All underground components of the spill and overflow prevention equipment which are designed to contain regulated substances shall be properly protected from corrosion in accordance with the applicable provisions in §334.49 of this title (relating to Corrosion Protection).

(C) The surfaces of all spill and overflow prevention equipment which are in direct contact with regulated substances shall be constructed of or lined with materials that are compatible with such regulated substances.

(D) When installing the overflow prevention equipment specified in paragraph (2)(C) of this subsection, appropriate extension devices shall be utilized as

necessary to assure that the shut-off or restriction of flow into the tank is achieved at the specified preset levels, which shall be based on the manufacturer's capacity charts for the size, dimensions, and shape of the tank.

(4) Exceptions.

UST systems are not required to be equipped with the spill and overfill prevention equipment prescribed in this subsection if one or more of the following conditions are applicable to such system:

(A) the transfers of regulated substances into the UST system do not exceed 25 gallons per occurrence; or

(B) the UST system is equipped with alternative equipment which has been reviewed and determined by the agency to prevent spills and overfills of regulated substances in a manner that is no less protective of human health and the environment than the equipment prescribed in this subsection, pursuant to procedures for variances found in §334.43 of this title (relating to Variances and Alternative Procedures).

(c) Spill and overfill control records.

(1) Owners and operators shall maintain the spill and overfill control records required in this subsection in accordance with the requirements in §334.10(b) of this title (relating to Reporting and Recordkeeping).

(2) Owners and operators shall maintain records adequate to demonstrate compliance with the spill and overfill prevention and control requirements in this section, and in accordance with the following minimum requirements.

(A) All appropriate installation records related to the installation of any spill and overfill prevention equipment, as listed in §334.46(i) of this title (relating to Installation Standards for New Underground Storage Tank Systems), shall be maintained for as long as the spill and overfill prevention equipment is used.

(B) Records of any servicing, calibration, maintenance, inspection, monitoring, testing, and repair of any spill and overfill prevention equipment shall be maintained for at least five years after such work is completed.

(3) If an owner or operator claims an exemption from the spill and overfill equipment requirements under the provisions of subsection (b)(4) of this section (i.e., transfers of 25 gallons or less), such owner or operator shall maintain

appropriate transfer or inventory records for at least five years to document the basis for such exemption.

§334.52. Underground Storage Tank System Repairs and Relining.

(a) General requirements.

(1) Owners and operators shall ensure that any repair or relining of an underground storage tank (UST) system will prevent releases due to structural failure or corrosion for the remaining operational life of the system.

(2) Owners and operators shall ensure that any repair or relining is conducted by qualified personnel possessing the appropriate skills, experience, competence, and, if applicable, any required license or certification to complete the work in accordance with the provisions of this subsection.

(3) Any repairs or relining shall be properly conducted in accordance with a standard or code of practice developed by a nationally recognized association or independent testing laboratory, such as:

(A) National Fire Protection Association (NFPA) Standard 30, "Flammable and Combustible Liquids Code;"

(B) American Petroleum Institute (API) Recommended Practice RP 2200, "Repairing Hazardous Liquid Pipelines;"

(C) API Recommended Practice RP 1631, "Interior Lining and Periodic Inspection of Underground Storage Tanks;"

(D) NFPA 326, "Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair;"

(E) National Leak Prevention Association Standard 631, Chapter A, "Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks;"

(F) Steel Tank Institute Recommended Practice R972, "Recommended Practice for the Addition of Supplemental Anodes to sti-P₃ Tanks;"

(G) NACE International Standard Practice SP 0285, "Corrosion Control of Underground Storage Tank Systems by Cathodic Protection;" or

(H) Fiberglass Tank and Pipe Institute Recommended Practice T-95-02, "Remanufacturing of Fiberglass Reinforced Plastic (FRP) Underground Storage Tanks."

(4) After completion of any repairs or relining of a UST system, the owner or operator shall obtain detailed written records of the repairs or relining from the person who performed the work.

(5) The requirements of this section shall not be applicable to routine and minor maintenance activities related to the tank and piping systems, such as tightening loose fittings and joints, adjusting and calibrating equipment, and conducting routine inspections and tests. Tank and piping systems may be placed back into operation immediately after the satisfactory completion of such minor maintenance activities.

(6) If any release of regulated substances is discovered or suspected during the UST system repair or relining activity, the owner or operator shall comply with the applicable release reporting, investigation, and corrective action requirements in Subchapter D of this chapter (relating to Release Reporting and Corrective Action).

(7) The performance of any repairs or relining of an existing UST shall not relieve the owner or operator from timely compliance with the technical standards for

such tanks, as required in §334.47 of this title (relating to Technical Standards for Existing Underground Storage Tank Systems).

(b) Tank repairs and relining.

(1) The provisions of this subsection shall be applicable to the in-place repairs or relining of existing tanks. Tanks that are removed from the ground prior to repair or relining shall be considered used tanks and shall be brought into compliance with all provisions of §334.53 of this title (relating to Reuse of Used Tanks) prior to being placed back in operation.

(2) A previously used tank may be repaired or relined and placed back in operation, provided that the repair or relining is conducted in accordance with the provisions of this subsection and in a manner that will prevent releases of regulated substances due to structural failure or corrosion for the remaining operational life of the tank.

(3) Repairs or relining of fiberglass-reinforced plastic tanks shall be made only by either:

(A) an authorized representative of the tank manufacturer; or

(B) any other person possessing the requisite experience and qualifications to perform the repairs, provided that such repairs shall be performed in accordance with a standard or code of practice developed by a nationally recognized association or independent testing laboratory.

(4) Additional requirements for relining.

(A) Interior lining material(s) used in the repair or reconditioning of a UST shall be compatible with the stored regulated substance, and shall be applied to a minimum thickness of 100 mils.

(B) The entire lining process, including the tank preparation, lining application, inspection, and testing shall be in accordance with a standard or code of practice developed by a nationally recognized association or independent testing laboratory, such as:

(i) API Recommended Practice 1631, "Interior Lining and Periodic Inspection of Underground Storage Tanks;"

(ii) National Leak Prevention Association Standard 631, Chapter B "Future Internal Inspection Requirements for Lined Tanks;" or

(iii) Ken Wilcox Associates Recommended Practice,
"Recommended Practice for Inspecting Buried Lined Steel Tanks Using a Video
Camera."

(C) Within 10 years after lining, and every five years thereafter, the lined tank shall be internally inspected and determined to be structurally sound with the lining still performing in accordance with original design specifications. If the internal lining is no longer performing in accordance with original design specifications and cannot be repaired in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory, then the lined tank must be permanently removed from service in accordance with §334.55 of this title (relating to Permanent Removal from Service).

(5) Prior to placing the tank back into operation, any repaired or relined tank shall be either:

(A) tested by means of a tank tightness test meeting the requirements in §334.50(d)(1)(A) of this title (relating to Release Detection);

(B) internally inspected and assessed in accordance with the requirements in §334.47(b)(1)(A)(iv) of this title; or

(C) tested or assessed by any other method that has been reviewed and determined by the agency to be no less protective of human health and safety and the environment than the standards described in subparagraphs (A) and (B) of this paragraph, in accordance with the procedures in §334.43 of this title (relating to Variances and Alternative Procedures).

(6) Not later than December 22, 1998, the entire UST system shall be equipped with a cathodic protection system. Such system shall be designed by a qualified corrosion specialist and shall be operated and maintained in accordance with the applicable cathodic protection requirements of §334.49(c) of this title (relating to Corrosion Protection).

(c) Piping repairs and maintenance.

(1) When a release of a regulated substance has occurred as a result of holes, damage, or corrosion in the piping, valves, or fittings, the repair of the affected piping, valves, or fittings shall not be allowed. Any damaged, corroded, or defective piping sections, valves, or fittings shall be replaced with materials or components meeting the applicable requirements for new piping systems in §334.45(c) of this title (relating to Technical Standards for New Underground Storage Tank Systems).

(2) The installation or reinstallation of previously used piping, valves, or fittings in any UST system is specifically prohibited, regardless of the source or previous use of such previously used components.

(3) Prior to placing the piping system back into operation, any repaired piping system shall be tested by means of a piping tightness test meeting the requirements of §334.50(b)(2)(A)(ii)(I) of this title.

(4) If a repaired metal piping system has not already been equipped with an acceptable cathodic protection system, then the following minimum requirements shall be met prior to placing the piping system back in operation.

(A) The repaired piping sections and fittings shall be thoroughly coated with a suitable dielectric coating and shall be electrically isolated from the remaining piping system by dielectric fittings.

(B) The repaired piping sections and fittings shall be retrofitted with a field-installed cathodic protection system. Such cathodic protection system shall be designed by a qualified corrosion specialist and shall be operated and maintained in accordance with the applicable cathodic protection requirements in §334.49(c) of this title. The remaining portion of the piping system shall be brought into compliance with

the minimum upgrading requirements for existing UST systems in accordance with the procedures and schedules in §334.47 of this title.

(d) Other tank system repairs and ancillary equipment repairs.

(1) Repairs to secondary containment areas of tanks and piping used for interstitial monitoring and to containment sumps used for interstitial monitoring of piping must have the secondary containment tested for tightness according to the manufacturer's instructions, a code of practice developed by a nationally recognized association, or independent testing laboratory within 30 days following the date of completion of the repair. All other repairs to tanks and piping must be tightness tested in accordance with §334.50(b)(2)(A)(ii)(I) and (d)(1)(A) of this title within 30 days following the date of completion of the repair.

(2) Within 30 days following any repair to spill or overflow prevention equipment, the repaired spill or overflow prevention equipment must be tested or inspected, as appropriate, in accordance with §334.48(g) of this title (relating to General Operating and Management Requirements) to ensure it is operating properly.

(e) Records for repairs and relining.

(1) Owners and operators shall maintain the repair and relining records required in this subsection in accordance with the requirements in §334.10(b) of this title (relating to Reporting and Recordkeeping).

(2) Owners and operators shall maintain records adequate to demonstrate compliance with the applicable repairs and relining requirements in this section, and in accordance with the following minimum requirements.

(A) General information related to the repairs or relining shall be maintained for the remaining operational life of the UST system, including:

(i) date and description of the repairs or relining;

(ii) names, addresses, and telephone numbers of the persons who conducted the repairs or relining; and

(iii) copies of all related construction notification, registration, and certification documents filed with the agency.

(B) Results of all inspections, tests, and maintenance activities required in this section shall be maintained for at least five years.

(C) Materials specifications, warranty information, recommended test procedures, and inspection and maintenance schedules applicable to the relining of any tank shall be maintained for the remaining operational life of the UST system.

§334.54. Temporary Removal from Service.

(a) Applicability. An underground storage tank (UST) system shall be considered to be temporarily out of service, regardless of whether or not regulated substances remain in the UST system, when the following conditions apply.

(1) The normal operation and use of the UST system is deliberately, but temporarily, discontinued for any reason.

(2) The infrequent use of the UST system cannot be adequately justified as part of its purpose.

(3) The operation, maintenance, and/or release detection procedures are determined to be inadequate or otherwise inconsistent with the monitoring procedures normally associated with in-service systems of similar type and purpose.

(b) All UST systems. Regardless of whether or not regulated substances remain in the UST system, the owner or operator shall assure that the UST system is

maintained in compliance with the following requirements for the balance of time that the UST system remains temporarily out of service.

(1) All vent lines shall be kept open and functioning.

(2) All other piping, pumps, manways, tank access points (e.g., fill risers, automatic tank gauging risers, Stage I vapor recovery risers) and ancillary equipment shall be capped, plugged, locked, and/or otherwise secured to prevent access, tampering, or vandalism by unauthorized persons.

(3) The UST system shall be adequately protected from corrosion in accordance with the applicable requirements of §334.49 of this title (relating to Corrosion Protection).

(4) Testing and inspections. Spill and overflow operation and maintenance testing and walkthrough inspections (as listed in §334.48(g) and (h) of this title (relating to General Operating and Management Requirements)) are not required on temporarily out of service UST systems.

(c) Protected and monitored systems. Any UST system may remain out of service indefinitely so long as the following requirements are met during the period that the UST system remains temporarily out of service.

(1) Unless the UST system has been emptied of all regulated substances (as described under subsection (d) of this section) at the time it is temporarily removed from service, the UST system shall be monitored for releases in accordance with the applicable requirements of §334.50 of this title (relating to Release Detection).

(2) Returning UST system to service.

(A) When a protected and empty UST system that has been temporarily out of service for longer than six months is placed back into service, the owner or operator shall ensure the integrity of the system by the performance of tank tightness and piping tightness tests that meet the requirements of §334.50(d)(1)(A) of this title, and as applicable, §334.50(b)(2)(A)(ii)(I) or (B)(i)(I) of this title, prior to bringing the system back into operation;

(B) When either a protected and monitored or a protected and empty UST system is placed back into service, the owner or operator shall also ensure that the UST system either is in compliance or is brought into compliance with all applicable release detection, and spill and overfill prevention requirements of §334.50 of this title and §334.51 of this title (relating to Spill and Overfill Prevention and Control); and

(C) Before any UST system is returned to service under this subsection, the owner or operator must first submit a construction notification form as specified in §334.6(b) of this title (relating to Construction Notification for Underground Storage Tanks (USTs) and UST Systems).

(d) Empty system.

(1) For the purposes of this section only, and specifically for the purpose of exempting certain UST systems (when temporarily out of service) the following requirements shall not apply as long as a UST system is empty:

(A) release detection (as listed in §334.50 of this title); and

(B) release detection operation and maintenance testing and inspections (as listed in §334.48(e)(1) of this title).

(2) A UST system shall be considered empty when all of the following provisions have been met:

(A) all regulated substances have been removed as completely as possible by the use of commonly-employed and accepted industry procedures;

(B) any residue from stored regulated substances which remains in the system (after the completion of the substance removal procedures under subparagraph (A) of this paragraph) shall not exceed a depth of 2.5 centimeters at the deepest point and shall not exceed 0.3% by weight of the system at full capacity; and

(C) the volume or concentration of regulated substances remaining in the system would not pose an unreasonable risk to human health and safety or to the environment if a release occurs during the period when the system is temporarily out of service.

(e) Other requirements.

(1) Releases. If a release of a regulated substance is suspected or confirmed, the owner or operator of a UST system which is temporarily out of service shall comply with all release reporting, investigation, and corrective action requirements in Subchapter D of this chapter (relating to Release Reporting and Corrective Action).

(2) Registration. At the time a UST system is temporarily taken out of service and at the time a UST system is brought back into service, the owner shall

comply with the applicable tank registration requirements in §334.7 of this title (relating to Registration for Underground Storage Tanks (USTs) and UST Systems).

(3) Fees. A UST which is temporarily out of service in accordance with this section shall remain subject to the agency's UST fees in Subchapter B of this chapter (relating to Underground Storage Tank Fees).

(4) Recordkeeping for temporary removal from service.

(A) Owners and operators shall maintain records adequate to demonstrate compliance with the requirements in this section, in accordance with §334.10(b) of this title (relating to Reporting and Recordkeeping).

(B) At a minimum, the following records shall be maintained for at least five years after the UST system is temporarily removed from service:

(i) date that the UST system was temporarily removed from service;

(ii) name, address, and telephone number of the person who prepared the UST system for the period of non-use;

(iii) documentation of the procedures used to prepare and empty the UST system;

(iv) copies of all documentation relative to any requests and approvals of extensions of time;

(v) name, address, and telephone number of the person who conducted the tank and piping tightness tests, prior to returning the UST system to service;

(vi) results of any tank and piping tightness tests; and

(vii) date that the UST system was returned to service.

(5) Financial assurance requirements for tanks temporarily removed from service. Note that §37.885 of this title (relating to Release from the Requirements) addresses release from financial assurance requirements. To be considered properly temporarily removed from service for release from financial assurance requirements in §37.885 of this title, owners and operators shall:

(A) empty the UST system in accordance with subsection (d) of this section; and

(B) perform a site check and any necessary corrective actions in accordance with the requirements of §334.74 of this title (relating to Release Investigation and Confirmation Steps).

§334.55. Permanent Removal from Service.

(a) General provisions.

(1) Any owner or operator who intends to permanently remove an underground storage tank (UST) from service (by either removing the tank from the ground, abandoning the tank in-place, or conducting a permanent change-in-service) shall provide prior notice of this activity to the agency in accordance with §334.6 of this title (relating to Construction Notification for Underground Storage Tanks (USTs) and UST Systems).

(2) The procedures used in permanently removing the UST from service shall conform with accepted industry practices, and shall be in accordance with a code or standard of practice developed by a nationally recognized association or independent testing laboratory.

(3) The permanent removal from service shall be conducted by qualified personnel possessing the appropriate skills, experience, competence, and, if applicable,

any required license or certification to complete the activity in accordance with the provisions of this section and in a manner designed to minimize the possibility of any threats to human health and safety or the environment.

(4) All USTs that are intended for permanent removal from service shall be emptied of all regulated substances and accumulated sludges or residues, and shall be purged of all residual vapors in accordance with accepted industry procedures commonly employed for the stored regulated substance.

(5) The handling, transportation, and disposal of any regulated substances removed from a UST system, and any contaminated soils, backfill material, groundwater, wash water, or other similar materials removed from the system or facility, shall be conducted in a safe and environmentally sound manner, and shall be in accordance with all applicable federal, state, and local regulations in effect for the type, volume, contaminant concentration, and classification of the removed material.

(6) As part of the required procedure for the permanent removal of any UST system from service, the owner or operator shall determine whether or not any prior release of a stored regulated substance has occurred from the system.

(A) This determination shall be performed subsequent to the submittal of notification to the agency as prescribed in §334.6 of this title, but prior to completion of the permanent removal from service.

(B) This determination shall be made by visual inspection of the area in and immediately surrounding the excavation zone for any above-ground releases and for any exposed below-ground releases, and by using one or both of the following methods or procedures:

(i) the continual operation (through the time that the stored regulated substances are removed from the UST system) of one or more of the external release monitoring and detection methods operating in accordance with §334.50(d)(5) - (8) of this title (relating to Release Detection); or

(ii) the performance of a comprehensive site assessment in accordance with the requirements of subsection (e) of this section.

(C) Any methods or procedures used to make this determination shall be capable of detecting any prior release of stored regulated substances from any portion of the UST system.

(D) Upon completion of this determination, the owner or operator shall:

(i) report any confirmed or suspected releases to the agency and comply with all applicable release investigation and corrective action requirements, as prescribed in Subchapter D of this chapter (relating to Release Reporting and Corrective Action);

(ii) prepare or assemble the detailed written records of this determination, which shall include the methods, procedures, results, and names, addresses, and telephone numbers of the persons involved in conducting such determination. Such records shall be maintained in accordance with the applicable provisions in subsection (f) of this section, and a copy of such records shall be filed with the agency in conjunction with the applicable tank registration requirements of §334.7 of this title (relating to Registration for Underground Storage Tanks (USTs) and UST Systems).

(7) For a UST to be considered permanently out-of-service, the owner or operator shall either remove the tank from the ground in accordance with subsection (b) of this section, abandon in-place and fill the tank with an acceptable solid inert material in accordance with subsection (c) of this section, or conduct a permanent change-in-service in accordance with subsection (d) of this section. Unused tanks (i.e., tanks at facilities which are closed or out-of-business) shall be considered temporarily

out-of-service, and shall be subject to the provisions of §334.54 of this title (relating to Temporary Removal from Service), unless they have been permanently removed from service in accordance with this section.

(8) The requirements in this section are applicable to all USTs which are permanently removed from service on or after September 29, 1989.

(9) When directed by the executive director, the owner and operator of a UST system permanently closed before September 29, 1989, must assess the excavation zone and close the UST system in accordance with this subchapter if releases from the UST may, in the judgment of the executive director, pose a current or potential threat to human health and the environment.

(b) Removal from the ground. In addition to the requirements of subsection (a) of this section, the following requirements shall be applicable for the removal of USTs from the ground.

(1) Except as provided under paragraph (2) of this subsection, tanks shall be properly emptied, cleaned, and purged of vapors prior to removal from the ground,

in accordance with accepted industry procedures commonly employed for the stored regulated substance.

(2) When an owner or operator can demonstrate good cause for removal of a tank from the ground prior to emptying, cleaning, or purging the vapors, the owner or operator shall obtain approval from the manager of the appropriate regional office (or the manager's designated representative) prior to proceeding with the removal. In this situation, the tank removal shall be accomplished only under the direct supervision of agency personnel and/or local fire officials, and all conditions and requirements imposed by such supervisory officials shall be strictly followed.

(3) Prior to removing the tank from the ground, all connected piping and other ancillary equipment shall be emptied, disconnected, and properly plugged, capped, or removed.

(4) Storage of removed tanks.

(A) After removal, a tank shall be transported from the site within 24 hours of removal, unless prior approval of a longer on-site storage period is obtained from the manager of the appropriate regional office (or the manager's designated representative).

(B) The on-site storage of tanks for a period of 24 hours or less shall be in a designated temporary storage area which shall be an adequate distance from known ignition sources and which shall be clearly identified with appropriate barriers and warning signs to restrict access by unauthorized persons.

(C) On-site storage of removed tanks for more than 24 hours (when approved by the regional manager), and off-site storage for any period, shall only be allowed in locked, securely fenced, or similarly restricted areas where unauthorized persons will not have access.

(D) No later than 24 hours after removal, all removed tanks (regardless of condition) shall be legibly and permanently labeled (in letters at least two inches high) with the name of the former contents, a flammability warning (if applicable), and a warning that the tank is unsuitable for the storage of drinking water or the storage of human or animal food products.

(E) The residual vapor levels in any removed tank which is stored at the UST facility shall be maintained at nonexplosive and nonignitable levels for the entire time that the tank remains at the facility.

(F) Regardless of where the tank is stored, not later than ten days after the tank has been removed from the ground, any residual liquids or vapors shall be permanently removed to render the tank nonignitable and nonexplosive.

(5) Transportation and disposal of removed tanks.

(A) The methods and procedures used for the handling, transporting, and disposing of any removed USTs (and parts of such tanks) shall be protective of human health and safety and the environment, and shall be in accordance with all applicable federal, state, and local regulations.

(B) Removed tanks (and any parts of such tanks) which have been emptied, thoroughly cleaned of all remaining substances and any remaining residues, and permanently purged of vapors may be appropriately disposed by scrapping, junking, or reusing for purposes unrelated to the underground storage of regulated substances.

(C) Prior to transporting any removed tank from the UST facility, the following minimum preparation procedures shall be followed.

(i) The remaining regulated substances shall be removed, and visible residues or sediments shall be cleaned from the tank as completely as possible, in accordance with commonly used and accepted industry practices.

(ii) Residual vapor levels in the tank shall be reduced to nonexplosive and nonignitable levels, and shall be maintained at such levels during the entire period of transportation.

(iii) All holes and openings shall be properly plugged or capped, except for one 1/8-inch diameter vent hole positioned at the top of the tank during transportation.

(D) The subsequent reuse of any removed tanks for the underground storage of regulated substances (whether on-site or off-site) shall only be allowed under the provisions of §334.53 of this title (relating to Reuse of Used Tanks).

(6) The tank owner shall develop and maintain a permanent record of the prior location of the removed tank; the date of removal; the substance previously stored; the method of conditioning the tank for removal; the methods of handling, transportation, storing, and disposing of the tank; the names, addresses, and telephone numbers of the person conducting the activities; and any information regarding any known releases from such tank. If the facility owner is not the same

person as the tank owner, the tank owner shall provide a copy of such information to the site or facility owner within 30 days after the date of removal.

(c) Abandonment in-place. A UST may be permanently removed from service by abandonment in-place in lieu of actual removal from the ground. In addition to the requirements of subsection (a) of this section, the following requirements shall be applicable to the abandonment in-place of USTs.

(1) When the UST owner is not the owner of the site or facility where such tank is located, the tank owner is prohibited from abandoning such tank in-place unless the following conditions are met.

(A) The tank owner shall provide written notice to the owner of the site or facility for the abandonment in-place prior to initiating the activity.

(B) After completion of the abandonment in-place, the tank owner shall provide to the site or facility owner a legible copy of the permanent record of the abandonment, as described in paragraph (3) of this subsection.

(2) Any tank that is abandoned in-place shall be filled with a solid inert material as prescribed in this paragraph.

(A) Only solid inert materials which are free of any harmful contaminants or pollutants shall be used to fill the tank. Acceptable materials include sand, fine gravel, sand and gravel mixtures, and cement/concrete-based slurries. Other materials such as native soils, drilling muds, and commercially marketed fill materials shall not be used for filling the tank unless the material and filling procedures have been reviewed and approved by the agency in accordance with §334.43 of this title (relating to Variances and Alternative Procedures).

(B) Adequate access openings shall be made in the top of the tank, and the tank shall be filled as completely as possible. Voids and air pockets shall be eliminated.

(C) The fill material and filling procedures shall be adequate to assure that:

(i) the filled tank will not surface after completion of the filling operation;

(ii) any settling or instability of the ground surface subsequent to the abandonment in-place is minimized or eliminated;

(iii) the fill materials will form a permanent solid inert filler that can be expected to remain structurally stable in the ground to prevent cave-ins, even after the subsequent deterioration of the tank walls; and

(iv) the filled tank and associated piping are disconnected and capped or sealed so as to preclude their future use for any storage or disposal purposes.

(3) The tank owner shall develop and maintain a permanent record of the name and address of the tank owner (and site or facility owner, if different); the abandoned tank location; the date of abandonment; the substance previously stored; the method of conditioning the tank for abandonment; release assessment results; the names, addresses, and telephone numbers of the persons conducting the activities; and information regarding the extent of any confirmed releases and any resulting remediation activities.

(A) When the tank owner is not the owner of the facility where the tank is located, the tank owner shall provide to the current facility owner a legible copy of the permanent record of the abandonment in-place. Such information shall be provided no later than 30 days after completion of the abandonment in-place.

(B) The facility owner shall maintain a permanent record of the tank abandonment in-place in accordance with subsection (f) of this section.

(C) Prior to the sale or conveyance of the facility where an abandoned UST is located, the facility owner shall provide written documentation of the tank abandonment information to the succeeding property owner.

(d) Change-in-service. In addition to the requirements of subsection (a) of this section, the following requirements shall be applicable for any change-in-service where a UST system storing regulated substances is converted to a system storing materials other than regulated substances.

(1) Prior to refilling with materials other than regulated substances, the UST shall be properly emptied, cleaned, and purged of vapors in accordance with a code or standard of practice developed by a nationally recognized association or independent testing laboratory for the stored regulated substance. The procedures for emptying, cleaning, and purging the UST shall be designed to remove as much as possible of the previously stored regulated substances, including all liquids, vapors, sludges, and residues, in a manner that is protective of human health and safety or the environment.

(2) A change-in-service where a UST storing regulated substances is to be converted for the storage of either drinking water or food products intended for human consumption is specifically prohibited.

(3) Any change-in-service shall be in accordance with all applicable federal, state, and local regulations.

(4) The owner shall develop and maintain a permanent record of the location of the UST; the date of the change-in-service; the regulated substance previously stored; the method of conditioning the tank for the change-in-service; the names, addresses, and telephone numbers of the persons conducting the activities; and any information regarding any known releases of regulated substances from such tank. If the facility owner is not the same person as the UST owner, the UST owner shall provide a copy of such information to the facility owner within 30 days after the date of the change-in-service.

(5) For the purposes of this section, a UST which has been converted to the storage of materials other than regulated substances (i.e., water) shall be subject to the procedures for temporary removal from service in §334.54 of this title, except when the stored materials are utilized on a regular basis for beneficial purposes.

(e) Site assessment.

(1) A site assessment meeting the requirements of this subsection shall be performed by the owner or operator of a UST system in the following situations to determine whether or not a release has occurred:

(A) when the site assessment is selected as the method to achieve compliance with the release determination requirements of subsection (a)(6) of this section for a UST which is permanently removed from service on or after September 29, 1989;

(B) when the agency determines that a site assessment is necessary at any site or facility where a UST was permanently removed from service prior to September 29, 1989, and where the site assessment or release determination at the time of removal from service was determined to be either nonexistent or inadequate;
or

(C) when the agency determines that a site assessment is necessary at any site or facility where a release or suspected release may pose a current or potential threat to human health or safety or the environment.

(2) The site assessment shall be conducted by qualified personnel possessing the appropriate skills, experience, and competence to perform the

assessment in accordance with recognized industry practices and the provisions of this section and shall be supervised by a person who is currently licensed by the Texas Commission on Environmental Quality (TCEQ) as a UST installer or on-site supervisor or currently registered with the TCEQ as a corrective action project manager.

(3) Any procedures used for the site assessment must be capable of measuring for the presence of a release from any part of the UST system and, at a minimum, must include measurements for releases at locations where contamination is most likely to be present at the site.

(4) The owner or operator shall assure that in selecting the sampling or measurement methods, the sample types, and the sampling or measurement locations, the persons conducting the assessment shall take into consideration the following factors to ensure that the presence of any released regulated substances is detected and quantified:

(A) the specific method of removing the UST system from service;

(B) the nature and composition of the stored regulated substance;

(C) the type and characteristics of the backfill material and surrounding soils;

(D) the presence of groundwater, and its depth with relation to the UST system and the surface of the ground; and

(E) any other factors that may affect the reliability or effectiveness of the site assessment procedures or techniques.

(5) One or more of the following methods may be used for conducting the site assessment and release determination required under this section, provided that such methods are in compliance with the performance standards in paragraphs (2) - (4) of this subsection:

(A) collection and analysis of soil samples secured from unsaturated sections of the UST system excavation zone and surrounding soils, where such samples shall be analyzed for major constituents and/or indicator parameters of the stored regulated substance(s);

(B) collection and analysis of groundwater samples secured from the UST system excavation zone and surrounding area, where such samples shall be analyzed for all major constituents or indicator parameters of the stored regulated substance(s); and/or

(C) any other site assessment or release determination method or procedure which has been reviewed and determined by the agency to detect prior releases of the stored regulated substance(s) in a manner that is no less protective of human health and the environment than the methods described in subparagraphs (A) and (B) of this paragraph, as provided under §334.43 of this title.

(D) The owner or operator must report any suspected or confirmed releases indicated by the site assessment to the agency and comply with all applicable release investigation and corrective action requirements, as prescribed in Subchapter D of this chapter.

(f) Records for permanent removal from service.

(1) Owners and operators shall maintain records adequate to demonstrate compliance with the requirements of this section, in accordance with §334.10(b) of this title (relating to Reporting and Recordkeeping).

(2) At a minimum, the following records shall be maintained for five years after the UST system is permanently removed from service:

(A) records of the release determination or site assessment, in accordance with the requirements in subsection (a)(6)(D)(ii) of this section;

(B) records related to the tank removal procedures (as applicable),
in accordance with the requirements in subsection (b)(6) of this section;

(C) records related to the abandonment in-place of a UST system
(as applicable), in accordance with the requirements in subsection (c)(3) of this section;
and

(D) records related to the change-in-service of a UST system (as
applicable), in accordance with the requirement in subsection (d)(4) of this section.

(g) Codes of practice. The following cleaning and closure procedures may be
used to comply with this section:

(1) American Petroleum Institute (API) Recommended Practice 1604,
"Closure of Underground Petroleum Storage Tanks;"

(2) API Standard 2015, "Requirements for Safe Entry and Cleaning of
Petroleum Storage Tanks;"

(3) API Recommended Practice 2016, "Guidelines and Procedures for
Entering and Cleaning Petroleum Storage Tanks;"

(4) API Recommended Practice 1631, "Interior Lining and Periodic Inspection of Underground Storage Tanks;" and

(5) National Fire Protection Association Standard 326, "Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair."

SUBCHAPTER D: RELEASE REPORTING AND CORRECTIVE ACTION

§334.72, §334.74

Statutory Authority

The amendments are adopted under Texas Water Code (TWC), §5.012, which provides that the commission is the agency responsible for implementing the constitution and laws of the state relating to the conservation of natural resources and protection of the environment; TWC, §5.103, which authorizes the commission to adopt any rules necessary to carry out its powers and duties under this code and other laws of this state; TWC, §5.105, which directs the commission to establish and approve all general policy of the commission by rule; TWC, §26.011, which requires the commission to control the quality of water by rule; TWC, §26.345, which authorizes the commission to develop a regulatory program and to adopt rules regarding underground storage tanks (USTs) and aboveground storage tanks (ASTs); and TWC, §26.351, which directs the commission to adopt rules establishing the requirements for taking corrective action in response to a release from a UST or an AST.

The United States Environmental Protection Agency has amended the regulations pertaining to underground storage tank requirements and standards (40 Code of Federal Regulations (CFR) Part 280) and state program approval (40 CFR Part 281), effective October 13, 2015. TWC, §26.3441 and §26.357, require standards and rules concerning USTs and ASTs adopted by the commission to be as stringent as federal

requirements. The rules implement or track as closely as possible the amended federal regulations.

§334.72. Reporting of Suspected Releases.

Owners and operators of aboveground storage tank (AST) and underground storage tank (UST) systems must report to the agency within 24 hours (see §334.50(d)(9)(A)(v) of this title (relating to Release Detection) for reporting requirements associated with statistical inventory reconciliation inconclusive results), and follow the procedures in §334.74 of this title (relating to Release Investigation and Confirmation Steps) for any of the following conditions:

(1) The discovery by owners and operators, or written notification by others to the owner or operator, of released regulated substances at the AST or UST site or in the surrounding area (such as the presence of non-aqueous phase liquids or vapors in soils, basements, sewer and utility lines, and nearby surface water).

(2) Unusual operating conditions observed by owners or operators (such as the erratic behavior of product dispensing equipment that is consistent with or indicates a release, the sudden loss of product from the AST or UST system, an unexplained presence of water in the tank, or liquid in the interstitial space of secondarily contained systems), unless:

(A) the system equipment or component is found not to be releasing regulated substances to the environment;

(B) any defective system equipment or component is immediately repaired or replaced; and

(C) for secondarily contained systems, except as provided for in §334.50(d)(8)(C) of this title, any liquid in the interstitial space not used as part of the interstitial monitoring method (for example, brine filled) is immediately removed.

(3) Monitoring results, including investigation of an alarm, from a release detection method required under §334.50 of this title or other method that indicates a release may have occurred unless:

(A) the monitoring device is found to be defective and is immediately repaired, recalibrated, or replaced, or the monitoring procedure is found to be ineffective, and is modified, and additional monitoring does not confirm the initial result;

(B) in the case of inventory control, described in §334.50(d)(1)(B) of this title, a second 30-day period of data does not confirm the initial result or the alarm investigation determines no release has occurred;

(C) the leak is contained in the secondary containment:

(i) except as provided for in §334.50(d)(8)(C) of this title, any liquid in the interstitial space not used as part of the interstitial monitoring method (for example, brine filled) is immediately removed; and

(ii) any defective system equipment or component is immediately repaired or replaced; or

(D) the alarm was investigated and determined to be a non-release event (for example, from a power surge or caused by filling the tank during release detection testing).

§334.74. Release Investigation and Confirmation Steps.

Unless corrective action is initiated in accordance with §§334.76 - 334.81 of this title (relating to Initial Response to Releases; Initial Abatement Measures and Site Check; Site Assessment; Removal of Non-Aqueous Phase Liquids (NAPLs); Investigation for Soil and Groundwater Cleanup; and Corrective Action Plan), owners or operators must immediately investigate and confirm all suspected releases of regulated substances requiring reporting under §334.72 of this title (relating to Reporting of

Suspected Releases) within 30 days, using either the following steps or another procedure and schedule approved or required by the agency.

(1) System test. Owners or operators must conduct tests according to the requirements for tightness testing in §334.50 of this title (relating to Release Detection) and secondary containment testing described in §334.48(e) of this title (relating to General Operating and Management Requirements), as appropriate.

(A) The test must determine whether:

(i) a leak exists in the portion of the tank that routinely contains product or the attached delivery piping; or

(ii) a breach of either wall of the secondary containment has occurred.

(B) If the system test confirms a leak into the interstice or a release, owners and operators must repair, replace, or close the aboveground storage tank (AST) or underground storage tank (UST) system, and begin corrective action in accordance with §§334.76 - 334.81 of this title if the test results for the system, tank, or delivery piping indicate that a leak exists.

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

(D) Owners and operators must conduct a site check as described in paragraph (2) of this section 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.

(2) Site check. Owners and operators must measure for the presence of a release where contamination is most likely to be present at the AST or 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 to groundwater, and other factors appropriate for identifying the presence and source of the release.

(A) If the test results from an excavated area, or other area(s) of the AST or the UST site indicate that a release has occurred, owners and operators must begin corrective action in accordance with §§334.76 - 334.81 of this title.

(B) If the test results from an excavated area, or other area(s) of the AST or UST site do not indicate that a release has occurred, further investigation is not required.

(3) In the event there is no evidence of a release after performing the tests required in paragraphs (1) and (2) of this section, the owner or operator must file a report which contains a detailed description of the investigative procedures followed in addressing the requirements of this section and which includes the results of all tests or monitoring performed. This report must be filed with the agency not later than 45 days after the first observation of the suspected release or another schedule approved or required by the agency. The owner or operator shall include with this report a statement which has been signed by the owner or operator certifying that the requirements of this section have been met.

SUBCHAPTER F: ABOVEGROUND STORAGE TANKS

§§334.123 - 334.125, 334.127

Statutory Authority

The amendments are adopted under Texas Water Code (TWC), §5.012, which provides that the commission is the agency responsible for implementing the constitution and laws of the state relating to the conservation of natural resources and protection of the environment; TWC, §5.103, which authorizes the commission to adopt any rules necessary to carry out its powers and duties under the TWC and other laws of this state; TWC, §5.105, which directs the commission to establish and approve all general policy of the commission by rule; TWC, §26.011, which requires the commission to control the quality of water by rule; and TWC, §26.345, which authorizes the commission to develop a regulatory program and to adopt rules regarding underground storage tanks and aboveground storage tanks.

The adopted amendments are administrative in nature and include updates to references to the commission, from the Texas Natural Resource Conservation Commission (TNRCC) to Texas Commission on Environmental Quality (TCEQ), which changed in House Bill 2912, 77th Texas Legislature, 2001, and Senate Bill 318, 77th Texas Legislature, 2001.

§334.123. Exemptions for Aboveground Storage Tanks (ASTs).

(a) The following aboveground storage tanks (ASTs) are exempt from regulation under this subchapter:

(1) a farm or residential tank with a capacity of 1,100 gallons or less used for storing motor fuel for non-commercial purposes;

(2) a tank used for storing heating oil for consumptive use on the premises where stored;

(3) a septic tank;

(4) a surface impoundment, pit, pond, or lagoon;

(5) a stormwater or wastewater collection system;

(6) a flow-through process tank;

(7) a tank, liquid trap, gathering line, or other facility used in connection with an activity associated with the exploration, development, or production of oil, gas, or geothermal resources, or any other activity regulated by the Railroad Commission of Texas pursuant to the Texas Natural Resources Code, §91.101;

(8) a tank located on or above the surface of the floor of an underground area, such as a basement, cellar, mineworking, drift, shaft, or tunnel, if the sole or principal substance in the tank is a hazardous substance; and

(9) a tank that is located at or is part of a petrochemical plant, a petroleum refinery, an electric generating facility, or a bulk facility.

(b) The following pipeline facilities are exempt from regulation under this subchapter, as provided in Texas Water Code, §26.344:

(1) an interstate pipeline facility, including gathering lines, or any AST connected to such facility, if the pipeline facility is regulated under the Hazardous Liquid Pipeline Safety Act of 1979 (49 United States Code, §60101, *et seq.* and its subsequent amendments or a succeeding law).

(2) an intrastate pipeline facility or any AST connected to such a facility, if the pipeline facility is regulated under one of the following state laws:

(A) the Texas Natural Resources Code, Chapter 111;

(B) the Texas Natural Resources Code, Chapter 117; or

(C) Texas Civil Statutes, Article 6053-1 and 6053-2.

(c) Upon request by the agency, the owner and operator of a tank claimed to be exempted under this section must provide appropriate documentation or other information in a timely manner to support that claim.

§334.124. Exclusions for Aboveground Storage Tanks (ASTs).

(a) Except as provided in subsection (b) of this section, the following aboveground storage tanks (ASTs) are excluded from regulation under this subchapter:

(1) any tank with a capacity of 1,100 gallons or less;

(2) any emergency spill protection or emergency overflow containment tank, including any sump or secondary containment system, which is used solely for the temporary storage or containment of petroleum products resulting from a leak, spill, overfill, or other unplanned release of petroleum products from any source, and where the petroleum products are routinely removed within 48 hours of the discovery of the release, provided that this tank must be inspected for a release no less than once every 30 days;

(3) any tank that contains petroleum products at such dilute concentrations that:

(A) the mixture is not capable of being used as a fuel for the propulsion of a motor vehicle or aircraft; and

(B) any release would not pose any significant threat to human health and safety or the environment;

(4) a transformer or other electrical equipment that is used in the transmission of electricity.

(b) Regardless of the exemptions in subsection (a) of this section, any AST containing petroleum products located at a retail service station is subject to the construction notification requirements of §334.126 of this title (relating to Installation Notification for Aboveground Storage Tanks (ASTs)).

(c) Upon request by the agency, the owner and operator of a tank claimed to be excluded under this section must provide appropriate documentation or other information in a timely manner to support that claim.

§334.125. General Prohibitions and Requirements for Aboveground Storage Tanks (ASTs).

(a) Delivery prohibition. Except as provided in paragraph (1) of this subsection, on or after June 25, 1990, no common carrier (as defined in §334.2 of this title (relating to Definitions) shall deposit any petroleum products into an aboveground storage tank (AST) unless he observes that the owner or operator has a valid, current registration certificate, issued by the agency in accordance with §334.127 of this title (relating to Registration for Aboveground Storage Tanks (ASTs)).

(1) For new or replacement AST systems, only during the initial period ending 90 days after that petroleum product is first deposited into such system(s), a common carrier may accept, as adequate to meet this requirement, documentation that the owner or operator has a "temporary delivery authorization" (as defined at §334.127(h) of this title) issued by the agency for the facility at which the new or replacement AST system(s) exists.

(2) A common carrier delivering petroleum product into an AST system may observe a valid, current, original registration certificate (or temporary delivery authorization, if applicable), or a legible copy of the same.

(b) Owner/Operator requirements. The owner and operator of ASTs regulated under this section must make available to a common carrier a valid, current Texas Commission on Environmental Quality (TCEQ) tank registration certificate (or TCEQ temporary delivery authorization, as applicable) before delivery of a petroleum

product(s) into the AST(s) can be accepted. The bill of lading for the first delivery of petroleum product into any new or replacement AST system at the facility must be attached to the temporary delivery authorization for that facility.

§334.127. Registration for Aboveground Storage Tanks (ASTs).

(a) General provisions.

(1) All aboveground storage tanks (ASTs) in existence on or after September 1, 1989, must be registered with the agency on authorized agency forms in accordance with subsection (e) of this section, except for those tanks which:

(A) are exempt from regulation under §334.123 of this title (relating to Exemptions for Aboveground Storage Tanks (ASTs)); or

(B) are excluded from regulation under §334.124 of this title (relating to Exclusions for Aboveground Storage Tanks (ASTs)).

(2) The owner and operator of an AST are responsible for compliance with the tank registration requirements of this section. An owner or operator may designate an authorized representative to complete and submit the required

registration information; however, the owner and operator remain responsible for compliance with the provisions of this section.

(3) All ASTs subject to the registration requirements of this section are also subject to the fee provisions in §334.128 of this title (relating to Annual Facility Fees for Aboveground Storage Tanks (ASTs)), except where specifically exempted from such fee provisions. The failure by a tank owner or operator to properly or timely register any tanks shall not exempt the owner from such fee assessment and payment provisions.

(4) Proper completion of the specified agency tank registration form will result in the agency's issuance of a registration certificate for the tanks at the facility covered by that registration. This certificate is tied to the delivery prohibitions detailed in §334.125 of this title (relating to General Prohibitions and Requirements for Aboveground Storage Tanks (ASTs)).

(b) Existing tanks. Any person who owns or operates an AST subject to the provisions of this section that was in existence on September 1, 1989, shall register such tank with the agency not later than March 1, 1990, on an authorized agency form.

(c) New or replacement tanks. Any person who owns or operates a new or replacement AST subject to the provisions of this section that is placed into service on

or after September 1, 1989, must register the tank with the agency on an authorized agency form within 30 days from the date any petroleum product is first placed into the tank.

(d) Changes or additional information. An owner or operator of an AST subject to the provisions of this section must provide written notice to the agency of any changes or additional information concerning the status of any regulated tanks, including, but not limited to, information regarding the operational status, condition, substance stored, ownership, location of records, and number of tanks. This notice must be submitted on an authorized agency form which has been completed in accordance with subsection (e) of this section. This form must be properly completed and signed, and shall include the Texas Commission on Environmental Quality (TCEQ) facility identification number in the appropriate space on the form. Notice of any change or additional information must be filed with the agency within 30 days of the occurrence of the change or addition, or within 30 days from the date on which the owner or operator first became aware of the change or addition, as applicable.

(e) Required form for providing AST registration information.

(1) Any AST owner or operator required to submit tank registration information under subsections (a) - (d) of this section must provide all the information indicated on the agency's authorized form for each regulated AST owned.

(2) The tank registration form must be filled out completely and accurately. Upon completion, the form must be dated and signed by the owner, operator, or an authorized representative of the owner or operator, and must be filed with the agency within the time frames specified in this section.

(3) All AST owners or operators required to submit AST registration information under subsections (a) - (d) of this section must provide the registration information for all ASTs located at a particular facility on the same registration form.

(4) All AST owners or operators who own or operate ASTs located at more than one facility must complete and file a separate registration form for each facility where regulated ASTs are located, unless otherwise allowed under subsection (f) of this section.

(5) If additional documents are submitted with new or revised registration data, the specific facility identification information (including the facility identification number, if known) must be conspicuously indicated on each document, and all such documents must be securely attached to and filed with the registration form.

(f) Registration requirements for movable ASTs. Movable or mobile ASTs which are regularly used to store petroleum products (e.g., skid tanks) must also be registered by the owner or operator in accordance with the provisions of this section. When such tanks are intended to be moved from one location to another on a regular basis and are not permanently part of any particular facility, then an owner or operator may register the tanks in accordance with the following procedures:

(1) for the purposes of completing the tank registration form, the owner or operator must identify the facility location for such movable tanks as the owner's or operator's principal business address or location;

(2) the owner or operator must continuously maintain complete and accurate records of the specific location, operational status, condition, and type of petroleum products stored at the owner's or operator's principal business address or location. At any given time, the records must include the required tank information for at least the preceding five years. Such records must be readily accessible and available for inspection upon request by agency personnel; and

(3) any movable or mobile tank which is registered at the owner's or operator's business address or location, rather than at the actual facility location, must be permanently and legibly labeled with the agency's designated identification number for such tank by painting, decals, tags, or other permanent identification method.

(g) Inadequate information. When any of the required AST registration information submitted to the agency is determined to be inaccurate, unclear, illegible, incomplete, or otherwise inadequate, the agency may require the owner and/or operator to submit additional information. An owner and/or operator must submit any such additional information within 30 days of receipt of such request.

(h) Temporary delivery authorization.

(1) Upon receipt of a TCEQ construction notification form indicating pending installation of a new or replacement AST system(s), the agency will issue a temporary delivery authorization for that tank system(s).

(2) The temporary delivery authorization is valid for no more than 90 days after the first delivery of petroleum product into the new or replacement AST system.

(3) The AST owner and operator are responsible for maintaining complete and accurate records of the date of the first deposit of petroleum product into a new or replacement AST, as well as the date that the initial 90-day period expires. The bill of lading for the first delivery of regulated substance into any new or replacement AST

at the facility must be attached to the temporary delivery authorization for that facility.

SUBCHAPTER G: TARGET CONCENTRATION CRITERIA

§334.208

Statutory Authority

The amendment is adopted under Texas Water Code (TWC), §5.012, which provides that the commission is the agency responsible for implementing the constitution and laws of the state relating to the conservation of natural resources and protection of the environment; TWC, §5.103, which authorizes the commission to adopt any rules necessary to carry out its powers and duties under this code and other laws of this state; and TWC, §5.105, which directs the commission to establish and approve all general policy of the commission by rule.

The adopted amendment is administrative in nature and includes updates to references to the commission, from the Texas Natural Resource Conservation Commission to Texas Commission on Environmental Quality, which changed in House Bill 2912, 77th Texas Legislature, 2001, and Senate Bill 318, 77th Texas Legislature, 2001.

§334.208. Model Institutional Controls.

This is an example of the language the agency would accept for deed restrictions, etc., that address residual contamination left at a given location. In some instances an institutional control is an acceptable alternative to further remediation,

but adequate notice via a deed restriction, etc., is needed for the protection of current and future property owners.

Figure: 30 TAC §334.208

MODEL INSTITUTIONAL CONTROL FOR PROPERTIES.

STATE OF TEXAS

_____ COUNTY

NOTICE OF (TYPE OF SUBSTANCE) CONTAMINATED SITE

KNOW ALL MEN BY THESE PRESENTS THAT:

Pursuant to the rules and/or requirements of the Texas Commission on Environmental Quality ("TCEQ"), this document is hereby filed in the Deed Records of

_____ County, Texas in compliance with the said requirements of the

TCEQ:

I

This notice pertains to the tract of land (hereinafter, the "Property") described within Exhibit "A" attached hereto and incorporated herein as if set forth at length. The Property is located at _____, in _____, (_____ County), Texas. The

Property is the former location of a storage tank system that leaked and released (type of substance) into the (list all affected media). Residual subsurface contamination remains at the Property. Regardless of such residual contamination, the TCEQ has determined that no additional remediation of the Property is required as of the date of this filing, subject to the provisions of Paragraph II below regarding the use of the Property.

II

Cleanup levels established for the Property were based on current and future use of the site for (residential or commercial/industrial) purposes. Without limitation of any other permissible uses, the use of the Property is suitable for (residential or commercial/industrial) purposes. The corrective action plan (does/does not) require continued (post closure care, engineering control measures, or legal control). (Describe (Add next sentence when the terms of the institutional control place use conditions on the affected area.) Regardless of the foregoing, the current or future owner shall notify the TCEQ in writing at least 120 days prior to changes in site use or site condition which violate the terms of this notice.

The corrective action plan developed for this site reduces site risks to meet protection requirements for the site conditions at the time of this filing. However, persons who will be conducting subsurface construction activities such as, but not in way of limitation, the excavation of soils, installation or repair of subsurface utilities, installation of foundation piers, groundwater extraction, or other such activity may

encounter the soils, soil vapors, or groundwater which have been affected by the release. The owner of the Property at the time of any future subsurface construction activities must comply with all environmental, worker protection and other laws, rules and regulations then applicable to the Property.

III

The current owner of the Property and/or any facility thereon is (Landowner), whose address is (Street address), (City), (State) (Zip) where more specific information may be obtained from the agents or assigns thereof. The current operator of the Property and/or any facility thereon is (Operator), whose address is (Street address), (City), (State) (Zip).

IV

This deed notice is not a representation or warranty by the TCEQ as to the suitability of the Property described within Exhibit A for any particular use or purpose, nor does it constitute any guarantee by the TCEQ that additional remediation will not be required in the future. Further information concerning this matter may be found in the TCEQ Underground Storage Tank Notice of Registration No. _____ file and Leaking Petroleum Storage Tank ("LPST") No. _____ file, which are available for inspection upon request at the office of the TCEQ in Austin, Texas.

EXECUTED this the _____ day of _____, 20____.

Landowner or Authorized Representative

By:

STATE OF
COUNTY OF

This instrument was acknowledged before me on _____, 20____, by (Owner).

Notary Public in and for the State of
(State)

My Commission Expires:

Typed or Printed Name of Notary

**SUBCHAPTER I: UNDERGROUND STORAGE TANK ON-SITE SUPERVISOR LICENSING
AND CONTRACTOR REGISTRATION
§334.407, §334.424**

Statutory Authority

The amendments are adopted under Texas Water Code (TWC), §5.012, which provides that the commission is the agency responsible for implementing the constitution and laws of the state relating to the conservation of natural resources and protection of the environment; TWC, §5.103, which authorizes the commission to adopt any rules necessary to carry out its powers and duties under this code and other laws of this state; and TWC, §5.105, which directs the commission to establish and approve all general policy of the commission by rule.

The adopted amendments are administrative in nature and include updates to references to the commission, from the Texas Natural Resource Conservation Commission to Texas Commission on Environmental Quality, which changed in House Bill 2912, 77th Texas Legislature, 2001, and Senate Bill 318, 77th Texas Legislature, 2001.

§334.407. Other Requirements for an Underground Storage Tank Contractor.

(a) A registered underground storage tank (UST) contractor is required to maintain insurance and net worth requirements, as required by §30.315 of this title

(relating to Qualifications for an Initial Registration), throughout the period that the contractor holds a valid registration from the executive director.

(b) A UST contractor subject to the provisions of this subchapter employed or otherwise engaged by a UST owner or operator (or by any other person representing to be the UST owner or operator) to conduct the installation, repair, or removal of a UST shall comply with all applicable technical standards of Subchapter C of this chapter (relating to Technical Standards) and Chapter 213 of this title (relating to Edwards Aquifer).

(c) Compliance with the provisions of this subchapter by a registered contractor shall not relieve such contractor from the responsibility of compliance with all applicable regulations legally promulgated by the United States Environmental Protection Agency, United States Occupational Safety and Health Administration, United States Department of Transportation, Texas Department of State Health Services, Texas Department of Insurance (including state fire marshal), Railroad Commission of Texas, Texas Department of Agriculture, State Comptroller, Texas Department of Public Safety, Texas Commission on Environmental Quality, and other federal, state, and local governmental agencies or entities having appropriate jurisdiction.

(d) A UST contractor must have an on-site supervisor who is licensed by the agency under this subchapter at the site at all times during the critical junctures of the installation, repair, or removal, as defined in §30.307 of this title (relating to Definitions).

(e) A UST contractor must prominently display the UST contractor registration number on all bids, proposals, offers, and installation drawings.

§334.424. Other Requirements for an On-Site Supervisor.

(a) A licensed on-site supervisor subject to the provisions of this subchapter that is engaged in the installation, repair, or removal of underground storage tanks (USTs) shall be required to comply with all applicable technical standards of Subchapter C of this chapter (relating to Technical Standards) and Chapter 213 of this title (relating to Edwards Aquifer).

(b) Compliance with the provisions of this subchapter by a licensed on-site supervisor shall not relieve such licensee from the responsibility of compliance with all applicable regulations legally promulgated by the United States Environmental Protection Agency, United States Occupational Safety and Health Administration, United States Department of Transportation, Texas Department of State Health Services, Texas Department of Insurance (including state fire marshal), Railroad

Commission of Texas, Texas Department of Agriculture, State Comptroller, Texas Department of Public Safety, Texas Commission on Environmental Quality, and other federal, state, and local governmental agencies or entities having appropriate jurisdiction.

(c) A licensed on-site supervisor who offers to undertake, represents to undertake, or does undertake the installation, repair, or removal of a UST shall either be registered as a UST contractor in accordance with this subchapter, or be employed by a registered UST contractor.

**SUBCHAPTER K: STORAGE, TREATMENT, AND REUSE PROCEDURES FOR
PETROLEUM-SUBSTANCE CONTAMINATED SOIL
§§334.491, 334.496, 334.499**

Statutory Authority

The amendments are adopted under Texas Water Code (TWC), §5.012, which provides that the commission is the agency responsible for implementing the constitution and laws of the state relating to the conservation of natural resources and protection of the environment; TWC, §5.103, which authorizes the commission to adopt any rules necessary to carry out its powers and duties under this code and other laws of this state; and TWC, §5.105, which directs the commission to establish and approve all general policy of the commission by rule.

The adopted amendments are administrative in nature and include updates to references to the commission, from the Texas Natural Resource Conservation Commission to Texas Commission on Environmental Quality, which changed in House Bill 2912, 77th Texas Legislature, 2001, and Senate Bill 318, 77th Texas Legislature, 2001.

§334.491. Notice to Owners or Operators.

(a) Written notice shall be provided in accordance with this section to any person, including the tank owner and operator, with any offer to perform any services

of storage, treatment, or reuse of petroleum-substance contaminated soil proposed after December 27, 1996.

(b) The notice shall contain the following:

(1) the facility registration number issued pursuant to this subchapter's registration requirements;

(2) the following disclaimer reproduced in its entirety: "The registration of a storage or treatment facility by the Texas Commission on Environmental Quality (TCEQ) does not constitute endorsement, licensing, or promotion of any storage or treatment facility. Registration does not imply that the TCEQ guarantees the quality of the work performed or that the cost of the work will be reimbursed."

§334.496. Shipping Procedures Applicable to Generators of Petroleum-Substance Waste.

(a) No generator shall transport petroleum-substance waste from the generating site unless the waste has been properly sampled to determine the levels of all possible contaminants in the waste. Necessary documentation shall, at a minimum, consist of documentation on the sampling, handling, chain-of-custody documentation, and copies

of signed laboratory reports on samples collected from the specified wastes that contain results of analysis for:

(1) the major components of the petroleum-substance waste such as benzene, toluene, ethylbenzene, total xylenes, and total petroleum hydrocarbons or the major components of total petroleum hydrocarbons; and

(2) any other contaminants as specified by the agency based on specific conditions of the generating site.

(b) No generator of petroleum-substance waste within the State of Texas shall allow the transport of such wastes to an off-site waste storage, treatment, reuse, or disposal facility unless the following requirements are met:

(1) a Texas Commission on Environmental Quality (TCEQ) petroleum-substance manifest is initiated, to include all applicable information, by the generator; and

(2) the generator designates on the manifest at least one facility or area legally authorized to receive the waste. A generator may also designate one alternate facility or area which is legally authorized to receive the waste in the event an emergency prevents delivery of the waste to the primary designated facility. If the

transporter is unable to deliver the waste to either the designated facility or the alternate facility, the generator shall either immediately designate another facility for receipt or instruct the transporter to immediately return the waste. Upon such redesignation by the generator, the generator shall immediately prepare an amended waste manifest.

(c) No generator of petroleum-substance waste from outside of the State of Texas shall allow transport of waste into the State of Texas unless the following requirements are met:

(1) a TCEQ petroleum-substance manifest is initiated by the generator to include all applicable information;

(2) the manifest shall accompany the waste to the receiving facility; and

(3) the waste is classified as non-hazardous by the state in which it is generated.

(d) At the time of waste transfer, the generator or generator's authorized representative shall:

(1) sign the manifest by hand;

(2) obtain the handwritten signature of the initial transporter and date of acceptance on the manifest;

(3) retain one copy, in accordance with §334.497 of this title (relating to Recordkeeping and Reporting Procedures Applicable to Generators); and

(4) give the transporter the remaining copies of the manifest.

§334.499. Shipping Requirements Applicable to Owners or Operators of Storage, Treatment, or Disposal Facilities.

(a) No owner or operator of a storage, treatment, or disposal facility may accept delivery of petroleum-substance waste for storage, treatment, or disposal unless:

(1) a Texas Commission on Environmental Quality (TCEQ) Petroleum Storage Tank (PST) - Waste Manifest accompanies the shipment which designates that facility to receive the waste;

(2) the facility owner or operator signs the PST-Waste Manifest and immediately gives at least one copy of the signed PST-Waste Manifest to the transporter;

(3) the facility owner or operator retains one copy of the PST-Waste Manifest in accordance with §334.500 of this title (relating to Recordkeeping Requirements Applicable to Owners or Operators of Storage, Treatment, or Disposal Facilities); and

(4) within 30 days after receipt of the waste, the facility owner or operator sends a copy of the PST- Waste Manifest to the generator.

(b) When a facility or reuse area receives petroleum-substance waste accompanied by a PST-Waste Manifest, the facility owner or operator, or his agent, or the owner or operator of the property designated for the reuse area shall note any significant discrepancies on each copy of the PST-Waste Manifest.

(1) Significant discrepancies are differences between the quantity or type of waste designated on the PST-Waste Manifest and the quantity or type of waste a facility actually received. Significant discrepancies in type of waste are obvious differences which can be discovered by inspection or waste analysis.

(2) Upon discovering a significant discrepancy, the facility owner or operator shall attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved

within 15 days after receiving the waste, the facility owner or operator shall, within five days, submit to the agency a letter describing the discrepancy and attempts to reconcile it, and a copy of the PST-Waste Manifest at issue. The facility owner or operator shall ensure that the waste is a petroleum-substance waste eligible for acceptance by the facility pursuant to this subchapter and shall report any unreconciled discrepancies discovered during any analyses or evaluation.

(c) No owner or operator of a storage, treatment, or disposal facility in Texas shall accept wastes from an out-of-state generator or location unless the following requirements are met:

(1) the waste is accompanied by legible copies of the signed TCEQ PST-Waste Manifest for all wastes received pursuant to §334.496 of this title (relating to Shipping Procedures Applicable to Generators of Petroleum-Substance Waste);

(2) the facility owner or operator obtains documentation that the wastes contain only petroleum-substance contamination, have been generated from an underground or aboveground storage tank as defined in this chapter, and are classified as non-hazardous in the state where generated. This documentation shall consist of documentation on the sampling methods, sample handling, chain-of-custody documents, and legible copies of signed laboratory reports on samples collected from

the specified wastes. The number of samples shall be sufficient to characterize the entire quantity of wastes. The analyses shall include:

(A) volatiles and semi-volatiles by United States Environmental Protection Agency (EPA) Methods 8240 and 8270, respectively;

(B) toxicity characteristic listed constituents as specified in 40 Code of Federal Regulations, Part 261;

(C) organochlorine pesticides and polychlorinated biphenyls by EPA Method 8080; and

(D) any other analyses necessary to characterize the wastes or as specified by the agency; and/or

(3) the facility owner or operator obtains documentation from the appropriate governing agency in the originating jurisdiction that the wastes are classified as non-hazardous and meet the definition of petroleum-substance wastes (as such wastes are defined in §334.2 of this title (relating to Definitions)), and provides such documentation to the agency prior to receiving the out-of-state soils.

(d) The facility owner or operator shall not accept any wastes for storage, treatment, or disposal from an in-state generator or location which contain any contaminants above natural background levels other than petroleum substances as defined in this subchapter, unless otherwise approved by the agency. Documentation of the contaminants in the waste shall consist of a sufficient number of samples to characterize the waste and the samples shall be analyzed for all contaminants that may occur in that waste.

SUBCHAPTER N: OPERATOR TRAINING

§§334.602, 334.603, 334.605

Statutory Authority

The amendments are adopted under Texas Water Code (TWC), §5.012, which provides that the commission is the agency responsible for implementing the constitution and laws of the state relating to the conservation of natural resources and protection of the environment; TWC, §5.103, which authorizes the commission to adopt any rules necessary to carry out its powers and duties under the TWC and other laws of this state; TWC, §5.105, which directs the commission to establish and approve all general policy of the commission by rule; TWC, §26.011, which requires the commission to control the quality of water by rule; TWC, §26.039, which states that activities which are inherently or potentially capable of causing or resulting in the spillage or accidental discharge of waste or other substances and which pose serious or significant threats of pollution are subject to reasonable rules establishing safety and preventive measures which the commission may adopt or issue; TWC, §26.341, which states that it is the policy of this state to maintain and protect the quality of groundwater and surface water resources in the state from certain substances in underground and aboveground storage tanks that may pollute groundwater and surface water resources, and requires the use of all reasonable methods, including risk-based corrective action to implement this policy; and TWC, §26.345, which authorizes the commission to develop a regulatory program and to adopt rules regarding underground and aboveground storage tanks.

The United States Environmental Protection Agency has amended the regulations pertaining to underground storage tanks (40 Code of Federal Regulations Parts 280 and 281) on technical requirements and state program approval effective October 13, 2015. TWC, §26.357, requires standards and rules concerning underground storage tanks adopted by the Texas Commission on Environmental Quality to be at least as stringent as federal requirements. The rules implement or track as closely as possible the amended federal regulations.

§334.602. Designation and Training of Classes of Operators.

(a) Owners or operators shall identify and designate for each underground storage tank (UST) facility including unmanned facilities, at least one named individual for each class of operator - Class A, Class B, and Class C. All individuals designated as a Class A, B, or C operator shall, at a minimum, be trained and certified in accordance with this subchapter. For the purposes of this subchapter, the terms "Class A operator," "Class B operator," "Class C operator," "certified operator," or "designated operator" are terms specific to the training requirements of this subchapter. The term "operator" used without these descriptors is the same as the term "operator" used in this chapter generally and as specifically defined in §334.2(75) of this title (relating to Definitions).

(1) Owners and operators may designate different individuals for each class of operator, or one individual for more than one of the operator classes.

(2) Any individual designated for more than one operator class shall be trained and certified for each operator class, except that training and certification as a Class B operator also entitles that individual to certification as a Class A operator.

(3) An individual may be designated as a Class A operator for one or more facilities. An individual may be designated as a Class B operator for one or more, but not to exceed 50 facilities. An individual Class C operator must be specifically trained for each facility.

(4) During hours of operation, UST facilities must have at least one certified operator (either a Class A, Class B, or Class C operator) present at the UST facility, except when a UST facility is unmanned. A UST facility is considered unmanned when during the normal course of business there is routinely no attendant present at the facility who could respond to alarms or emergencies related to the UST system. (Examples of unmanned UST facilities include, but are not limited to, card lock or card access fueling stations, telecommunication towers or utility transfer stations serviced by emergency generator USTs, and unattended UST systems located at industrial facilities.) Unmanned facilities must have weather resistant signage clearly visible from any dispenser which instructs users with regard to basic safety

procedures, provides the customer with a 24-hour telephone contact number monitored by a Class A, B, or C operator for the facility and provides instruction on when to call 911.

(b) The three classes of operators are identified as follows.

(1) Class A operator.

(A) Functions. A Class A operator of a UST facility is an individual who typically has primary responsibility for ensuring the proper operation and maintenance of the UST systems, particularly in the capacity of managing resources and personnel necessary to achieve and maintain compliance with all UST regulations.

(B) Qualifications and training. Class A operators must be trained in and have a general knowledge of the requirements of applicable UST regulations, including, but not limited to registration, system components, product compatibility, spill and overfill prevention, corrosion protection, release detection, testing and inspections, recordkeeping, notification, release reporting and response, temporary and permanent closure, operator training, and financial responsibility.

(2) Class B operator.

(A) Functions. A Class B operator of a UST facility is an individual who ensures the implementation of all applicable requirements of these regulations in the field and implements the day-to-day aspects of the operation and maintenance of, and recordkeeping for, UST systems.

(B) Qualifications and training. Class B operators must be trained in and have detailed knowledge of the requirements of applicable UST regulations, including, but not limited to registration, system components, product compatibility, spill and overfill prevention, corrosion protection, release detection, testing and inspections, recordkeeping, notification, release reporting and response, temporary and permanent closure, operator training and financial responsibility. A UST facility owner or operator may designate as its Class B operator a third party (i.e. an individual who is an independent contractor or consultant and is not affiliated with the facility owner or operator) only if that individual is (in accordance with Chapter 334, Subchapter I and with Chapter 30, Subchapter I of this title (relating to Underground Storage Tank On-Site Supervisor Licensing and Contractor Registration; and Underground Storage Tank On-Site Supervisor Licensing and Contractor Registration, respectively)) also a licensed UST on-site supervisor who holds a current "A" or "A/B" license and who either is, or is employed by, a registered UST contractor. However, designation of an independent or not affiliated Class B operator in this manner does not also entitle that individual to certification as a Class A operator for a facility.

(3) Class C operator.

(A) Function. A Class C operator of a UST facility is an individual designated by the UST system owner who typically controls the dispensing of fuel at the facility and is responsible for initial response to alarms, releases, spills, overfills or threats to the public or to the environment.

(B) Training. Class C operators must be trained in both general and facility-specific emergency response procedures, such as: the operation of emergency shut-off equipment; the initial response procedures following system alarm warnings; the appropriate first response actions to releases, spills, or overfills; and the notification procedures to emergency responders and to the designated Class A and Class B operators of a UST facility.

§334.603. Acceptable Operator Training and Certification Processes.

(a) Training. Operator training must fulfill the training requirements described for each class of operator in §334.602 of this title (relating to Designation and Training of Classes of Operators). The following is a list of acceptable approaches to meet the operator training requirements.

(1) Acceptable training for Class A and Class B operators. Class A and Class B operators must complete a Texas Commission on Environmental Quality (TCEQ) approved operator training course or process that includes the information listed in §334.602(b)(1) or (2) of this title, respectively. Courses or processes may include in-person or on-line training performed by, contracted for, or approved by the TCEQ, and must include an evaluation of operator knowledge through testing, practical demonstration, or other tools deemed acceptable by the TCEQ. In order for a non-contracted provider to be approved by the agency, the provider of a training course or process must be sponsored by an association or industry organization recognized nationwide or statewide with regard to its affiliation with regulated petroleum underground storage tank (UST) systems. All providers will also be required to provide training documentation, including on-going maintenance of records of certified operators. Those records will be required to be accessible to the agency on an on-going basis.

(2) Acceptable training for Class C operators.

(A) Class B operators must provide training or ensure that the UST facility's Class C operators otherwise complete training in emergency procedures that includes the information listed in §334.602(b)(3) of this title. Class C operator training programs may include in-class, hands-on, on-line, or any other training format deemed acceptable by the Class B operator.

(B) Class A and Class B operators must ensure that site-specific emergency procedures are maintained in an easily accessible location at the UST facility which is immediately available to the Class C operator, and that site-specific notices that include the location of emergency shut-off devices and appropriate emergency contact telephone numbers are posted in a prominent area at the UST facility that is easily visible to the Class C operator. For the purposes of this subsection, the phrase "easily accessible location" means located in a place and manner that allows a Class C operator quick and immediate access to site-specific emergency procedures.

(b) Certification. Operators are considered certified operators after successfully completing one of the training processes listed in subsection (a) of this section.

(1) Class A and Class B operators. Approved training providers must provide verification to all Class A and Class B operators who have successfully completed training, in the form of a written or printable electronic training certificate stating the classification and the date it was obtained. Owners and operators must ensure that training certificates are maintained at each facility, with copies of initial or new certificates provided to the TCEQ at the time that annual self-certification is required for that facility.

(2) Class C operators. A designated Class B operator for a given facility must provide the facility owner or operator with signed and dated written verification in the form of a list of all Class C operators who have been trained for that facility, which includes the date of that training. Owners and operators must ensure that a current and correct list of trained Class C operators is maintained at each facility.

§334.605. Operator Training Frequency.

(a) Certified Class A and Class B operators must be re-trained in accordance with §334.602 and §334.603 of this title (relating to Designation and Training of Classes of Operators; and Acceptable Operator Training and Certification Processes, respectively) within three years of their last training date.

(b) Certified Class C operators must be re-trained in accordance with §334.602 and §334.603 of this title within three years of their last training date. In addition, Class C operator training is only applicable at the specific facility for which the training was provided.

(c) If an underground storage tank (UST) facility receives a notice of violation and the agency determines that the UST facility is in significant noncompliance, the designated Class B operators for that UST facility, must attend either a Texas Commission on Environmental Quality (TCEQ) approved compliance class that

addresses the noted noncompliant areas or an acceptable operator training course as specified in §334.603 of this title, within the time frame specified by the TCEQ for that violation. Class B operators are not, however, required to attend such training more than once every 12 months, regardless of the number of their designated facilities found in violation. (For the purposes of this subchapter, "significant noncompliance" is defined as the failure to provide one or more of the following in accordance with applicable TCEQ rule or Environmental Protection Agency Significant Operational Compliance guidelines: release detection, spill/overflow prevention, corrosion protection, or financial assurance.)

(d) Regardless of the three-year re-training requirement in subsection (a) of this section, certified Class A and Class B operators must be re-trained by January 1, 2020 with a course submitted to and approved by TCEQ after April 1, 2018.