

ENVIRONMENTAL PROTECTION COMMISSION[567]

Notice of Intended Action

**Proposing rule making related to underground storage tanks
and providing an opportunity for public comment**

The Environmental Protection Commission (Commission) hereby proposes to amend Chapter 134, “Underground Storage Tank Licensing and Certification Programs,” Chapter 135, “Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks,” and Chapter 136, “Financial Responsibility for Underground Storage Tanks,” Iowa Administrative Code.

Legal Authority for Rule Making

This rule making is proposed under the authority provided in Iowa Code section 455B.474.

State or Federal Law Implemented

This rule making implements, in whole or in part, Iowa Code sections 455B.474 and 455B.474A.

Purpose and Summary

The proposed rule making is necessary to conform Chapters 134, 135, and 136 to recently enacted federal rules promulgated by the U.S. Environmental Protection Agency (EPA). The Commission must adopt rules consistent with EPA’s rules in order for the Department of Natural Resources (Department) to maintain its delegated state program.

Specifically, the purpose of the proposed amendments is to adopt the 2015 federal Underground Storage Tank (UST) rule revisions contained in 40 Code of Federal Regulations Parts 280 and 281. The proposed amendments also update and remove outdated provisions, clean up language, and revise leaking underground storage tank (LUST) rules to be consistent with current risk evaluation processes.

The federal UST rule revisions improve upon the 1988 federal UST regulations by increasing emphasis on properly operating and maintaining UST equipment. The revisions will help prevent and detect UST petroleum releases, which are a leading source of groundwater contamination, often resulting in expensive cleanups. The primary provisions of the federal rule that have been incorporated into the proposed amendments include:

- Regulation of certain tanks that were deferred by the 1988 regulations (i.e., emergency power generator tanks, airport hydrant fuel distribution systems, and field-constructed tanks);
- Disallowing flow restrictors in vent lines for new installations or when replacing equipment;
- Requiring the closure of internally lined tanks that fail a lining inspection and cannot be repaired;
- Requiring a demonstration that equipment is compatible with the fuel stored (addressing biofuel compatibility);
- Monthly and annual facility walkthrough inspections;
- Annual release detection equipment testing;
- Spill prevention equipment testing every three years;
- Overfill prevention equipment inspection every three years; and
- Containment sump testing every three years of sumps used for piping interstitial monitoring.

Other revisions are proposed as part of the Department’s five-year rules review process. At the request of multiple stakeholders, several amendments are proposed to Chapter 134. New federal testing requirements have been added, and it has been clarified which licensees must perform the federal tests and by when they must be performed. Compliance inspector certification criteria were expanded to allow more persons to qualify. Licensure training time frames were relaxed to add more flexibility to

the process. This change in particular will alleviate some industry concerns about inconsistent licensure class schedules impacting business.

Additionally, stakeholder-supported amendments are proposed to the license fees in Chapter 134. The fee for compliance inspector certification is being lowered, although this may not be obvious at first. Under the current rules, a compliance inspector has to also be a licensed installer, so two license fees were always owed for an initial certification: \$150 for compliance inspector and \$200 for installer, for a total of \$350. That requirement is being removed. Under the proposed amendments, a compliance inspector will be a stand-alone license class, subject to a single initial \$200 fee. Therefore, this amendment will produce \$150 in savings for many UST professionals. The biennial renewal fee is being changed as well. Under the current rules, a compliance inspector has to renew biennially both the inspector certification (\$50) and the installer license (\$200) for a total renewal fee of \$250. The new biennial renewal will be a single fee of \$200. This amendment will produce another \$50 in on-going savings. Similarly, the UST compliance company initial and biennial license fee is being raised from \$50 to \$200. This amendment will make this fee consistent with the \$200 fee assessed for all other Chapter 134 license classes (installers, installation inspectors, liners, testers, removers, and groundwater professionals).

Other five-year rules review process amendments include removing outdated or unused regulations and references. And, finally, some provisions have been updated to reflect what the Department has learned over the last 20 years of the risk-based corrective action (RBCA) evaluation process, remediation methods, tank temporary closure requirements, and tank system corrosion protection.

Fiscal Impact

This rule making has no meaningful fiscal impact to the State of Iowa. A copy of the fiscal impact statement is available from the Department upon request. The Department anticipates a minimal reduction, perhaps \$2,400, in license revenue due to the changes to the licensing fees in Chapter 134.

There will be a fiscal impact to industry but it cannot be uniformly determined. EPA estimates an average annual compliance cost of \$715 per facility. However, the Department and stakeholders jointly estimate an annual cost per facility between \$1,147 and \$4,053 depending on a facility's size, equipment, location, and frequency of inspections. The proposed amendments to license certification, qualifications, and fees in Chapter 134 will provide a \$150 one-time and \$50 on-going cost savings to some licensed UST professionals. Additional amendments may provide a cost savings to UST owners and operators who hire licensed UST professionals. For instance, amendments that allow service technicians to complete certain containment equipment testing, rather than requiring that a licensed UST professional complete the testing, may reduce associated costs. More information of these estimates is included in the Department's fiscal impact statement.

The Department believes that costs to comply with the new regulations may decline with time. For example, the first cycle of testing will identify faulty equipment at some facilities which will require repair or replacement. The fixed or newer equipment is expected to be durable and operable through subsequent testing cycles. Additionally, with time it is expected that new testing technologies will be developed that are more efficient and economical.

Jobs Impact

Both minor positive and minor negative impacts on private sector jobs and employment opportunities in the state are anticipated as a result of the proposed rule. Additionally, if the proposed rule making is not adopted, facilities will be required to comply with federal standards and separate state standards. Therefore, the effect on jobs could be considered neutral. A copy of the jobs impact statement is available from the Department upon request.

Waivers

Any person who believes that the application of the discretionary provisions of this rule making would result in hardship or injustice to that person may petition the Department for a waiver of the discretionary provisions, if any, pursuant to 561—Chapter 10.

Public Comment

Any interested person may submit written comments concerning this proposed rule making. Written comments in response to this rule making must be received by the Department no later than 4:30 p.m. on January 8, 2021. Comments should be directed to:

James Gastineau
Iowa Department of Natural Resources
Wallace State Office Building
502 East Ninth Street
Des Moines, Iowa 50319
Fax: 515.725.8202
Email: james.gastineau@dnr.iowa.gov

Public Hearing

Public hearings at which persons may present their views orally or in writing will be held via conference call as follows. Persons who wish to attend the conference call should contact James Gastineau via email. A conference call number will be provided prior to the hearing. Persons who wish to make oral comments at the conference call public hearing must submit a request to James Gastineau prior to the hearing to facilitate an orderly hearing.

January 6, 2021 1 to 2 p.m.	Via video/conference call Dial: (US) +1 617.675.4444 PIN: 223 266 766 9724#
January 7, 2021 1 to 2 p.m.	Via video/conference call Dial: (US) +1 617.675.4444 PIN: 223 266 766 9724#
January 8, 2021 1 to 2 p.m.	Via video/conference call Dial: (US) +1 617.675.4444 PIN: 223 266 766 9724#

Persons who wish to make oral comments at a public hearing will be asked to state their names for the record and to confine their remarks to the subject of this proposed rule making.

Any persons who intend to attend the hearing and have special requirements, such as those related to hearing or mobility impairments, should contact the Department and advise of specific needs.

Review by Administrative Rules Review Committee

The Administrative Rules Review Committee, a bipartisan legislative committee which oversees rule making by executive branch agencies, may, on its own motion or on written request by any individual or group, review this rule making at its [regular monthly meeting](#) or at a special meeting. The Committee's meetings are open to the public, and interested persons may be heard as provided in Iowa Code section 17A.8(6).

The following rule-making actions are proposed:

ITEM 1. Amend rule **567—134.1(455G)**, parenthetical implementation statute, as follows:

567—134.1(455G 455B) Definition.

ITEM 2. Amend rule 567—134.2(455G) as follows:

567—134.2(455G 455B) Certification requirements.

134.2(1) A groundwater professional must be certified as provided in ~~134.3(455G)~~ rule 567—134.3(455B) before engaging in activities described in ~~134.1(455G)~~ rule 567—134.1(455B),

except that a person engaging in activities described in ~~134.1(455G)~~ rule 567—134.1(455B) need not be certified if that person is under direct supervision of a certified groundwater professional when engaging in such activities.

134.2(2) No change.

134.2(3) In order to be certified as a groundwater professional, the applicant must complete the two-day risk-based correction action (RBCA) course or department-approved course and pass a certification examination offered or authorized by the department.

a. An applicant who fails an initial examination may take a second examination.

b. Failure of the second examination will result in termination of the application. A person may reapply for groundwater professional certification. The applicant must complete a regularly scheduled course of instruction before retaking the certification examination.

c. Professional engineers who qualify for an exemption from taking the certification examination under subrule 134.3(6) must attend the RBCA initial course of instruction or department-approved course in order to be certified.

ITEM 3. Amend rule ~~567—134.3(455G)~~, parenthetical implementation statute, as follows:

~~567—134.3(455G 455B)~~ Certification procedure.

ITEM 4. Amend subrule 134.3(1) as follows:

134.3(1) Application. Application for certification shall be made by completing a form provided by the department and submitting evidence of meeting the requirements found in rule ~~567—134.2(455G 455B)~~ (i.e., copy of certificate, license, description of experience and training).

ITEM 5. Amend subrule 134.3(6) as follows:

134.3(6) Exemption from examination. The department may provide for an exemption from the certification examination requirements for a professional engineer registered pursuant to Iowa Code chapter 542B upon submission of sufficient proof of exemption to the ~~Iowa comprehensive petroleum underground storage tank fund board as provided in Iowa Code section 455G.18(8)~~ department. The person must be qualified in the field of geotechnical, hydrological, environmental, groundwater, or hydrogeological engineering. A groundwater professional exempted under this provision must meet the continuing education requirements of subrule 134.3(5).

ITEM 6. Amend rule ~~567—134.4(455G)~~, parenthetical implementation statute, as follows:

~~567—134.4(455G 455B)~~ Suspension, revocation and denial of certification.

ITEM 7. Amend subrule 134.4(1), introductory paragraph, as follows:

134.4(1) General policy. It is the policy of the department to enforce standards of professional and ethical conduct which are generally accepted within the professions which qualify persons for certification in Iowa as groundwater professionals. The department intends to rely on written standards of professional and ethical conduct and competency which are applicable to persons who qualify for certification by virtue of certification by or membership in a professional organization ~~or state licensure as provided in Iowa Code section 455G.18(2).~~

ITEM 8. Amend paragraph **134.4(2)“d”** as follows:

d. Insufficient proof of qualifications required under rule ~~134.2(455G)~~ 567—134.2(455B).

ITEM 9. Amend paragraph **134.4(2)“g”** as follows:

g. Default on an obligation owed to or collected by the state as provided in Iowa Code section ~~421.17(34)“e.”~~ 421.17(27)“e.”

ITEM 10. Amend paragraph **134.4(3)“f”** as follows:

f. Material misstatement of facts or misrepresentation of information required to be provided pursuant to Iowa Code ~~chapters 455G and chapter~~ chapter 455B, division IV, part 8.

ITEM 11. Amend rule 567—134.5(455G) as follows:

567—134.5(455G 455B) Penalty. A groundwater professional who fails to obtain certification with the department of natural resources as required in this chapter is subject to a civil penalty of \$50. A groundwater professional who knowingly or intentionally makes a false statement or misrepresentation which results in a mistaken classification of a site shall be guilty of a serious misdemeanor and shall have the groundwater professional certification revoked.

ITEM 12. Amend **567—Chapter 134**, Part A, implementation sentence, as follows:
These rules are intended to implement Iowa Code section ~~455G.18~~ 455B.474(9).

ITEM 13. Amend rule 567—134.7(455B) as follows:

567—134.7(455B) Certification requirements for UST compliance inspectors.

134.7(1) A person retained by an owner or operator of a UST facility for the purpose of establishing compliance with ~~the annual~~ a UST compliance inspection required by the department under rule 567—135.20(455B) must hold a current UST compliance inspector certification issued by the department.

134.7(2) Inspector certification will be issued by the department only to a person who:

~~1. a.~~ Is an Iowa-licensed UST installer or installation inspector under 591—Chapter 15, except that the requirement as set forth under 591—subrule 15.3(4) shall not be applicable to a certified UST compliance inspector. Satisfies one of the following:

(1) Is an Iowa-licensed UST installer;

(2) Is an Iowa-licensed installation inspector;

(3) Has participated on a minimum of 50 on-site compliance inspections with an Iowa-certified compliance inspector;

(4) Has two years of experience working with petroleum equipment, including installations, maintenance, or testing; or

(5) Has other relevant experience approved by the department.

~~1. b.~~ Attends the required training approved by the department as provided in rule 567—134.10(455B).

(1) Temporary exception to required training. An applicant may be issued a license without the required training if all other requirements of Part B of this chapter are satisfied and the required training is not offered within 60 days of the date of application. The applicant must attend required training within one year or, if training is not offered within one year, when required training is next offered. If an applicant receives a license under this temporary exception, the individual must attend required training, if offered, before renewal of the license.

(2) If an applicant receives a license under a temporary training exception pursuant to paragraph 134.7(2) “a,” all compliance inspection activities must be conducted under the supervision of a trained Iowa-certified compliance inspector. Supervision does not require the trained Iowa-certified compliance inspector to be on site for compliance inspections conducted by the inspector who has not completed the required training. The trained Iowa-certified compliance inspector must co-sign compliance inspections conducted by the inspector who has not completed the required training.

~~1. c.~~ Achieves a passing grade of 85 percent on a certification examination administered or approved by the department as provided in rule 567—134.10(455B).

~~1. d.~~ Submits an accurate and complete application.

~~1. e.~~ Is not found to be in violation of this chapter and has not had a certification revoked by the department pursuant to rule 567—134.16(455B) or by the underground storage tank fund board pursuant to 591—Chapter 15.

ITEM 14. Rescind and reserve rule **567—134.8(455B)**.

ITEM 15. Amend subrule 134.9(3) as follows:

134.9(3) Training and certification fees. An initial nonrefundable application fee of ~~\$150~~ \$200 in the form of a check or money order payable to the Department of Natural Resources must accompany the

initial application for certification and ~~\$50~~ \$200 for each renewal application. The ~~\$150~~ \$200 application fee covers the cost of the certification examination. The department will assess an additional fee for each training course based upon the cost of administration.

ITEM 16. Amend subrule 134.10(1) as follows:

134.10(1) Prior to taking the compliance inspector examination, the applicant must:

~~a. Complete the U.S. EPA UST Web-based training modules: “Introduction to the Underground Storage Tanks (UST) Program” and “Basic UST Inspector Training” with a minimum passing grade of 85 percent.~~

~~b. Attend~~ attend the department’s inspector training course or designated approved course.

ITEM 17. Amend subrule 134.11(1) as follows:

134.11(1) *Renewal period.* Certification shall be for a two-year period and must be renewed by January 1 of each odd-numbered year, ~~beginning January 1, 2009.~~ Applications for renewal must be submitted on a form provided by the department and no later than ~~60~~ 30 days prior to the expiration date. If a certified inspector fails to renew the certification by the expiration date, the department may grant, upon a showing of good cause, a 30-day grace period during which the applicant may submit the application and payment of the renewal fee as provided in subrule 134.9(3).

ITEM 18. Amend subrule 134.11(3) as follows:

134.11(3) *Minimum inspections.* In order to renew certification, an inspector must have conducted at least ~~25~~ 12 compliance inspections ~~each year in the past two years.~~

ITEM 19. Amend rule 567—134.13(455B) as follows:

567—134.13(455B) Licensed company. A company employing certified UST compliance inspectors shall be registered with the department as a licensed UST compliance company. A company shall lose its license if it fails to employ at least one certified inspector or if it employs uncertified individuals to do compliance inspections required by the department. The ~~annual~~ initial and biennial renewal license fee is ~~\$50~~ \$200.

ITEM 20. Amend rule **567—134.14(455B)**, catchwords, as follows:

567—134.14(455B) ~~Compliance inspection~~ Responsibilities of compliance inspectors.

ITEM 21. Amend subrule 134.14(3) as follows:

134.14(3) Any evidence of violations or deficiencies observed during the inspection must be photographed using a digital camera ~~with at least a 1-2 megapixel resolution.~~ The digital photographs must be submitted as part of the electronic inspection report and maintained by the inspector for five years as part of the inspector’s records.

ITEM 22. Amend subrule 134.14(5) as follows:

134.14(5) Inspection technical requirements. An inspector of a UST system must check for compliance with the technical standards of 567—Chapter 135 following the department’s guidance. The inspection of a UST system currently in operation shall include, but not be limited to, the following:

a. to *g.* No change.

Any problems observed during the inspection must be photographed using a digital camera ~~with at least a 1-2 megapixel resolution.~~

ITEM 23. Amend paragraph **134.16(1)“e”** as follows:

e. The revocation of a certification as an installer or installation inspector under ~~591—Chapter 15~~ rule ~~567—134.24(455B) or 567—134.27(455B).~~

ITEM 24. Amend rule **567—134.17(455B)**, definitions of “Modification,” “Removal,” “Underground storage tank professional” and “Underground storage tank system,” as follows:

“*Modification*” means to change a UST system currently in use by the installation of new UST system components. “Modification” includes, but is not limited to, the addition of corrosion protection to a previously lined tank, installation of new underground piping or replacement of existing

underground piping, changing the primary release detection method to one of the methods listed in OAR 340-150-0450 through 340-150-0470, or adding secondary containment. "Modification" does not include those activities defined in this rule as "repair" or "replacement."

"Removal" means the process of removing and disposing of an underground storage tank system no longer in service or the process of abandoning an underground storage tank system in place, in accordance with rule ~~567—135.9(455B)~~ 567—135.15(455B).

"Underground storage tank professional" or "UST professional" means an individual licensed by the department under Part C of this chapter. The licensing program includes underground storage tank system installation, installation inspection, UST system testing, tank lining, cathodic protection installation/inspection, and UST removal. The license issued will list the type of work the individual is licensed to perform.

"Underground storage tank system" or "UST system" means a tank or tanks and associated piping intended to contain and dispense ~~petroleum products regulated substances~~ and for which proof of financial responsibility is, ~~or on a date definite will be required to be maintained pursuant to the Federal Resource Conservation and Recovery Act, 40 CFR 280, and the regulations in effect on December 31, 1994, adopted pursuant to that Act or successor Acts or amendments required.~~

ITEM 25. Amend rule 567—134.18(455B) as follows:

567—134.18(455B) Applicability of Part C. ~~All persons and companies that are currently licensed under the former board rules in rescinded 591—Chapter 15 shall be subject to Part C of this chapter. All persons conducting underground storage tank installations and installation inspections as provided in 567—subparagraph 135.3(1) "e"(2) and installers, installation inspectors, liners, testers, and removers shall be licensed by the department in accordance with Part C of this chapter. Service technicians as defined in rule 567—134.17(455B) are exempt from licensure under Part C of this chapter.~~

ITEM 26. Amend rule 567—134.19(455B) as follows:

567—134.19(455B) General licensing requirements. Applications for licenses shall be submitted on a form provided by the department along with all required supporting documentation. ~~Existing licenses as of [insert the effective date of these amendments] and new licenses shall expire December 31, 2010. Subsequently, licenses~~ Licenses shall be issued and renewed on a two-year calendar basis, beginning January 1, ~~2011~~ on the odd-numbered years. All applicants must be at least 18 years of age. The applicant shall not have been issued a certificate of noncompliance from the child support recovery unit.

134.19(1) Licensing classifications. A separate license will be issued for:

- a. UST installers ~~and installation inspectors~~;
- b. UST removers;
- c. UST testers;
- d. Cathodic protection testers; ~~and~~
- e. UST liners; ~~and~~
- f. Installation inspectors.

134.19(2) to 134.19(4) No change.

134.19(5) Environmental liability insurance. All license holders, including licensed companies, are required to have environmental liability insurance with minimum liability of \$1 million per occurrence, as well as in the aggregate. ~~Current license holders shall have 45 days from August 19, 2009, to upgrade their environmental liability insurance.~~

a. to d. No change.

134.19(6) No change.

134.19(7) Continuing education. Each person licensed under Part C of this chapter shall complete a department-approved refresher course every two years, except for licensed cathodic protection testers. Cathodic protection testers shall maintain NACE or STI certification or another certification approved by the department. Beginning with the first application for license renewal, each UST professional shall provide evidence to the department, prior to submission of the application for renewal, that at least 42

eight credit hours of department-approved continuing education have been satisfactorily completed since the last license was issued or renewed. The department may limit the number of credits granted for similar courses during a renewal period. The requirement for continuing education may be met only by those continuing education offerings which have been approved by the department.

a. to c. No change.

ITEM 27. Amend subrule 134.20(1) as follows:

134.20(1) Renewal applications shall be made on a form provided by the department and received by the department or postmarked no later than ~~November~~ December 1 of the expiration year of the license at issue. The renewal application shall be accompanied by the \$200 renewal fee as specified in subrule 134.19(3) and proof of environmental liability insurance as required under subrule 134.19(5). Applications received after the ~~November~~ December 1 deadline, but before the January 1 expiration date, will be accepted and will require an additional \$50 late fee.

ITEM 28. Amend subrule 134.24(3) as follows:

134.24(3) *Responsibilities of installers.* A licensed installer shall be on site during the performance of all work, including subcontracted work, for which the owner/operator has contracted to have completed by the installer. The licensed installer is responsible for all UST-related work at the site and must ensure that the performance of the work and the finished work conform to industry standards and codes and manufacturers' requirements.

a. *Notification.* The licensed installer is responsible for ensuring that all local installation permits and notice requirements are satisfied. ~~Tank~~

b. *Work performed.* UST system installation includes all work associated with the placement of the tanks, ~~pipes piping~~, pumps, dispensers, gauging systems, monitoring systems, corrosion protection, containment sumps, spill and overflow devices, and ancillary systems which, if installed incorrectly, could cause or delay detection of a leak. ~~Tank installation~~ Installation specifically includes excavation, equipment placement, backfilling, piping, electrical work, testing calibration, and start-up. Tank installation also includes installation of the appropriate equipment to meet National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements (40 CFR § 63.6580, Subpart ZZZZ), including submerged fill and vapor balance systems (Stage 1 vapor recovery) and the testing of those systems.

c. *Testing of UST equipment.* Spill prevention equipment, containment sumps and UDC at new installations must be tested to ensure the equipment is liquid-tight before the UST system is placed into service. Acceptable test methods include vacuum, pressure or liquid testing used in accordance with requirements developed by the manufacturer, a code of practice such as PEI RP1200 or methods determined by the department to be no less protective of human health and the environment than the requirements listed in this subrule. Licensed installers may also perform periodic testing of spill and overflow devices, containment sumps and UDC as required by 567—Chapter 135.

d. *Proof of training.* Installers shall have on their person at all times while on a UST job site a 40-hour general site worker program identification card or any valid refresher card that complies with OSHA standards.

ITEM 29. Amend subrule 134.24(4) as follows:

134.24(4) *Documentation of work performed.* Installing a new UST system or upgrading a UST system requires an installer to submit ~~a copy of DNR Form 148~~ the department forms and testing documents applicable to the installation, signed by the owner, to the department no later than 30 days after the final third-party inspection or 30 days after completion if no inspection is required. Each licensed installer responsible for the new system installation or the upgrading of an existing system shall sign DNR Form 148 as required by 567—paragraph 135.3(3)“e.” Secondary containment testing performed at installation or to meet periodic testing requirements shall be recorded on the department's Secondary Containment Testing form. Test results shall be dated and signed by the licensed installer who performed the test.

ITEM 30. Amend rule 567—134.25(455B), introductory paragraph, as follows:

567—134.25(455B) Testers. A tester of underground storage tank systems shall apply for licensing as a tester and note on the license application the systems and method(s) of testing the tester will use, except that a person engaging in testing described in paragraph 134.25(2) “b” need not be licensed if that person is under the supervision of an individual licensed under Chapter 134, Part B or Part C, when conducting those tests. In addition to the licensing requirements listed under rule 567—134.19(455B), a tester shall provide documentation of at least two years of relevant experience, documentation of manufacturer certification for past testing, and proof of current certification for future work.

ITEM 31. Amend subrule 134.25(2) as follows:

134.25(2) *Documentation of work performed Responsibilities of testers.* A copy of the test results shall be attached to DNR Form 148 when testing is done in connection with a new installation or the upgrading of an existing underground storage tank system. The licensed tester is responsible for testing tanks, lines, leak detection systems, or monitoring systems as required by 567—Chapter 135 and this chapter. An owner, operator or an employee of an owner or operator performing leak detection or cathodic protection monitoring, as required by 567—Chapter 135, is not a tester. A tester license does not qualify an individual to perform replacements or repairs to a UST system.

a. A precision test is required when the system is covered and is ready to be placed into service; a volumetric, nonvolumetric, or vacuum test may be used as a method for testing the system and a hydrostatic pressure test may be used for testing the lines. Systems used for leak detection or monitoring (such as statistical inventory reconciliation, vapor or water monitoring wells, or tracer-type tests) shall not be acceptable as a precision test at the completion of the installation of a new system or the upgrading of an existing system. Automatic in-tank gauging may be acceptable if third-party U.S. EPA approval as a precision test has been received for testing tanks.

a. ~~The test results shall identify the tanks tested, the test method employed, and the results of the test. Test results shall be dated and signed by the licensed tester who performed the tests.~~

b. ~~The original DNR Form 148 without attachments shall be mailed to the department.~~

b. A licensed tester may also perform periodic testing of spill and overfill devices, containment sumps and UDC as required by 567—Chapter 135. Spill prevention equipment, containment sumps and UDC at new installations must be tested to ensure the equipment is liquid-tight before the UST system is placed into service. Acceptable methods include vacuum, pressure or liquid testing used in accordance with requirements developed by the manufacturer, a code of practice such as PEI RP1200 or methods determined by the department to be no less protective of human health and the environment than the requirements listed in this subrule.

c. Periodic testing of spill prevention equipment, containment sumps, and UDC as required by 567—subrule 135.4(12) conducted prior to October 13, 2021, may be conducted by a service technician. An individual licensed under Chapter 134, Part B or Part C, is not required to conduct periodic testing of spill, containment sumps, and UDC as required by 567—subrule 135.4(12) prior to October 13, 2021.

ITEM 32. Renumber subrule **134.25(3)** as **134.25(4)**.

ITEM 33. Adopt the following **new** subrule 134.25(3):

134.25(3) *Documentation of work performed.* A copy of the test results shall be attached to DNR Form 148 when testing is done in connection with a new installation or the upgrading of an existing underground storage tank system. The test results shall identify the tanks and piping tested, the test method employed, and the results of the test. Periodic testing shall be recorded on the department’s Secondary Containment Testing form. Test results shall be dated and signed by the licensed tester who performed the tests.

ITEM 34. Amend rule 567—134.27(455B), introductory paragraph, as follows:

567—134.27(455B) Installation inspectors. In addition to the licensing requirements listed under rule 567—134.19(455B), an installation inspector shall provide documentation of at least ~~one year~~ two years of experience with underground storage installations, testing, inspecting, or design; documentation of

manufacturer certification for past work; and proof of current certification for future work. An engineer who intends to apply for licensure as an installation inspector and who has met the requirements in Iowa to be a registered professional engineer (P.E.) may be exempt from the educational requirement so long as UST installation is in the scope of the engineer's P.E. license and regular practice as provided for in rule 567—134.19(455B). Engineers, however, are not exempt from fulfilling the examination requirement.

ITEM 35. Amend paragraph **134.27(2)“c”** as follows:

~~c. For new installations, the first inspection shall occur before the UST system is installed. The second inspection shall occur before the covering of the system, when all tanks and pipes are exposed. The inspector shall witness testing of the primary and secondary piping and testing of the secondary containment, including sumps, under-dispenser containment (UDC), and secondary containment leak detection equipment. The final inspection shall occur when all components are operational and the system has been covered, but before actual operation. The installation inspector shall be present on site, shall visually observe all inspections, and shall be able to attest to the results. A video or other recording device showing the work completed by the installer shall not be used nor shall it be an acceptable method of providing independent inspection of the work completed.~~

ITEM 36. Amend subrule 134.27(3) as follows:

~~**134.27(3) Inspection** Inspections required. ~~When~~ Inspections are required when concrete is cut or excavation is required that could affect the integrity or operation of the UST system or when a component that routinely contains product is installed, replaced or repaired, ~~one inspection is required.~~ Inspections shall occur when the component is uncovered and replaced or repaired and during testing when required (i.e., piping replacement or repair) but before operation recommences. ~~Whenever secondary containment, such as UDC or sump, is installed, at least one inspection is required after the equipment is installed and before the system is backfilled.~~~~

a. An inspection shall occur before the tanks or piping are installed.

b. An inspection shall occur before the covering of tank or piping, when all tanks and piping are exposed. The inspector shall witness testing of the primary and secondary piping and testing of the secondary containment, including sumps, under-dispenser containment (UDC), and secondary containment leak detection equipment.

c. A final inspection shall occur when all components are operational and the system has been covered, but before actual operation.

d. Whenever secondary containment (such as sumps or UDC) is installed, at least one inspection is required after the equipment is installed and before the system is backfilled.

ITEM 37. Rescind paragraph **135.1(3)“a”** and adopt the following **new** paragraph in lieu thereof:

a. The requirements of this chapter apply to all owners and operators of a UST system as defined in rule 567—135.2(455B) except as otherwise provided in paragraphs 135.1(3)“b” and “c.”

(1) Previously deferred UST systems. Airport hydrant fuel distribution systems, UST systems with field-constructed tanks, and UST systems that store fuel solely for use by emergency power generators must meet the requirements of these rules as follows:

1. Airport hydrant fuel distribution systems and UST systems with field-constructed tanks must meet the requirements in rule 567—135.21(455B).

2. UST systems that store fuel solely for use by emergency power generators installed on or before November 28, 2007, must meet the requirements in rule 567—135.5(455B) by October 13, 2021.

3. UST systems that store fuel solely for use by emergency power generators installed after November 28, 2007, must meet all applicable requirements of this chapter at installation.

(2) Any UST system listed in paragraph 135.1(3)“c” must meet the requirements of subrule 135.1(4).

ITEM 38. Amend paragraph **135.1(3)“b,”** introductory paragraph, as follows:

b. Exclusions. The following UST systems are excluded from the requirements of this chapter:

ITEM 39. Amend paragraph **135.1(3)“c”** as follows:
c. ~~Deferrals~~ Partial exclusions. Rules 567—135.3(455B), 567—135.4(455B), 567—135.5(455B), ~~567—135.6(455B)~~ 567—135.6(455B), 567—135.15(455B) and ~~567—135.9(455B)~~ 567—135.21(455B) do not apply to any of the following types of UST systems:

- (1) to (3) No change.
- (4) ~~Airport hydrant fuel distribution systems; and~~ Aboveground storage tanks associated with:
 1. Airport hydrant fuel distribution systems regulated under rule 567—135.21(455B); and
 2. UST systems with field-constructed tanks regulated under rule 567—135.21(455B).
- ~~(5) UST systems with field-constructed tanks.~~

ITEM 40. Rescind paragraph **135.1(3)“d.”**

ITEM 41. Reletter paragraph **135.1(3)“e”** as **135.1(3)“d.”**

ITEM 42. Amend subrule 135.1(4) as follows:

135.1(4) ~~*Interim prohibition for deferred UST systems*~~ *Installation requirements for partially excluded UST systems.*

a. ~~No person may~~ Owners and operators must install a UST system listed in 135.1(3)“e” for the purpose of subparagraphs 135.1(3)“c”(1) to 135.1(3)“c”(3) storing regulated substances ~~unless the UST system~~ (whether of single- or double-wall construction) that meets the following requirements:

- (1) Will prevent releases due to corrosion or structural failure for the operational life of the UST system;
- (2) Is cathodically protected against corrosion, constructed of noncorrodible material, steel clad with a noncorrodible material, or designed in a manner to prevent the release or threatened release of any stored substance; and
- (3) Is constructed or lined with material that is compatible with the stored substance.

b. Notwithstanding paragraph “a” of this subrule, 135.1(4)“a,” a UST system without corrosion protection may be installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life. Owners and operators must maintain records that demonstrate compliance with the requirements of this paragraph for the remaining life of the tank.

NOTE: The National Association of Corrosion Engineers Standard RP-02-85, “Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems,” may be used as guidance for complying with 135.1(4)“b.” The following codes of practice may be used as guidance for complying with this subrule.

- NACE International Standard RP-02-85, Practice SP 0285, “External Corrosion Control of Underground Storage Tank Systems by Cathodic Protection”;
- NACE International Standard Practice SP 0169, “Control of External Corrosion on Metallic Buried, Partially Buried, Underground or Submerged Metallic Piping Systems”;
- American Petroleum Institute Recommended Practice 1632, “Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems”; or
- Steel Tank Institute Recommended Practice R892, “Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems.”

ITEM 43. Amend the following definitions in rule **567—135.2(455B)**:

“*Asbestos-cement pipe*” (AC refers to asbestos-cement) means a pipe or conduit constructed of asbestos fiber, and Portland cement, ~~and water,~~ which can be used to transport water.

“*CERCLA*” means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended.

“*Certified groundwater professional*” means a person certified pursuant to 1995 Iowa Code section 455G.18 455B.474 and 567—Chapter 134, Part A.

“*Chemicals of concern*” means the compounds derived from petroleum-regulated substances which are subject to evaluation for purposes of applying risk-based corrective action decision making. These compounds are benzene, ethylbenzene, toluene, and xylenes (BTEX) and naphthalene, benzo(a)pyrene,

benz(a)anthracene, and chrysene. (NOTE: ~~Measurement of Concentration~~ values for these last four constituents ~~may be done~~ are determined by a conversion method from total extractable hydrocarbons, see subrule 135.8(3).)

“*Drinking water well*” means any groundwater well used as a source for drinking water by humans and groundwater wells used primarily for the final production of food or medicine for human consumption ~~in facilities routinely characterized with the Standard Industrial Codes (SIC) group 283 for drugs and 20 for foods.~~

“*Free product*” refers to a regulated substance that is present as a light nonaqueous phase liquid (e.g., liquid not dissolved in water).

“*Motor fuel*” means ~~petroleum or a petroleum-based substance that is a complex blend of hydrocarbons typically used in the operation of a motor engine, such as motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any grade of gasohol, and is typically used in the operation of a motor engine blend containing one or more of these substances (for example, motor gasoline blended with alcohol).~~

“*Owner*” means:

1. In the case of a UST system in use on July 1, 1985, or brought into use after that date, any person who owns a UST system used for storage, use, or dispensing of regulated substances; and

2. In the case of any UST system in use before July 1, 1985, but no longer in use on that date, any person who owned such UST immediately before the discontinuation of its use.

“*Owner*” Owner does not include a person or institution, who, without participating in the management or operation of the underground storage tank or the tank site or engaging in petroleum production, refining or marketing, holds indicia of ownership primarily to protect that person’s security interest in the underground storage tank or the tank site property, prior to obtaining ownership or control through debt enforcement, debt settlement, or otherwise.

“*Pipe*” or “*pipng*” means a hollow cylinder or tubular conduit that is constructed of nonearthen materials and that routinely contains and conveys regulated substances ~~from the underground tank(s) to the dispenser(s) or other end-use equipment. Such piping includes any elbows, couplings, unions, valves, or other in-line fixtures that contain and convey regulated substances from the underground tank(s) to the dispenser(s). This definition does not include vent, vapor recovery, or fill lines.~~

“*Regulated substance*” means an element, compound, mixture, solution or substance which, when released into the environment, may present substantial danger to the public health or welfare or the environment. Regulated substance includes:

1. and 2. No change.

3. Any substance defined in Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) ~~of 1980~~ (but not including any substance regulated as a hazardous waste under subtitle C), and

4. Petroleum, including crude oil or any fraction thereof that is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute). The term “regulated substance” includes but is not limited to petroleum and petroleum-based substances comprised of a complex blend of hydrocarbons ~~derived from crude oil through processes of separation, conversion, upgrading, and finishing~~, such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

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

“*Replace*” or “*replacement*” means the installation of a new underground tank system or component, including dispensers, in substantially the same location as an existing tank system or component ~~in lieu of that tank system or component.~~

“*Site assessment investigation*” means an investigation conducted by a registered certified groundwater professional to determine relevant site historical data, the types, amounts, and sources of petroleum contaminants present, hydrogeological characteristics of the site, full vertical and horizontal extent of the contamination in soils and groundwater, direction and rate of flow of the contamination,

ranges of concentration of the contaminants by analysis of soils and groundwater, the vertical and horizontal extent of the contamination exceeding department standards, and the actual or potential threat to public health and safety and the environment.

“Tier 2 site assessment” means the process of assessing risk to actual and potential receptors by using site-specific ~~field data~~ contaminant concentrations and designated Tier 2 exposure and fate and transport models to determine the applicable target level(s).

“Under-dispenser containment (UDC)” means containment underneath a dispenser ~~that will~~ system designed to prevent leaks from the dispenser and piping within or above the UDC from reaching soil or groundwater. ~~Such containment must:~~

- ~~● Be intact and liquid-tight on its sides and bottom and at any penetrations;~~
- ~~● Be compatible with the substance conveyed by the piping; and~~
- ~~● Allow for visual inspection and monitoring and access to the components in the containment system.~~

“Underground storage tank” or “UST” means any one or combination of tanks (including underground pipes connected thereto) that is used to contain an accumulation of regulated substances, and the volume of which (including the volume of underground pipes connected thereto) is 10 percent or more beneath the surface of the ground. This term does not include any:

a. Farm or residential tank of 1100 gallons or less capacity used for storing motor fuel for noncommercial purposes. Iowa Code section 455B.471 455B.473(4) requires those tanks existing prior to July 1, 1987, to be registered. Tanks installed on or after July 1, 1987, must comply with all 567—Chapter 135 rules;

b. Tank used for storing heating oil for consumptive use on the premises where stored;

c. Septic tank;

d. Pipeline facility (including gathering lines) ~~regulated under:~~

(1) ~~The Natural Gas Pipeline Safety Act of 1968 (49 U.S.C. App. 1671, et seq.)~~ Which is regulated under 49 U.S. Code Chapter 601, or

(2) ~~The Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. App. 2001, et seq.), or~~ 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;

(3) ~~Which is an intrastate pipeline facility regulated under state laws comparable to the provisions of the law referred to in “d”(1) or “d”(2) of this definition;~~

e. Surface impoundment, pit, pond, or lagoon;

f. Storm-water or wastewater collection system;

g. Flow-through process tank;

h. Liquid trap or associated gathering lines directly related to oil or gas production and gathering operations; or

i. Storage tank situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

The term “underground storage tank” or “UST” does not include any pipes connected to any tank which is described in paragraphs “a” through “~~j~~” “i” of this definition.

ITEM 44. Rescind the definitions of “Class A operator,” “Class B operator,” “Class C operator,” “Dispenser,” “Repair” and “Secondary containment tank” in rule **567—135.2(455B)**.

ITEM 45. Adopt the following **new** definitions in rule **567—135.2(455B)**:

“*Airport hydrant fuel distribution system*” or “*airport hydrant system*” means a UST 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, rail car, or other motor fuel carrier.

“*Biodiesel*” means a renewable fuel comprised of mono-alkyl esters of long-chain fatty acids derived from vegetable oils or animal fats, that is blended with petroleum-based diesel fuel, which meets the standards provided in Iowa Code section 214A.2.

“*Class A operator*” means the individual who has primary responsibility to operate and maintain the UST system in accordance with applicable requirements. The Class A operator typically manages resources and personnel, such as establishing work assignments, to achieve and maintain compliance with regulatory requirements under this chapter.

“*Class B operator*” means the individual who has day-to-day responsibility for implementing applicable regulatory requirements established by the department. The Class B operator typically implements in-field aspects of operation, maintenance, and associated record keeping for the UST systems.

“*Class C operator*” means the individual responsible for initially addressing emergencies presented by a spill or release from a UST system. The Class C operator typically controls or monitors the dispensing or sale of regulated substances.

“*Containment sump*” means a liquid-tight container that protects the environment by containing leaks and spills of regulated substances from piping, dispensers, pumps and related components in the containment area. Containment sumps may be single-walled or secondarily contained and located at the top of the 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).

“*Dispenser*” means equipment located above ground that dispenses regulated substances from the UST system.

“*Dispenser system*” means the dispenser and the equipment necessary to connect the dispenser to the underground storage tank system.

“*Ethanol*” means ethyl alcohol that is to be blended with gasoline if it meets the standards provided in Iowa Code section 214A.2.

“*Field-constructed tank*” means 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.

“*Light, nonaqueous-phase liquid*” or “*LNAPL*” refers to an organic compound that is immiscible with, and lighter than water (e.g., crude oil, gasoline, diesel fuel, heating oil).

“*Over-excavation*” refers to the excavation of subsurface materials outside the excavation zone for the purpose of removing contaminated substances.

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

“*Replaced*” means:

1. For a tank: to remove a tank and install another tank.
2. For piping: to remove 50 percent 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.

“*Secondary containment*” or “*secondarily contained*” means a release prevention and release detection system for a tank or piping. This system has an inner and outer barrier with an interstitial space monitored for leaks. This term includes containment sumps when used for interstitial monitoring of piping.

“*Temporary closure*” means a regulated tank or UST system that has been out of operation for three months or more.

“*Training program*” means any program that provides information to and evaluates the knowledge of a Class A, Class B, or Class C operator through testing, practical demonstration, or another approach acceptable to the department regarding requirements for UST systems that meet the requirements of subrules 135.4(6) to 135.4(12).

“*Underground storage tank professional*” or “*UST professional*” means an individual licensed by the department under 567—Chapter 134, Part C. The licensing program includes underground storage tank system installation, installation inspection, UST system testing, tank lining, cathodic protection

installation/inspection, and UST removal. The license issued will list the type of work the individual is licensed to perform.

ITEM 46. Amend subrule 135.3(1) as follows:

135.3(1) Performance standards for new UST systems. In order to prevent releases due to structural failure, corrosion, or spills and overfills for as long as the UST system is used to store regulated substances, all owners and operators of new UST systems must meet the following requirements. The UST system must be secondarily contained in accordance with subrule 135.3(9).

a. Tanks. Each tank must be properly designed and constructed, and any portion underground that routinely contains product must be protected from corrosion, in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below:

(1) The tank is constructed of fiberglass-reinforced plastic; or

NOTE: The following ~~industry~~ codes of practice may be used to comply with subparagraph 135.3(1) "a"(1): Underwriters Laboratories Standard 1316, "~~Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols, and Alcohol-Gasoline Mixtures~~"; or Underwriters Laboratories of Canada ~~CAN4-S615-M83 S615~~, "~~Standard for Reinforced Plastic Underground Tanks for Petroleum Products~~"; or American Society of Testing and Materials Standard D4021-86, "~~Standard Specification for Glass-Fiber Reinforced Polyester Underground Petroleum Storage Tanks.~~" Flammable and Combustible Liquids."

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

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

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

3. Impressed current systems are designed to allow determination of current operating status as required in paragraph 135.4(2) "c." This shall be accomplished by providing the rectifier with ampere and voltage meters that can be read by the owner and operator for comparison to the design standard set by the corrosion expert or a device that can warn the owner and operator when changes in ampere and voltage occur outside the design standard set by the corrosion expert; and

4. Cathodic protection systems are operated and maintained in accordance with 135.4(2) or according to guidelines established by the department; ~~or and~~

5. Impressed current systems must be designed not to cause stray current that can damage other underground structures (metal electrical conduits, water lines, gas lines, etc.); or

NOTE: ~~The following codes and standards may be used to comply with 135.3(1) "a"(2): Steel Tank Institute "Specification for STI-P3 System of External Corrosion Protection of Underground Steel Storage Tanks"; Underwriters Laboratories Standard 1746, "Corrosion Protection Systems for Underground Storage Tanks"; Underwriters Laboratories of Canada CAN4-S603-M85, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids," and CAN4-GO3.1-M85, "Standard for Galvanic Corrosion Protection Systems for Underground Tanks for Flammable and Combustible Liquids," and CAN4-S631-M84, "Isolating Bushings for Steel Underground Tanks Protected with Coatings and Galvanic Systems"; or National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and Underwriters Laboratories Standard 58, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids."~~ The following codes of practice may be used to comply with subparagraph 135.3(1) "a"(2):

- Steel Tank Institute "Specification STI-P3® Specification and Manual for External Corrosion Protection of Underground Steel Storage Tanks";

- Underwriters Laboratories Standard 1746, "External Corrosion Protection Systems for Steel Underground Storage Tanks";

- Underwriters Laboratories of Canada S603, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids," and S603.1, "Standard for External Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids," and S631, "Standard for Isolating Bushings for Steel Underground Tanks Protected with External Corrosion Protection Systems";

• Steel Tank Institute Standard F841, “Standard for Dual Wall Underground Steel Storage Tanks”;
or

• NACE International Standard Practice SP 0285, “External Corrosion Control of Underground Storage Systems by Cathodic Protection,” and Underwriters Laboratories Standard 58, “Standard for Steel Underground Tanks for Flammable and Combustible Liquids.”

(3) The tank is constructed of a ~~steel-fiberglass-reinforced plastic composite~~ steel and clad or jacketed with a noncorrodible material; or

NOTE: The following industry codes may be used to comply with subparagraph 135.3(1)“a”(3): Underwriters Laboratories Standard 1746, “Corrosion Protection Systems for Underground Storage Tanks,” or the Association for Composite Tanks ACT-100, “Specification for the Fabrication of FRP Clad Underground Storage Tanks.”

• Underwriters Laboratories Standard 1746, “Corrosion Protection Systems for Underground Storage Tanks”;

• Steel Tank Institute ACT-100® Specification F894, “Specification for External Corrosion Protection of FRP Underground Storage Tanks”;

• Steel Tank Institute ACT-100-U® Specification F961, “Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks”; or

• Steel Tank Institute Specification F922, “Steel Tank Institute Specification for Permatank®.”

(4) The tank is constructed of metal without additional corrosion protection measures provided that:

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

2. Owners and operators maintain records that demonstrate compliance with the requirements of 135.3(1)“a”(4)“1” for the remaining life of the tank; or

(5) The tank construction and corrosion protection are determined by the department to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than subparagraphs 135.3(1)“a”(1) to (4).

b. Piping. The piping that routinely contains regulated substances and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below: in this rule. This includes piping for remote tank fill locations.

All piping must have secondary containment, installed according to manufacturer’s specifications, and be compatible with the product stored and the environment to which it will be exposed. Piping must maintain its original specifications and structural integrity. Piping whose structural integrity has degraded must be replaced. All piping installations must meet National Fire Prevention Association 2000 Edition of NFPA 30 and 30A codes or the International Fire Code as adopted by the Iowa state fire marshal in 661—Chapter 221, “Flammable and Combustible Liquids.”

(1) The piping is constructed of ~~fiberglass-reinforced plastic~~ a noncorrodible material; or

NOTE: The following codes and standards of practice may be used to comply with subparagraph 135.3(1)“b”(1): Underwriters Laboratories Subject 971, “UL Listed Non-Metal Pipe”; Underwriters Laboratories Standard 567, “Pipe Connectors for Flammable and Combustible and LP Gas”; Underwriters Laboratories of Canada Guide ULC-107, “Glass Fiber Reinforced Plastic Pipe and Fittings for Flammable Liquids”; and Underwriters Laboratories of Canada Standard CAN 4-S633-M81, “Flexible Underground Hose Connectors.”

• Underwriters Laboratories Standard 971, “Nonmetallic Underground Piping for Flammable Liquids”; or

• Underwriters Laboratories of Canada Standard S6660, “Standard for Nonmetallic Underground Piping for Flammable and Combustible Liquids.”

(2) The piping is constructed of steel and cathodically protected in the following manner:

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

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

3. Impressed current systems are designed to allow determination of current operating status as required in paragraph 135.4(2)“c”; and

4. Cathodic protection systems are operated and maintained in accordance with subrule 135.4(2) or guidelines established by the department; or

NOTE: The following codes and standards of practice may be used to comply with subparagraph 135.3(1)“b”(2): ~~National Fire Protection Association Standard 30, “Flammable and Combustible Liquids Code”; American Petroleum Institute Publication 1615, “Installation of Underground Petroleum Storage Systems”; American Petroleum Institute Publication 1632, “Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems”; and National Association of Corrosion Engineers Standard RP-01-69, “Control of External Corrosion on Submerged Metallic Piping Systems.”~~

- American Petroleum Institute Recommended Practice 1632, “Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems”;

- Underwriters Laboratories Subject 971A, “Outline of Investigation for Metallic Underground Fuel Pipe”;

- Steel Tank Institute Recommended Practice R892, “Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems”;

- NACE International Standard Practice SP 0169, “Control of External Corrosion on Underground or Submerged Metallic Piping Systems”;

- NACE International Standard Practice SP 0285, “External Corrosion Control of Underground Storage Tank Systems by Cathodic Protection”; or

- National Fire Protection Association Standard 30, “Flammable and Combustible Liquids Code.”

(3) The piping is constructed of metal without additional corrosion protection measures provided that:

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

2. Owners and operators maintain records that demonstrate compliance with the requirements of subparagraph 135.3(1)“b”(3)“1” for the remaining life of the piping; or

NOTE: ~~National Fire Protection Association Standard 30, “Flammable and Combustible Liquids Code”; and National Association of Corrosion Engineers Standard RP-01-69, “Control of External Corrosion on Submerged Metallic Piping Systems,” may be used to comply with 135.3(1)“b”(3).~~

(4) The piping construction and corrosion protection are determined by the department to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the requirements in subparagraphs 135.3(1)“b”(1) to (3).

c. Spill and overflow prevention equipment.

(1) Except as provided in subparagraph (2) 135.3(1)“b”(2), to prevent spilling and overfilling associated with product transfer to the UST system, owners and operators must use the following spill and overflow prevention equipment:

1. Spill prevention equipment that will prevent release of product to the environment when the transfer hose is detached from the fill pipe (for example, a spill catchment basin); and

2. Overfill prevention equipment that will:

- Automatically shut off flow into the tank when the tank is no more than 95 percent full; or

- Alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank (not allowed for suction product delivery systems, for tanks with stage 1 vapor recovery or when product delivery is by pumping) or triggering a high-level alarm; or

- Restrict flow 30 minutes prior to overfilling, alert the transfer operator with a high-level alarm one minute before overfilling, or automatically shut off the flow into the tank so that none of the fittings located on top of the tank are exposed to product due to overfilling.

(2) Owners and operators are not required to use the spill and overflow prevention equipment specified in subparagraph (4) 135.3(1)“b”(1) if:

1. ~~Alternative equipment is used that is determined by the department to be no less protective of human health and the environment than the equipment specified in subparagraph (1)“1” paragraph 135.3(1)“b”(1)“1” or “2” of this paragraph; or~~

2. ~~The UST system is filled by transfers of no more than 25 gallons at one time.~~

~~(3) Flow restrictors used in vent lines may not be used to comply with paragraph 135.3(1)“c”(1)“2” when overflow prevention is installed or replaced.~~

~~(4) Spill and overflow prevention equipment must be periodically tested or inspected in accordance with subrule 135.4(12).~~

~~(5) Spill prevention equipment must be kept free of any liquid and debris. Any liquid or debris must be removed prior to product delivery.~~

~~d. Installation. All tanks and piping The UST system must be properly installed in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and in accordance with the manufacturer’s instructions. The UST system installation shall be conducted by an installer licensed by the department under 567—Chapter 134, Part C, and in accordance with 567—subrules 134.24(3) and 134.24(4).~~

~~NOTE: Tank and piping system installation practices and procedures described in the following codes may be used to comply with the requirements of paragraph 135.3(1)“d”: American Petroleum Institute Publication 1615, “Installation of Underground Petroleum Storage System”; Petroleum Equipment Institute Publication RP100, “Recommended Practices for Installation of Underground Liquid Storage Systems”; or American National Standards Institute Standard 831.3, “Petroleum Refinery Piping,” and American National Standards Institute Standard 831.4, “Liquid Petroleum Transportation Piping System.”~~

~~• American Petroleum Institute Publication 1615, “Installation of Underground Petroleum Storage System”;~~

~~• Petroleum Equipment Institute Publication RP100, “Recommended Practices for Installation of Underground Liquid Storage Systems”; or~~

~~• National Fire Protection Association Standard 30, “Flammable and Combustible Liquids Code” and 30A “Code for Motor Fuel Dispensing Facilities and Repair Garages.”~~

~~e. Certification of installation. All owners and operators must ensure that ~~one or more of~~ the following methods of certification, testing, ~~or and~~ inspection ~~is are~~ used to demonstrate compliance with paragraph 135.3(1)“d” ~~of this subrule~~ by providing a certification of compliance on the UST notification registration form in accordance with subrule 135.3(3).~~

~~(1) The installer has been certified by the tank and piping manufacturers; or~~

~~(2) (1) The installer has been certified or is licensed by the department as provided in 567—Chapter 134, Part C; or and~~

~~(3) (2) The installation has been inspected and certified by a registered professional engineer with education and experience in UST system installation; or licensed installation inspector as required by 567—Chapter 134, Part C.~~

~~(4) The installation has been inspected and approved by an inspector certified or licensed by the Iowa comprehensive petroleum underground storage tank fund board; or~~

~~(5) All work listed in the manufacturer’s installation checklists has been completed; or~~

~~(6) The owner and operator have complied with another method for ensuring compliance with paragraph “d” that is determined by the department to be no less protective of human health and the environment.~~

~~f. Dispenser systems. Each UST system must be equipped with under-dispenser containment (UDC) for any new or replaced dispenser system.~~

~~(1) A dispenser system is considered new when both the dispenser and the equipment needed to connect the dispenser to the underground storage tank system are installed at a location where there previously was no dispenser (new UST system or new dispenser location at an existing UST system). 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.~~

(2) UDC shall be installed whenever an existing dispenser system is removed and replaced with another dispenser and the equipment used to connect the dispenser to the underground storage tank system is replaced. This equipment includes flexible connectors or risers or other transitional components that are beneath the dispenser and connect the dispenser to the piping. UDC is not required when only the emergency shutoff or shear valves or check valves are replaced.

(3) UDC shall be installed beneath the dispenser whenever ten feet or more of piping is repaired or replaced within ten feet of a dispenser.

(4) UDC must be liquid-tight on its sides, bottom, and at any penetrations. UDC must allow for visual inspection and access to the components in the containment system or be periodically monitored for leaks from the dispenser system.

ITEM 47. Amend subrule 135.3(2) as follows:

135.3(2) *Upgrading of existing UST systems.* Owners and operators must permanently close any UST system that does not meet the new UST system performance standards or has not been upgraded in accordance with paragraphs 135.3(2) “b” through “d.” This subrule does not apply to previously deferred UST systems. Upgrading is no longer allowed for UST systems not upgraded by December 22, 1998.

a. Alternatives allowed. Not later than December 22, 1998, all existing UST systems must had to comply with one of the following requirements:

- (1) New UST system performance standards under 135.3(1);
- (2) The upgrading requirements in paragraphs “b” through “d” below; or
- (3) Closure requirements under rule 567—135.15(455B), including applicable requirements for corrective action under rules 567—135.7(455B) to 567—135.12(455B).

Replacement or upgrade of a tank system on a petroleum contaminated site classified as a high or low risk in accordance with ~~subrule~~ rule 567—135.12(455B) shall be a double wall tank or a tank equipped with a secondary containment system with monitoring of the space between the primary and secondary containment structures in accordance with paragraph 135.5(4) “g.” ~~or other approved tank system or methodology approved by the Iowa comprehensive petroleum underground storage tank fund board.~~

b. Tank upgrading requirements. Steel tanks must had to be upgraded to meet one of the following requirements in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory:

- (1) *Interior lining.* ~~A tank may be~~ Tanks upgraded by internal lining if must meet the following:
 1. The lining is was installed in accordance with the requirements of subrule 135.4(4), and
 2. Within ten years after lining, and every five years thereafter, the lined tank is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications.

3. 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, the lined tank must be permanently closed in accordance with rule 567—135.15(455B).

(2) *Cathodic protection.* ~~A tank may be~~ Tanks upgraded by cathodic protection if ~~the cathodic protection system meets~~ meet the requirements of paragraphs 135.3(1) “a” (2) “2,” “3,” and “4” and the integrity of the tank is was ensured using one of the following methods:

1. The tank is was internally inspected and assessed to ensure that the tank is was structurally sound and free of corrosion holes prior to installing the cathodic protection system; or
2. The tank has had been installed for less than ten years and is monitored monthly for releases in accordance with 135.5(4) “d” through “h” “i”; or
3. The tank has had been installed for less than ten years and is was assessed for corrosion holes by conducting two tightness tests that meet the requirements of paragraph 135.5(4) “c.” The first tightness test must be have been conducted prior to installing the cathodic protection system. The second tightness test must be have been conducted between three and six months following the first operation of the cathodic protection system; or

4. The tank is was assessed for corrosion holes by a method that is determined by the department to prevent releases in a manner that is no less protective of human health and the environment than paragraphs 135.3(2)“b”(2)“1” to “3.”

(3) *Internal lining combined with cathodic protection.* ~~A tank may be~~ Tanks upgraded by both internal lining and cathodic protection if must have met the following:

1. The lining is was installed in accordance with the requirements of subrule 135.4(4); and

2. The cathodic protection system was installed within six months of lining installation and meets the requirements of paragraphs 135.3(1)“a”(2)“2,” “3,” and “4.”

NOTE: ~~The following codes and standards may be used to comply with subrule 135.3(2): American Petroleum Institute Publication 1631, “Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks”; National Leak Prevention Association Standard 631, “Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection”; National Association of Corrosion Engineers Standard RP-02-85, “Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems”; and American Petroleum Institute Publication 1632, “Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems.”~~ Regarding paragraph 135.3(2)“b”: The following historical codes of practice were listed as options for complying with paragraph 135.3(2)“b”:

- American Petroleum Institute Publication 1631, “Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks”;

- National Leak Prevention Association Standard 631, “Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection”;

- National Association of Corrosion Engineers Standard RP-02-85, “Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems”; and

- American Petroleum Institute Publication 1632, “Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems.”

NOTE regarding paragraph 135.3(2)“b”(1)“2”: The following codes of practice may be used to comply with the periodic lining inspection requirement of this subrule:

- American Petroleum Institute Recommended Practice 1631, “Interior Lining and Periodic Inspection of Underground Storage Tanks”;

- National Leak Prevention Association Standard 631, Chapter B, “Future Internal Inspection Requirements for Lined Tanks”;

- Ken Wilcox Associates Recommended Practice, “Recommended Practice for Inspecting Buried Lined Steel Tanks Using a Video Camera”; or

- Underwriters Laboratories (UL) 1856 Underground Fuel Tank Internal Retrofit Systems.

c. *Piping upgrading requirements.* Metal piping that routinely contains regulated substances and is in contact with the ground must be cathodically protected in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and must meet the requirements of paragraphs 135.3(1)“b”(2)“2,” “3,” and “4.”

NOTE: The codes ~~and standards~~ of practice listed in the note following subparagraph 135.3(1)“b”(2) may be used to comply with this requirement.

d. *Spill and overfill prevention equipment.* To prevent spilling and overfilling associated with product transfer to the UST system, all existing UST systems must comply with ~~new~~ UST system spill and overfill prevention equipment requirements specified in paragraph 135.3(1)“c.”

ITEM 48. Amend subrule 135.3(3) as follows:

135.3(3) *Notification Registration and notification requirements.*

a. Except as provided in paragraph 135.3(3)“b,” the owner of an underground storage tank existing on or before July 1, 1985, shall complete and submit to the department a copy of the ~~notification registration~~ registration form provided by the department ~~by May 1, 1986.~~

b. The owner of an underground storage tank system taken out of operation between January 1, 1974, and July 1, 1985, shall complete and submit to the department a copy of the ~~notification registration~~ registration form provided by the department ~~by May 8, 1986,~~ unless the owner knows the tank has

been removed from the ground. For purposes of this subrule, “owner” means the person who owned the tank immediately before the discontinuation of the tank’s use.

c. An owner or operator who brings into use an underground storage tank system after July 1, 1985, shall complete and submit to the department a copy of the ~~notification~~ registration form provided by the department within 30 days of ~~installing the tank in the ground~~ the final installation inspection required in 567—paragraph 134.27(2)“c” by a licensed installation inspector. The owner or operator shall not allow the deposit of any regulated substance into the tank without prior approval of the department or until the ~~tank has been issued a tank permanent~~ registration tag and annual tank tag have been attached to the tank fill pipe and the tank system is covered by an approved financial responsibility mechanism in accordance with 567—Chapter 136.

d. All owners and operators of new UST systems must provide UST system details and a site diagram, and certify in the ~~notification~~ registration form compliance with the following requirements:

- (1) Installation of tanks and piping under paragraph 135.3(1)“e”;
- (2) Cathodic protection of steel tanks and piping under paragraphs 135.3(1)“a” and “b”;
- (3) Financial responsibility under 567—Chapter 136, Iowa Administrative Code;
- (4) Release detection methods under subrules 135.5(2) and 135.5(3);
- (5) Class A, B and C operator certification under subrule 135.4(6);
- (6) NESHAP Stage 1 vapor recovery.

e. All owners and operators of new UST systems must ensure that the licensed installer certifies in the ~~notification~~ registration form that the methods used to install the tanks and piping comply with the requirements in paragraph 135.3(1)“d.”

f. Exemption from reporting requirement. Paragraphs 135.3(1)“a” to “c” do not apply to an underground storage tank for which notice was given pursuant to Section 103, Subsection c, of the Comprehensive Environmental Response, Compensation and Liabilities Act of 1980. (42 U.S.C. Subsection 9603(c))

g. Reporting fee. The ~~notice~~ registration form submitted by the owner to the department under paragraphs 135.3(1)“a” to “c” shall be accompanied by a fee of \$10 for each tank included in the ~~notice~~ form.

h. Notification requirement for installing a tank. A person installing an underground storage tank and the owner or operator of the underground storage tank must notify the department of their intent to install the tank 30 days prior to installation. Notification shall be on a form provided by the department.

i. Notification requirements for a person who acquires, sells, installs, modifies or repairs a ~~tank~~ UST system.

(1) A person, company or lending institution that assumes ownership or operation of a regulated underground storage tank must submit notification to the department on a form provided by the department within 30 days of acquisition and prior to tank operation. The owner must include copies of training certificates for the Class A and Class B operators (135.4(6)) and proof of financial responsibility required in 567—Chapter 136. The new owner is responsible for any current and back tank management fees that have not been previously paid.

(2) A person who sells, installs, modifies, or repairs a tank used or intended to be used in Iowa shall notify, in writing, the purchaser and the owner or operator of the tank of the obligations specified in paragraphs 135.3(3)“c” and “j” and the financial assurance requirements in 567—Chapter 136. The notification must include the prohibition on depositing a regulated substance into tanks which have not been registered and issued tags by the department, or tanks which do not have financial assurance as required in 567—Chapter 136. A standard notification form supplied by the department may be used to satisfy this requirement.

j. It is unlawful for a person to deposit or accept a regulated substance in an underground storage tank that has not been registered and issued permanent or annual tank management tags in accordance with rule 567—135.3(455B). It is unlawful for a person to deposit or accept a regulated substance into an underground storage tank if the person has received notice from the department that the underground storage tank is subject to a delivery prohibition or if there is a “red tag” attached to the UST fill pipe or fill pipe cap as provided in subrule 135.3(8).

(1) The department may provide written authorization to receive a regulated substance when there is a delay in receiving tank tags or at new tank installations to allow for testing the tank system.

(2) The department may provide known depositors of regulated substances lists of underground storage tank sites that have been issued tank tags, those that have not been issued tank tags, and those subject to a delivery prohibition pursuant to subrule 135.3(8). These lists do not remove the requirement for depositors to verify that current tank tags are affixed to the fill pipe prior to delivering product. Regulated substances cannot be delivered to underground storage tanks without current tank tags or those displaying a delivery prohibition “red tag” as provided in subrule 135.3(8).

(3) A person shall not accept or deposit a regulated substance in an underground storage tank after receiving written or oral notice from the department that the tank is not covered by an approved form of financial responsibility in accordance with 567—Chapter 136.

k. If an owner or operator fails to register an underground storage tank within 30 days after installation ~~or obtain annual renewal tags by April 1, pursuant to paragraph 135.3(3) “c,”~~ the owner or operator shall pay an additional \$250 per tank late fee upon registration of the tank ~~or application for tank tag renewal~~. The imposition of this fee does not preclude the department from assessing an additional administrative penalty in accordance with Iowa Code section 455B.476.

ITEM 49. Amend subrule 135.3(4) as follows:

135.3(4) Farm and residential tanks.

a. The owner or operator of a farm or residential tank of 1100 gallons or less capacity used for storing motor fuel for noncommercial purposes is subject to the requirements of this subrule.

b. Farm and residential tanks, installed before July 1, 1987, ~~shall be reported on a notification form by July 1, 1989, but owners or operators are not required to pay a registration fee~~ are required to be registered with the department.

c. Farm and residential tanks ~~that were~~ installed on or after July 1, 1987, ~~shall~~ must be in compliance with all the underground storage tank regulations.

ITEM 50. Rescind paragraph **135.3(5)“b”** and adopt the following new paragraph in lieu thereof:

b. The owner or operator of tanks over 1,100-gallon capacity must submit a tank management fee form and fee payment of \$65 per tank by January 15 of each year.

(1) An additional \$250 per tank late fee must be paid if the tank management fee is not paid by March 1.

(2) The owner or operator must submit written proof that the tanks are covered by an approved form of financial responsibility in accordance with 567—Chapter 136.

(3) Upon proper payment of the fee and acceptable proof of financial responsibility, and a determination there are no outstanding compliance violations, a one-year renewal tag will be issued for the period from April 1 to March 31.

(4) If there are outstanding compliance violations, the annual tank tags may be withheld until the violations are corrected.

(5) The department shall refund a tank management fee if the tank is permanently closed prior to April 1 for that year.

ITEM 51. Amend paragraph **135.3(5)“d”** as follows:

d. A person who conveys or deposits a regulated substance shall inspect the underground storage tank to determine the existence or absence of a ~~current permanent~~ current permanent registration tag, a ~~current annual tank management fee renewal~~ current annual renewal tag, or a delivery prohibition “red tag” as provided in subrule 135.3(8). ~~If the tag a current annual renewal tag, or a silver permanent tag for regulated tanks less than 1,100 gallons is not affixed to the fill pipe or fill pipe cap or if a delivery prohibition “red tag” is displayed, the person shall not deposit the substance in the tank.~~

ITEM 52. Amend subrule 135.3(6) as follows:

135.3(6) ~~Petroleum~~ Previously unregistered petroleum underground storage tank registration amnesty program tanks.

~~a.~~ A petroleum underground storage tank required to be registered under subrules 135.3(3) and 135.3(4), which has not been registered ~~prior to July 1, 1988, may~~ shall be registered under the following conditions:

~~(1) a.~~ The tank registration fee under paragraph 135.3(3) “g” shall accompany the registration.

~~(2) b.~~ The storage tank management fee and any late fees under subrule 135.3(5) and paragraph 135.3(3) “k” shall be paid for past years in which the tank should have been registered.

~~b.~~ If a tank is registered under this subrule on or prior to October 1, 1989, penalties under Iowa Code section 455B.477 shall be waived.

~~c.~~ The department may waive the late fee(s).

ITEM 53. Rescind and reserve subrule **135.3(7)**.

ITEM 54. Amend subparagraph **135.3(8)“a”(1)** as follows:

(1) Annual ~~registration~~ renewal tag and tank management fee process. Owners and operators shall certify to the following on a form prepared by the department when applying for annual tank tags pursuant to subrule 135.3(5):

1. to 5. No change.

ITEM 55. Adopt the following new subparagraphs **135.3(8)“b”(11) to (14)**:

(11) The owner or operator has failed to provide documentation of Class A or B operator training.

REINSTATEMENT CRITERION: The owner or operator must submit a copy of the certificates of training for Class A and B operators.

(12) The owner or operator has failed to install required secondary containment.

REINSTATEMENT CRITERION: The owner or operator must document secondary containment has been installed as provided in subrule 135.3(9).

(13) The owner or operator has failed to pay the annual tank management fee.

REINSTATEMENT CRITERION: The owner or operator must pay the current and any previous unpaid tank management fees in addition to any late fees as provided in paragraph 135.3(5) “b.”

(14) When tanks are no longer in use or in temporary closure.

REINSTATEMENT CRITERION: The owner or operator must provide a completed Return to Service form along with required documents.

ITEM 56. Amend paragraph **135.3(8)“f”** as follows:

f. Delivery prohibition procedure. Upon oral or written notice that the delivery prohibition response action has been imposed, the owner or operator and any person in charge of the UST facility shall be notified that they are not authorized to receive any further delivery of regulated substances until conditions for reinstatement of eligibility are satisfied. ~~Owners and operators are required to immediately remove and return to the department the current annual tank management fee tags or the tank registration tags if there are no tank management fee tags.~~ Owners and operators are required to provide the department with names and contact information for all persons who convey or deposit regulated substances to the USTs. The department will attempt to notify known persons who convey or deposit regulated substances to the USTs that they are not authorized to deliver to the USTs until further notice by the department as provided in paragraph 135.3(3) “j” and subrule 135.3(5).

~~If the tank tags are not returned within three business days, the~~ The department shall visit the site, ~~remove the tags,~~ and affix a “red tag” to the fill pipes or fill pipe caps of all affected USTs. It is unlawful for any person to deposit or accept a regulated substance into a UST that has a “red tag” affixed to the fill pipe or fill pipe cap. The department may allow the owner and operator to dispense and sell the remainder of existing fuel unless the department determines there is an immediate risk of a release or other risk to human health, safety or the environment. The department shall confirm in writing the basis for the delivery prohibition response action, contacts made prior to the action, and steps the owner or operator must take to reinstate fuel delivery.

ITEM 57. Rescind subrule 135.3(9) and adopt the following new subrule in lieu thereof:

135.3(9) Secondary containment requirements for UST system installations. All new and replacement underground storage tank systems and appurtenances used for the storage and dispensing

of petroleum products shall have secondary containment in accordance with this subrule. The secondary containment provision includes the installation of containment sumps.

a. Tanks and piping installed or replaced after November 28, 2007, must have secondary containment that is designed, installed, and maintained according to the performance standards in subrule 135.3(1) and paragraph 135.5(3)“*b.*”

(1) The secondary containment may be manufactured as an integral part of the primary containment or constructed as a separate containment system.

(2) At a minimum, the secondary containment must:

1. Contain regulated substances leaked from the UST system until detected and removed.

2. Prevent the release of regulated substances into the environment at any time during the operational life of the underground storage tank system.

3. Be checked for evidence of a release from the tank at least every 30 days as provided in paragraph 135.5(2)“*a.*”

b. Testing and inspection. Containment sumps shall be liquid-tight and must be inspected and tested in accordance with the following:

(1) Inspections for secondary containment sumps (spill catchment basins, turbine sumps, transition or intermediate sumps, and under-dispenser containment).

1. Inspections for secondary containment sumps shall consist of visual inspection by an Iowa-licensed installer or Iowa-certified compliance inspector every two years.

2. Containment sumps must be intact (no cracks or perforations) and liquid-tight, including sides and bottom.

3. Containment sumps must be maintained and kept free of debris, liquid, and ice at all times.

4. Regulated substances leaked or spilled into any containment sumps shall be immediately removed.

(2) Secondary containment sumps used for interstitial monitoring of piping shall be tested upon installation and periodically in accordance with subrule 135.4(12).

ITEM 58. Amend paragraph **135.4(1)“a”** as follows:

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

NOTE: The transfer procedures described in National Fire Protection Association ~~Publication Standard 385, “Standard for Tank Vehicles for Flammable and Combustible Liquids”~~ or American Petroleum Institute Recommended Practice 1007, “Loading and Unloading of MC 306/DOT 406 Cargo Tank Motor Vehicles” may be used to comply with paragraph 135.4(1)“*a.*” Further guidance on spill and overfill prevention appears in American Petroleum Institute ~~Publication 1621, “Recommended Practice 1621 for Bulk Liquid Stock Control at Retail Outlets,”~~ and National Fire Protection Association ~~Standard 30, “Flammable and Combustible Liquids Code.”~~

ITEM 59. Amend subrule 135.4(2) as follows:

135.4(2) Operation and maintenance of corrosion protection. All owners and operators of ~~steel metal~~ UST systems with corrosion protection must comply with the following requirements to ensure that releases due to corrosion are prevented for as long as the UST system is used to store regulated substances:

a. No change.

b. All UST systems equipped with cathodic protection systems must be inspected for proper operation by a qualified cathodic protection tester in accordance with the following requirements:

(1) No change.

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

NOTE: National Association of Corrosion Engineers Standard RP 02-85, “Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems,” The following codes of practice may be used to comply with subparagraph 135.4(2) “b”(2).

- NACE International Test Method TM 0101, “Measurement Techniques Related to Criteria for Cathodic Protection of Underground Storage Tank Systems”;
- NACE International Test Method TM0497, “Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Piping Systems”;
- Steel Tank Institute Recommended Practice R051, “Cathodic Protection Testing Procedures for STI-P3® USTs”;
- NACE International Standard Practice SP 0285, “External Control of Underground Storage Tank Systems by Cathodic Protection”; or
- NACE International Standard Practice SP 0169, “Control of External Corrosion on Underground or Submerged Metallic Piping Systems.”

c. and *d.* No change.

e. When an impressed current cathodic protection system is failing cathodic protection for the time periods given below, owners and operators must take the following actions:

(1) For impressed current cathodic protection systems that have been inoperative for 0 to 90 days after failing a corrosion protection test or after discovering the system is not operating, all of the following must be completed:

1. Power must be restored to an inoperative corrosion protection system. A damaged or failed corrosion protection system must be repaired by a cathodic protection tester. A corrosion expert must approve any modifications to the system that are outside of the original design.
2. The corrosion protection system must be retested within six months of repair.
3. A copy of the test and any repairs must be kept as part of the cathodic protection records.
4. A copy of the new design standards must be kept as part of the cathodic protection records.

(2) For impressed current corrosion protection systems that have been inoperative for 90 to 365 days or repaired 90 to 365 days after failing a corrosion protection test, all of the following must be completed:

1. Notify the department.
2. Power must be restored to an inoperative corrosion protection system.
3. The corrosion protection system must be repaired, tested and returned to service under the supervision of a corrosion expert.
4. A precision tightness test must be conducted on the entire UST system.
5. The corrosion protection system must be retested within six months of the repair or power being restored.
6. A copy of the test and any repairs must be kept as part of the cathodic protection records.
7. A copy of the new design standards must be kept as part of the cathodic protection records.
8. If determined the tank is not suitable for corrosion protection, the tank must be permanently closed in accordance with subrule 135.15(2).

(3) If the impressed current corrosion protection system has been inoperative for more than 365 days or was not repaired for more than 365 days after failing a corrosion protection test, all of the following must be completed:

1. Notify the department.
2. Immediately empty and stop using the tank system.
3. An internal inspection of the steel tank must be conducted according to a national standard (e.g., API 1631). If the UST fails the internal inspection, the UST owner must permanently close the tank in accordance with subrule 135.15(2).
4. All metal piping and buried metal components (e.g., flex connectors, couplings) that routinely contain product must be inspected by a UST professional or cathodic protection tester. If the metallic components have no visible corrosion and have passed a line tightness test (unless the piping is exempt from leak detection, e.g., Safe or European Suction) then the cathodic protection system may be repaired

or replaced under the supervision of a corrosion expert. Metallic components that show visible corrosion must be replaced.

5. A precision test must be conducted on the entire UST system following repair or replacement of the cathodic protection system.

6. The corrosion protection system must be retested within six months of repair.

7. A copy of the tests and any repairs must be kept as part of the cathodic protection records.

8. A copy of the new design standards must be kept as part of the cathodic protection records.

(4) If the impressed current cathodic protection system has been inoperable for more than 365 days and cannot or will not be brought back into immediate use, the tank system must be permanently closed in accordance with rule 567—135.15(2).

ITEM 60. Amend subrule 135.4(3) as follows:

135.4(3) *Compatibility.* 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.

a. Owners and operators must notify the department at least 30 days prior to switching to a regulated substance containing greater than 10 percent ethanol, greater than 20 percent biodiesel, or any other regulated substance identified by the department.

b. Owners and operators must have a UST installer licensed under 567—Chapter 134, Part C, submit the department’s checklist for equipment compatibility for the UST system to the department.

NOTE: Owners and operators storing alcohol blends may use the following codes to comply with the requirements of subrule 135.4(3): American Petroleum Institute Publication Recommended Practice 1626, “Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations”; and American Petroleum Institute Publication 1627, “Storage and Handling of Gasoline-Methanol/Cosolvent Blends at Distribution Terminals and Service Filling Stations.”

ITEM 61. Amend subrule 135.4(4) as follows:

135.4(4) *Repairs allowed and replacement.* Owners and operators of UST systems must ensure that repairs will prevent releases due to structural failure or corrosion as long as the UST system is used to store regulated substances. The repairs must meet the following requirements:

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

NOTE: The following codes and standards may be used to comply with paragraph 135.4(4)“a”:
~~National Fire Protection Association Standard 30, “Flammable and Combustible Liquids Code”;~~
~~American Petroleum Institute Publication 2200, “Repairing Crude Oil, Liquefied Petroleum Gas, and Product Pipelines”;~~
~~American Petroleum Institute Publication 1631, “Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks”;~~
~~and National Leak Prevention Association Standard 631, “Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection.”~~

• National Fire Protection Association Standard 30, “Flammable and Combustible Liquids Code”;

• International Fire Code;

• American Petroleum Institute Recommended Practice 2200, “Repairing Crude Oil, Liquefied Petroleum Gas, and Product Pipelines”;

• American Petroleum Institute Recommended Practice 1631, “Interior Lining and Periodic Inspection of Underground Storage Tanks”;

• National Fire Protection Association Standard 326, “Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair”;

• National Leak Prevention Association Standard 631, Chapter A, “Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks”;

• Steel Tank Institute Recommended Practice R972, “Recommended Practice for the Addition of Supplemental Anodes to STI-P3® Tanks”;

• NACE International Standard Practice SP 0285, “External Control of Underground Storage Tank Systems by Cathodic Protection”; or

• Fiberglass Tank and Pipe Institute Recommended Practice T-95-02, “Remanufacturing of Fiberglass Reinforced Plastic (FRP) Underground Storage Tanks.”

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

c. Piping and fittings.

(1) Metal pipe sections and fittings that have released product as a result of corrosion or other damage must be replaced. Fiberglass Noncorrodible pipes and fittings may be repaired in accordance with the manufacturer’s specifications.

(2) Any replacement of ten feet or more of piping shall have secondary containment.

(3) If 50 percent or more of any piping run is removed, the entire piping run must be removed and replaced with secondarily contained piping and interstitial monitoring.

(4) All piping replacements requiring secondary containment shall be constructed with transition or intermediate containment sumps.

d. Repaired 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, or according to requirements established by the department 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 paragraphs 135.5(4) “c” and 135.5(5) “b” within 30 days following the date of the completion of the repair except as provided in subparagraphs (1) to (3) below:

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

(2) The repaired portion of the UST system is monitored monthly for releases in accordance with a method specified in paragraphs 135.5(4) “d” through “h” “i”; or

(3) Another test method is used that is determined by the department to be no less protective of human health and the environment than those listed above.

NOTE regarding paragraph 135.4(4) “d”: The following codes of practice may be used to comply with paragraph 135.4(4) “d”:

• Steel Tank Institute Recommended Practice R012, “Recommended Practice for Interstitial Tightness Testing of Existing Underground Double Wall Steel Tanks”; or

• Fiberglass Tank and Pipe Institute Protocol, “Field Test Protocol for Testing the Annular Space of Installed Underground Fiberglass Double and Triple-Wall Tanks with Dry Annular Space.”

• Petroleum Equipment Institute Publication RP1200, “Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities.”

e. Within six months following the repair of any cathodically protected UST system, the cathodic protection system must be tested in accordance with paragraphs 135.4(2) “b” and “c” to ensure that it is operating properly.

f. Within 30 days following any repair to spill or overfill prevention equipment, the repaired spill or overfill prevention equipment must be tested or inspected, as appropriate, in accordance with subrule 135.4(1) to ensure it is operating properly.

g. Installation of any new or replacement turbine pumps involving the direct connection to the tank shall have secondary containment.

h. UST system owners and operators must maintain records of each repair for the remaining operating life of until the UST system that demonstrate compliance with the requirements of this subrule is permanently closed or undergoes a change-in-service pursuant to subrule 135.15(2).

i. Repairs or replacements to a UST system must be conducted by an Iowa-licensed UST professional whose license is issued for that specific work.

ITEM 62. Amend subrule 135.4(5) as follows:

135.4(5) Reporting and record keeping. Owners and operators of UST systems must cooperate fully with inspections, monitoring and testing conducted by the department, as well as requests for document submission, testing, and monitoring by the owner or operator pursuant to Section 9005 of Subtitle I of the ~~Resource Conservation and Recovery~~ Solid Waste Disposal Act, as amended.

a. Reporting. Owners and operators must submit the following information to the department:

(1) Notification for all UST systems (135.3(3)), which includes certification of installation for new UST systems (135.3(1)“e”);

(2) Notification of equipment replacement or addition of new equipment;

~~(2) (3)~~ (3) Reports of all releases including suspected releases (135.6(1)), spills and overfills (135.6(4)), and confirmed releases (135.7(2));

~~(3) (4)~~ (4) Corrective actions planned or taken including initial abatement measures (135.7(3)), initial site characterization (567—135.9(455B)), free product removal (135.7(5)), investigation of soil and groundwater cleanup and corrective action plan (567—135.8(455B) to 567—135.12(455B)); and

(4) (5) A notification before permanent closure or change-in-service (135.15(2));

(6) Notification of any change in ownership;

(7) Notification of any change in Class A or Class B operators;

(8) Notification of any loss of financial responsibility (i.e., insurance);

(9) Notification prior to UST systems switching to certain regulated substances.

b. Record keeping. Owners and operators must maintain the following information:

(1) A corrosion expert’s analysis of site corrosion potential if corrosion protection equipment is not used (135.3(1)“a”(4); (135.3(1)“b”(3)).

(2) Documentation of operation of corrosion protection equipment (135.4(2));

(3) Documentation of UST system repairs ~~(135.4(4)“f” 135.4(4)“h”);~~

(4) ~~Recent~~ Documentation of compliance with release detection requirements (135.5(6)); and

(5) Results of the site investigation conducted at permanent closure ~~(135.15(5)). (135.15(3));~~

(6) Cathodic protection system testing results (135.4(2));

(7) Class A, B and C operator training certificates (135.4(6));

(8) Secondary containment test results (135.3(9));

(9) Documentation of periodic walkthrough inspections (135.4(13));

(10) Documentation of compatibility for UST systems (135.4(3));

(11) Documentation of compliance for spill and overflow prevention equipment and containment sumps used for interstitial monitoring of piping (135.4(12)).

c. Availability and maintenance of records. Owners and operators must keep the records required either:

(1) No change.

(2) At a readily available alternative site and be provided for inspection to the department ~~upon~~ within two business days of department request.

NOTE: In the case of permanent closure records required under subrule 135.15(5), owners and operators are also provided with the additional alternative of mailing closure records to the department if they cannot be kept at the site or an alternative site as indicated above.

ITEM 63. Amend paragraph **135.4(6)“b”** as follows:

b. A facility may not operate ~~after December 31, 2011,~~ unless operators have been designated and trained as required in this rule, or unless otherwise agreed upon by the department based on a finding of good cause for failure to meet this requirement and a plan for designation and training at the earliest practicable date.

ITEM 64. Amend paragraph **135.4(6)“g”** as follows:

g. Designated operators must successfully complete required training under subrule 135.4(9) ~~no~~ later than December 31, 2011.

ITEM 65. Amend paragraph **135.4(6)“i”** as follows:

i. When a facility is found to be out of compliance, the department may require ~~the owner and operator to retrain~~ that the designated UST system Class A, B, or C operator be retrained under a plan approved by the department. The retraining must occur within ~~60~~ 30 days from departmental notice for Class A and Class B operators and within 15 days for Class C operators.

ITEM 66. Amend subparagraph **135.4(7)“a”(1)**, introductory paragraph, as follows:

(1) Class A operators have the primary responsibility to operate, ~~and maintain,~~ and have knowledge of the regulatory requirements for the underground storage tank system and facility. The Class A operator’s responsibilities include managing resources and personnel to achieve and maintain compliance with regulatory requirements under this chapter in the following ways:

ITEM 67. Amend subparagraph **135.4(7)“b”(1)** as follows:

(1) A Class B operator ~~implements~~ is knowledgeable of the applicable underground storage tank regulatory requirements and standards and implements them in the field or at the tank facility. A Class B operator oversees and implements the day-to-day aspects of operation, maintenance, and record keeping for the underground storage tanks at facilities within four hours of travel time from the Class B operator’s principal place of business. A Class B operator’s responsibilities include, but are not limited to:

1. to 8. No change.

9. Training and documenting Class C operators to make sure at least one Class C operator is on site during operating hours. Class B operators shall be familiar with Class C operator responsibilities and may provide ~~required~~ additional training for Class C operators.

ITEM 68. Amend subparagraph **135.4(7)“c”(1)** as follows:

(1) ~~Within six months after October 14, 2009, written~~ Written basic operating instructions, emergency contact names and telephone numbers, and basic procedures specific to the facility shall be provided to all Class C operators and readily available on site.

ITEM 69. Amend subrule 135.4(8), introductory paragraph, as follows:

135.4(8) UST operator training course requirements. Individuals must attend a department-approved training course covering material designated for each operator class. Individuals must attend every session of the training; and take the department’s examination, ~~and attend examination review.~~

ITEM 70. Amend subparagraph **135.4(8)“b”(8)** as follows:

(8) ~~Discussion of the benefits of monthly or frequent inspections and content and use of inspection checklists.~~ Requirements of 30-day and annual walkthrough inspections. Training materials for operators shall include the department’s “Iowa UST Operator Inspection Checklist” or a checklist template similar to the department’s document.

ITEM 71. Adopt the following new subparagraph **135.4(8)“b”(19)**:

(19) Requirements for facilities that operate unstaffed at any time.

ITEM 72. Rescind paragraph **135.4(8)“c”** and adopt the following new paragraph in lieu thereof:

c. *Class C operators.* To be certified as a Class C operator, an individual must complete a department-approved training course. A Class A or Class B operator who has completed a department-approved training course may provide the Class C training. Class C operator training must include at a minimum:

- (1) A general overview of the department’s UST program and purpose;
- (2) Groundwater protection goals;
- (3) Public safety;
- (4) UST system overview;
- (5) Administrative requirements; and
- (6) Action to be taken in response to an emergency condition due to a spill or release from a UST system.

Training must include written procedures for the Class C operator, including notification instructions necessary in the event of emergency conditions. The written instructions and procedures must be readily

available on site. A Class A or Class B operator may provide additional on-site Class C training specific to the operator's UST system.

ITEM 73. Amend subrule 135.4(9) as follows:

135.4(9) Examination and review requirement. Class A and Class B operators must complete the department-approved training course and ~~take an~~ achieve a passing grade of 85 percent on the examination to verify their understanding and knowledge. The examination may include both written and practical (hands-on) testing activities. The trainer must follow up the examination with a review of missed test questions with the class or individual to ensure understanding of problem areas. Upon successful completion of the training course, the applicant will receive a certificate verifying the applicant's status as a Class A, Class B, or Class C operator.

a. No change.

b. *Transferability to another UST site.* Class A and Class B operators may transfer to other UST facilities in Iowa provided the operator is properly designated by the facility owner as a Class A or Class B operator according to 567—subrule ~~134.4(13)~~ 135.4(11). Class A and Class B operators transferring from other states shall seek prior approval of training qualifications, unless the department has preapproved the out-of-state program as substantially equivalent to the requirements of this chapter.

ITEM 74. Amend subrule 135.4(10) as follows:

135.4(10) Timing of UST operator training.

a. An owner shall ensure that Class A, Class B, and Class C operators are trained ~~as soon as practicable after October 14, 2009, contingent upon availability of~~ by approved training providers, but not later than December 31, 2011, except as provided in paragraph 135.4(6) "b." before an operator assumes duties of that class of operator.

b. When a Class A or Class B operator is replaced, a new operator must be trained prior to assuming duties for that class of operator. A copy of the certificate of training must be submitted to the department within 30 days of assuming duties.

c. Class C operators must be trained before assuming the duties of a Class C operator. ~~Within six months after October 14, 2009, written~~ Written basic operating instructions, emergency contact names and telephone numbers, and basic procedures specific to the facility shall be provided to all Class C operators and readily available on site. A Class C operator may be briefed on these procedures concurrent with annual safety training required under Occupational Safety and Health Administration regulations, 29 CFR, Part 1910.

ITEM 75. Amend paragraph **135.4(11)"b"** as follows:

b. A copy of the certificates of training for Class A and Class B operators shall be on file and readily available for inspection in accordance with subrule 135.4(5). Records verifying completion of training or retraining of Class A, Class B, and Class C operators must identify name of trainee, date trained, operator training class completed, and list the name of the trainer or examiner and the training company name, address, and telephone number. Owners and operators must maintain these records for as long as Class A, Class B, and Class C operators are designated.

ITEM 76. Adopt the following **new** subrules 135.4(12) and 135.4(13):

135.4(12) Periodic testing of spill prevention equipment and containment sumps used for interstitial monitoring of piping and periodic inspection of overfill prevention equipment.

a. 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:

(1) 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:

1. The equipment is double walled and the integrity of both walls is periodically monitored at a frequency of not less than every 30 days. If owners and operators discontinue periodic monitoring of this

equipment, they must begin meeting paragraph 135.4(12) “a”(1)“2” and conduct a test within 30 days of discontinuing periodic monitoring of this equipment; or

2. The spill prevention equipment and containment sumps used for interstitial monitoring of piping 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:

- Requirements developed by the manufacturer (Note: Owners and operators may use this option only if the manufacturer has developed requirements); or
- A code of practice developed by a nationally recognized association or independent testing laboratory; or
- Requirements determined by the department to be no less protective of human health and the environment than the requirements listed in this subrule.

(2) 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 paragraph 135.3(1) “c” and will activate when regulated substance reaches that level. Inspections must be conducted in accordance with one of the following criteria:

- Requirements developed by the manufacturer (Note: Owners and operators may use this option only if the manufacturer has developed requirements); or
- A code of practice developed by a nationally recognized association or independent testing laboratory; or
- Requirements determined by the department to be no less protective of human health and the environment than the requirements listed in this section.

b. Owners and operators must begin meeting these requirements as follows:

(1) For UST systems in use on or before [the effective date of this rule], the initial spill prevention equipment test and overfill prevention equipment inspection must be conducted not later than October 13, 2021.

(2) For UST systems brought into use after [the effective date of this rule], these requirements apply at installation.

c. Owners and operators must maintain records as follows for spill prevention equipment and overfill prevention equipment:

- (1) All records of testing or inspection must be maintained for three years; and
- (2) 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.

NOTE: The following code of practice may be used to comply with this section: Petroleum Equipment Institute Publication RP1200, “Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities.”

135.4(13) Periodic operation and maintenance walkthrough inspections. Conduct inspections to properly operate and maintain UST systems.

a. Conduct a walkthrough inspection every 30 days that, at a minimum, checks the following equipment as specified below (Exception: spill prevention equipment at UST systems receiving deliveries at intervals greater than every 30 days may be checked prior to each delivery):

(1) Spill prevention equipment: visually check for damage; remove liquid or debris; check for and remove obstructions in the fill pipe; check the fill cap to make sure it attaches securely on the fill pipe and gasket is in good condition; and, for double-walled spill prevention equipment with interstitial monitoring, check for a leak in the interstitial area, and

(2) Release detection equipment: check to make sure the release detection equipment is operating with no alarms or other unusual operating conditions present, and ensure records of release detection testing are reviewed and current.

b. Conduct a walkthrough inspection annually, at a minimum, checking the following equipment as specified below:

(1) Containment sumps: visually check for damage, leaks to the containment area, or releases to the environment; remove liquid (in contained sumps) or debris; and, for double-walled sumps with interstitial monitoring, check for a leak in the interstitial area, and

(2) Handheld release detection equipment: check devices such as tank gauge sticks or groundwater bailers for operability and serviceability;

c. Conduct operation and maintenance walkthrough inspections according to a standard code of practice developed by a nationally recognized association or independent testing laboratory that checks equipment comparable to paragraphs 135.4(14)“a” and “b;” or

NOTE to paragraph 135.4(13)“c”: the following code of practice may be used to comply with paragraph 135.4(13)“c”: Petroleum Equipment Institute Recommended Practice RP 900, “Recommended Practices for the Inspection and Maintenance of UST Systems.”

d. Conduct operation and maintenance walkthrough inspections developed by the department that checks equipment comparable to paragraphs 135.4(14)“a” and “b.”

e. Owners and operators must maintain records (in accordance with subrule 135.4(5)) of operation and maintenance walkthrough inspections for 12 consecutive months. 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.

ITEM 77. Amend paragraph **135.5(1)“a”** as follows:

a. Owners and operators of ~~new and existing~~ UST systems must provide a method, or combination of methods, of release detection that:

(1) Can detect a release from any portion of the tank and the connected underground piping that routinely contains product;

(2) Is installed, ~~and calibrated, operated, and maintained~~ in accordance with the manufacturer’s instructions, including routine maintenance and service checks for operability or running condition; and

(3) Beginning October 13, 2021, is operated and maintained, and electronic and mechanical components are tested for proper operation, in accordance with one of the following:

1. Manufacturer’s instructions;

2. A code of practice developed by a nationally recognized association or independent testing laboratory; or

3. Requirements determined by the department to be no less protective of human health and the environment than the two options listed above.

(4) A test of the proper operation must be performed at least annually and, at a minimum, as applicable to the facility, cover the following components and criteria:

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

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

3. Automatic line leak detector: test operation to meet criteria in paragraph 135.5(5)“a” by simulating a leak;

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

5. Handheld electronic sampling equipment associated with groundwater and vapor monitoring: ensure proper operation.

NOTE regarding subparagraphs 135.5(1)“a”(3) and (4): The following code of practice may be used to comply with subparagraphs 135.5(1)“a”(3) and (4): Petroleum Equipment Institute Publication RP1200, “Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities.”

~~(3)~~ (5) Meets the performance requirements in subrule 135.5(4) or 135.5(5), with any performance claims and their manner of determination described in writing by the equipment

manufacturer or installer. In addition, methods conducted in accordance with paragraphs 135.5(4) “b,” “c,” and “d” and 135.5(5) “b” after December 22, 1990, and 135.5(5) “a” after September 22, 1991, ~~except for methods permanently installed prior to those dates, paragraphs 135.5(5) “a” and “b” must be~~ capable of detecting the leak rate or quantity specified for that method with a probability of detection of 0.95 and a probability of false alarm of 0.05.

ITEM 78. Amend paragraph **135.5(1)“b”** as follows:

b. When a release detection method operated in accordance with the performance standards in subrule 135.5(4) and or 135.5(5) indicates a release may have occurred, owners and operators must notify the department in accordance with rule 567—135.6(455B).

ITEM 79. Rescind paragraph **135.5(1)“c”** and adopt the following **new** paragraph in lieu thereof:

c. When an owner and operator continually show the inability to conduct leak detection with the method being used, the department may require the owner and operator to find an alternative leak detection method. If the owner and operator cannot demonstrate compliance with leak detection, delivery prohibition in accordance with subrule 135.3(8) may be enforced.

ITEM 80. Amend paragraph **135.5(1)“d”** as follows:

d. Any ~~existing~~ UST system that cannot apply a method of release detection that complies with the requirements of this rule must complete the closure procedures in rule 567—135.15(455B) ~~by the date on which release detection is required for that UST system under paragraph “e.”. For previously deferred UST systems described in rule 567—135.1(455B) and 567—135.21(455B), this requirement applies after the effective dates described in subrule 135.1(3) and paragraph 135.21(1) “a.”~~

ITEM 81. Amend paragraph **135.5(2)“a”** as follows:

a. Tanks. Tanks must be monitored at least every 30 days for releases using one of the methods listed in paragraphs 135.5(4) “d” to “h” ~~“i”~~ except that:

(1) ~~UST systems that meet the performance standards in 135.3(1) or 135.3(2), and the monthly inventory control requirements in 135.5(4)“a” or “b,” may use tank tightness testing (conducted in accordance with 135.5(4)“e”) at least every five years until December 22, 1998, or until ten years after the tank is installed or upgraded under 135.3(2)“b,” whichever is later; Tanks installed after November 28, 2007, must use interstitial monitoring of the secondary containment as the primary leak detection method in accordance with paragraph 135.5(4)“g.”~~

~~(2) UST systems that do not meet the performance standards in 135.3(1) or 135.3(2) may use monthly inventory controls (conducted in accordance with 135.5(4)“a” or “b”) and annual tank tightness testing (conducted in accordance with 135.5(4)“e”) until December 22, 1998, when the tank must be upgraded under 135.3(2) or permanently closed under 135.15(2); and~~

~~(3) (2) Tanks installed on or before November 28, 2007, with capacity of 550 gallons or less may use weekly and tanks with a capacity of 551 to 1,000 gallons that meet the tank diameter criteria in paragraph 135.5(4)“b” may use manual tank gauging (conducted in accordance with paragraph 135.5(4)“b”).~~

ITEM 82. Amend paragraph **135.5(2)“b”** as follows:

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

(1) *Pressurized piping.* Underground piping that conveys regulated substances under pressure must:

1. Be equipped with an automatic line leak detector conducted in accordance with paragraph 135.5(5)“a”; and

2. Have an annual line tightness test conducted in accordance with paragraph 135.5(5)“b” or have monthly monitoring conducted in accordance with paragraph 135.5(5)“c.” Piping installed after November 28, 2007, must use interstitial monitoring of the piping secondary containment in accordance with paragraph 135.5(5)“d.”

(2) *Suction piping.* Underground piping that conveys regulated substances under suction must either have a line tightness test conducted at least every three years and in accordance with

paragraph 135.5(5)“b,” or use a monthly monitoring method conducted in accordance with paragraph 135.5(5)“c.” Remote fill is considered suction piping. No release detection is required for suction piping that is designed and constructed to meet the following standards:

1. to 5. No change.

(3) Piping installed or replaced must meet one of the following:

1. Pressurized piping must be monitored for releases at least every 30 days in accordance with paragraph 135.5(5)“d” and be equipped with an automatic line leak detector.

2. Suction piping must be monitored for releases at least every 30 days. No release detection is required for suction piping that meets subparagraphs 135.5“b”(2)“1” through 135.5“b”(2)“5.”

ITEM 83. Rescind subrule 135.5(3) and adopt the following **new** subrule in lieu thereof:

135.5(3) Requirements for hazardous substance UST systems. Owners and operators of hazardous substance UST systems must have containment that meets the following requirements and monitor these systems pursuant to paragraph 135.5(4)“g” at least every 30 days:

a. Secondary containment systems must be designed, constructed and installed to:

(1) Contain regulated substances leaked from the primary containment until they are detected and removed;

(2) Prevent the release of regulated substances to the environment at any time during the operational life of the UST system; and

(3) Be checked for evidence of a release at least every 30 days.

b. Double-walled tanks must be designed, constructed, and installed to:

(1) Contain a leak from any portion of the inner tank within the outer wall; and

(2) Detect the failure of the inner wall.

c. External liners (including vaults) must be designed, constructed, and installed to:

(1) Contain 100 percent of the capacity of the largest tank within its boundary;

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

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

d. Underground piping must be equipped with secondary containment that satisfies the requirements of this subrule (e.g., trench liners, jacketing of double-walled pipe). In addition, underground piping that conveys regulated substances under pressure must be equipped with an automatic line leak detector in accordance with paragraph 135.5(5)“a”;

e. For hazardous substance UST systems installed on or before November 28, 2007, other methods of release detection may be used if owners and operators:

(1) Demonstrate to the department that an alternate method can detect a release of the stored substance as effectively as any of the methods allowed in paragraphs 135.5(4)“b” to “i” can detect a release;

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

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

ITEM 84. Amend paragraph **135.5(4)“a”** as follows:

a. *Inventory control.* Product inventory control (or another test of equivalent performance) must be conducted monthly to detect a release of at least 1.0 percent of flow-through plus 130 gallons on a monthly basis in the following manner:

(1) to (5) No change.

(6) The measurement of any water level in the bottom of the tank is made to the nearest 1/8 of an inch at least once a month.

NOTE: Practices described in the American Petroleum Institute ~~Publication~~ Recommended Practice 1621, “Recommended Practice for Bulk Liquid Stock Control at Retail Outlets,” may be used, where

applicable, as guidance in meeting the requirements of ~~subrule 135.5(4), paragraph “a,” subparagraphs (1) to (6)~~ 135.5(4) “a”(1) to 135.5(4) “a”(6).

ITEM 85. Rescind paragraph **135.5(4)“b”** and adopt the following **new** paragraph in lieu thereof:

b. Manual tank gauging. Manual tank gauging must meet the following requirements:

(1) Tank liquid level measurements are taken at the beginning and end of the test period during which no liquid is added to or removed from the tank;

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

(3) The equipment is capable of measuring the level of product over the full range of the tank’s height to the nearest 1/8 of an inch;

(4) A release is suspected and subject to the requirements of rule 567—135.6(455B) if the variation between the beginning and ending measurements exceeds the weekly or monthly standards in the following table. Immediately contact the department if these standards are exceeded.

Nominal Tank Capacity	Minimum Duration of Test	Weekly Standard (one test)	Monthly Standard (four-test average)
550 gallons or less	36 hours	10 gallons	5 gallons
551-1,000 gallons (when tank diameter is 64 inches)	44 hours	9 gallons	4 gallons
551-1,000 gallons (when tank diameter is 48 inches)	58 hours	12 gallons	6 gallons
551-1,000 gallons (also requires annual tank tightness testing)	36 hours	13 gallons	7 gallons
1,001-2,000 gallons (also requires annual tank tightness test)	36 hours	26 gallons	13 gallons

(5) Only those tanks of 550 gallons or less nominal capacity or tanks of 551 to 1,000 gallons nominal capacity with diameters of 64 inches or 48 inches may use this as the sole method of release detection. Other tanks of 551 to 2,000 gallons may use this method in place of inventory control in paragraph 135.5(4) “a.” Tanks of greater than 2,000 gallons nominal capacity may not use this method to meet the requirements of this rule.

ITEM 86. Amend paragraph **135.5(4)“c”** as follows:

c. Tank tightness testing. Tank tightness testing (or another test of equivalent performance) must be capable of detecting a 0.1 gallon-per-hour leak rate from any portion of the tank that routinely contains product while accounting for the effects of thermal expansion or contraction of the product, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table.

The tank tightness test procedure must be certified by a third party and meet US EPA testing procedures. The testing procedures are found in *Standard Test Procedures for Evaluating Leak Detection Methods: Volumetric Tank Tightness Testing Methods* (EPA /530/UST-90/004) March 1990 or as revised by EPA or *Non Volumetric Tank Tightness Testing Methods* (EPA /530/UST-90/005) March 1990 or as revised by EPA.

ITEM 87. Amend paragraph **135.5(4)“d”** as follows:

d. Automatic tank gauging. Equipment for automatic tank gauging that tests for the loss of product and conducts inventory control must meet the following requirements:

(1) The automatic product level monitor test can detect a 0.2 gallon-per-hour leak rate from any portion of the tank that routinely contains product; ~~and~~

(2) The automatic tank gauging equipment must meet the Inventory control (or another other test of equivalent performance) is conducted in accordance with the requirements of paragraph 135.5(4) “a.”;

- (3) The leak test must be performed according to manufacturer specifications;
- (4) The automatic tank gauging equipment must be certified by a third party and meet US EPA testing procedures in *Standard Test Procedures for Evaluating Leak Detection Methods: Automatic Tank Gauging Systems (ATGS)* (EPA /530/UST-90/006) March 1990 or as revised by US EPA; and
- (5) The test must be performed with the system operating in one of the following modes:
 - 1. In-tank static testing conducted at least once every 30 days; or
 - 2. 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.

ITEM 88. Amend subparagraph **135.5(4)“e”(6)** as follows:

- (6) In the UST excavation zone, the site is assessed to ensure compliance with the requirements in subparagraphs 135.5(4)“e”(1) ~~to~~ through (4) and to establish the number and positioning of monitoring wells that will detect releases within the excavation zone from any portion of the tank that routinely contains product; ~~and~~

ITEM 89. Amend subparagraph **135.5(4)“e”(7)** as follows:

- (7) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering; and

ITEM 90. Adopt the following new subparagraph **135.5(4)“e”(8)**:

- (8) The vapor product detector must be certified by a third party and meet US EPA testing procedures in *Standard Test Procedures for Evaluating Leak Detection Methods: Vapor-Phase Out-of-Tank Product Detectors* (EPA/530/UST-90/008) March 1990 or as revised by US EPA.

ITEM 91. Amend subparagraph **135.5(4)“f”(7)** as follows:

- (7) Within and immediately below the UST system excavation zone, the site is assessed to ensure compliance with the requirements in subparagraphs 135.5(4)“f”(1) ~~to~~ through (5) and to establish the number and positioning of monitoring wells or devices that will detect releases from any portion of the tank that routinely contains product; and

ITEM 92. Amend paragraph **135.5(4)“g”** as follows:

g. Interstitial monitoring. Interstitial monitoring between the UST system and a secondary barrier immediately around or beneath it may be used, but only if the system is designed, constructed and installed to detect a leak from any portion of the tank that routinely contains product and also meets one of the following requirements:

- (1) For secondary containment systems, the sampling or testing method must be able to detect a ~~release~~ leak through the inner wall in any portion of the tank that routinely contains product:
 - 1. Continuously, by means of an automatic leak sensing device that signals to the operator the presence of any regulated substance in the interstitial space; or
 - 2. Monthly, by means of a procedure capable of detecting the presence of any regulated substance in the interstitial space.
 - 3. The interstitial space shall be maintained and kept free of liquid, debris or anything that could interfere with leak detection capabilities.

~~NOTE: The provisions outlined in the Steel Tank Institute’s “Standard for Dual Wall Underground Storage Tanks” may be used as guidance for aspects of the design and construction of underground steel double-walled tanks.~~

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

- 1. The secondary barrier around or beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable (at least 10^{-6} cm/sec for the regulated substance stored) to direct a ~~release~~ leak to the monitoring point and permit its detection;
- 2. The barrier is compatible with the regulated substance stored so that a ~~release~~ leak from the UST system will not cause a deterioration of the barrier allowing a release to pass through undetected;
- 3. to 6. No change.

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

ITEM 93. Reletter paragraph **135.5(4)“h”** as **135.5(4)“i.”**

ITEM 94. Adopt the following new paragraph **135.5(4)“h”**:

h. Statistical inventory reconciliation. Release detection methods based on the application of statistical principles to inventory data that test for the loss of product must meet the following requirements:

(1) Use a leak threshold that does not exceed one-half the minimum detectible leak rate;

(2) The statistical test must be able to detect at least a 0.2 gallon per hour leak rate from any portion of the tank that routinely contains product; and

(3) The report by the SIR company must be a quantitative result with a calculated leak rate and include the leak threshold (leak rate at which a leak is declared), the calculated leak rate (leak rate calculated from the inventory records) and minimum detectable leak rate (minimum leak rate that can be determined from the inventory records).

1. A “pass” means that the calculated leak rate for the data set is less than the leak threshold and the minimum detectable leak rate is less than or equal to the certified performance standard;

2. A “fail” means the calculated leak rate for the data set is equal to or greater than the leak threshold;

3. An “inconclusive” means the minimum detectable leak rate exceeds the certified performance standard and the calculated leak rate is less than the leak threshold. If for any other reason the test result is not a “pass” or “fail,” the result is “inconclusive”;

(4) Owners and operators must notify the department in accordance with rule 567—135.6(455B) when a monthly SIR report of “fail” occurs or two consecutive inconclusive results occur.

(5) Owners and operators must assure the SIR analytical results are complete and available to the department upon request.

(6) The statistical inventory reconciliation method must be certified by a third party and meet US EPA testing procedures in *Standard Test Procedures for Evaluating Leak Detection Methods: Statistical Inventory Reconciliation Methods* (SIR) (EPA/530/UST-90/007) March 1990.

ITEM 95. Amend paragraphs **135.5(5)“a”** to **“c”** as follows:

a. Automatic line leak detectors. Methods which alert the operator to the presence of a leak in pressurized piping by restricting or shutting off the flow of regulated substances through piping or triggering an audible or visual alarm may be used only if they detect leaks of 3 gallons per hour at 10 pounds per square inch line pressure within one hour. An annual test of the operation of the leak detector must be conducted in accordance with ~~the manufacturer’s requirements.~~ paragraph 135.5(1)“a.”

b. Line tightness testing. A periodic test of piping may be conducted only if it can detect a 0.1 gallon-per-hour leak rate at one and one-half times the operating pressure. The line leak detection method must be certified by a third party and meet US EPA testing procedures in *Standard Test Procedures for Evaluating Leak Detection Methods: Pipeline Leak Detection Methods* (SIR) (EPA /530/UST-90/007) March 1990.

c. Applicable tank methods. ~~Any~~ Except as described in paragraph 135.5(2)“a,” any of the methods in paragraphs 135.5(4)“e” through “h” “i” may be used if they are designed to detect a release from any portion of the underground piping that routinely contains regulated substances.

ITEM 96. Amend subparagraph **135.5(5)“d”(1)** as follows:

(1) Leak detection shall be conducted:

1. ~~Continuously~~ Continuously, by means of an automatic leak sensing device that signals to the operator the presence of any regulated substance in the interstitial space or containment sump; or

2. No change.

ITEM 97. Amend paragraphs **135.5(6)“a”** and **“b”** as follows:

a. All written performance claims pertaining to any release detection system used, and the manner in which these claims have been justified or tested by the equipment manufacturer or installer, must be

maintained for five years, or for another reasonable period of time determined by the department, from the date of installation. Records of site assessments required for vapor monitoring under subparagraph 135.5(4) "e"(6) and groundwater monitoring under subparagraph 135.5(4) "f"(7) 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 other relevant technical discipline acceptable to the department;

b. The results of any sampling, testing, or monitoring must be maintained for at least one year, or for another reasonable period of time determined by the department, except that the results of tank tightness testing conducted in accordance with 135.5(4) "e" must be retained until the next test is conducted; and as follows:

(1) The results of tank tightness testing conducted in accordance with paragraph 135.5(4) "c" must be retained until the next test is conducted; and

(2) The results of annual operation tests conducted in accordance with subparagraphs 135.5(1) "a"(3) and (4), must be maintained for three years. At a minimum, the results must list each component tested, indicate whether each component tested meets criteria in subparagraphs 135.5(1) "a"(3) and (4), or needs to have action taken, and describe any action taken to correct an issue; and

(3) The results of tank tightness testing, line tightness testing, and vapor monitoring using a tracer compound placed in the tank system conducted in accordance with paragraph 135.21(2) "f" must be retained until the next test is conducted; and

ITEM 98. Amend paragraphs **135.6(1)"b"** and **"c"** as follows:

b. Unusual operating conditions observed by owners and operators (such as the erratic behavior of product dispensing equipment, the sudden loss of product from the UST system, or an unexplained presence of water in the tank, or liquid in the interstitial space of secondarily contained systems), unless system equipment is found to be defective but not leaking, and is immediately repaired or replaced; and:

(1) The system equipment or component is found not to be releasing regulated substances to the environment;

(2) Any defective system equipment or component is immediately repaired or replaced; and

(3) For secondarily contained systems, except as provided for in paragraph 135.5(4) "g"(2)"4," any liquid in the interstitial space not used as part of the interstitial monitoring method (for example, brine filled) is immediately removed.

c. Monitoring results, including investigation of an alarm, from a release detection method required under subrules 135.5(2) and 135.5(3) that indicate a release may have occurred unless:

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

(2) The leak is contained in the secondary containment and:

1. Except as provided for in paragraph 135.5(4) "g"(2)"4," any liquid in the interstitial space not used as part of the interstitial monitoring method (for example, brine filled) is immediately removed; and

2. Any defective system equipment or component is immediately repaired or replaced;

(2) (3) In the case of inventory control, a second month of data does not confirm the initial result, or the investigation determines no release has occurred; or

(4) 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).

ITEM 99. Amend paragraph **135.6(3)"a"** as follows:

a. System test. Owners and operators must conduct tests (according to the requirements for tightness testing in paragraphs 135.5(4) "c" and 135.5(5) "b") that determine whether a leak exists in that portion of the tank that routinely contains product, or the attached delivery piping or both or, as appropriate, secondary containment testing described in paragraph 135.4(4).

(1) The test must determine whether:

1. A leak exists in that portion of the tank that routinely contains product, or the attached delivery piping; or

2. A breach of either wall of the secondary containment has occurred.

~~(1)~~ (2) ~~Owners~~ If the system test confirms a leak into the interstice or a release, owners and operators must repair, replace, or upgrade, or close the UST system and. In addition, owners and operators must begin corrective action in accordance with rule 567—135.9(455B) if the test results for the system, tank, or delivery piping indicate a leak release exists.

~~(2)~~ (3) ~~Further investigation is not required if the test results for the system, tank, and delivery piping do not indicate a leak release exists and if environmental contamination is not the basis for suspecting a release.~~

~~(3)~~ (4) ~~Owners and operators must conduct a site check as described in paragraph 135.6(3) “b” of this subrule if the test results for the system, tank, and delivery piping do not indicate a leak release exists but environmental contamination is the basis for suspecting a release.~~

ITEM 100. Amend subparagraph **135.6(4)“a”(2)** as follows:

(2) Spill, overflow or any aboveground release of a hazardous substance that results in a release to the environment that equals or exceeds its reportable quantity under CERCLA (40 CFR 302) ~~as of September 13, 1988.~~

ITEM 101. Amend subrule 135.7(3), introductory paragraph, as follows:

135.7(3) *Initial abatement measures and site check.*

ITEM 102. Amend subrule 135.7(5), introductory paragraph, as follows:

135.7(5) *Free product assessment and removal.* The free product assessment and removal requirements in this chapter are primarily concerned with a regulated substance that is present as a light nonaqueous phase liquid (LNAPL) in a monitoring well, boring, excavation, or other location at a thickness of more than 0.01 ft. At sites where investigations under subparagraph 135.7(3) “a”(6) indicate 0.01 ft. or more of free product, owners and operators must immediately initiate a free product recovery assessment and submit a report in accordance with paragraph 135.7(5) “d” and initiate interim free product removal while continuing, as necessary, any actions initiated under 135.7(2) ~~to 135.7(4) and 135.7(3)~~, or preparing for actions required under rules 567—135.8(455B) to 567—135.12(455B). Owners and operators must immediately begin interim free product removal by bailing or by installation and maintenance of passive skimming equipment until an alternative removal method is required by or approved by the department. A certified groundwater professional must initially determine the frequency of bailing and proper installation and maintenance of the skimming equipment based on a determination of the recharge rate of the free product. The department may approve implementation of this interim removal process by persons not certified as groundwater professionals. For approval a certified groundwater professional must submit (1) sufficient documentation establishing that the bailing or skimming system has been adequately designed and tested, and (2) a written plan for regular maintenance, reporting and supervision by a certified groundwater professional. Interim free product recovery reports must be submitted to the department on a monthly basis and on forms provided by the department. In meeting the requirements of this subrule, owners and operators must:

ITEM 103. Amend subparagraphs **135.7(5)“d”(9)** and **(10)** as follows:

(9) Free product plume definition and map. ~~The extent of free product in groundwater must be assessed. The~~ If monitoring wells are used to define the free product plume, the number and location of wells and separation distance between the wells used to define the free product plume must be based on the receptors present and the site hydrology and geology. A minimum of five monitoring wells are required to construct the plume map. The boundary of the plume may be determined by half the distance between wells with free product and wells with no free product. If the groundwater professional can adequately define the plume using other technology as specified in approved by the department guidance, fewer than five wells may be used. The boundary of the plume may be determined by linear interpolation consistent with the methods described in 135.10(2) “f”(3) to define the boundary of the plume; and

(10) The estimated volume of free product present, how the volume was calculated, recoverable volume and estimated recovery time; and

ITEM 104. Adopt the following new subparagraph **135.7(5)“d”(11)**:

(11) Identification of all water lines, regardless of construction material, within the area of free product. A water line shall be considered within the area of free product if it is located within the boundary of the free product plume as defined by wells unless it can be demonstrated that no LNAPL exists within 10 feet (horizontally or vertically) of the water line and the LNAPL is not migrating nor is likely to migrate. Water lines within the area of free product must be relocated unless there is no other option and the department has approved an alternate plan of construction. See paragraph 135.12(3)“c.”

ITEM 105. Amend paragraph **135.7(5)“f”** as follows:

f. Termination of free product recovery activities. Owners and operators may propose to the department to terminate free product recovery activities when significant amounts of hydrocarbons are not being recovered. The department will consider proposals to terminate free product recovery when the amount of product collected from a monitoring well is equal to or less than 0.1 gallon each month for a year unless another plan is approved by the department. When free product activities have been terminated, owners and operators must inspect the monitoring wells monthly for at least a year unless another schedule is approved by the department. The department must be notified and may require that free product recovery activities be reinitiated if during the monthly well inspections it is determined the product thickness in a monitoring well exceeds 0.02 ~~feet~~ ft. The monthly well inspection records must be kept available for review by the department.

ITEM 106. Amend paragraph **135.8(1)“a”** as follows:

a. Tier 1. The purpose of a Tier 1 assessment is to identify ~~sites which do not pose~~ whether a site poses an unreasonable risk to public health and safety or the environment based on limited site data. The objective is to determine maximum concentrations of chemicals of concern at the source of a release(s) in soil and groundwater. The Tier 1 assessment assumes worst-case scenarios in which actual or potential receptors could be exposed to these chemicals at maximum concentrations through certain soil and groundwater pathways. The point of exposure is assumed to be the source showing maximum concentrations. Risk-based screening levels (Tier 1 levels) contained in the Tier 1 Look-Up Table have been derived from models which use conservative assumptions to predict exposure to actual and potential receptors. (These models and default assumptions are contained in Appendix A.) If Tier 1 levels are not exceeded for a pathway, that pathway may not require further assessment. If the maximum concentrations exceed a Tier 1 level, the options are to conduct a more extensive Tier 2 assessment, apply an institutional control, or in limited circumstances excavate contaminated soil to below Tier 1 levels. If all pathways clear the Tier 1 levels, it is possible for the site to obtain a no action required classification.

ITEM 107. Amend subrule 135.8(3) as follows:

135.8(3) Chemicals of concern. Soil and groundwater samples from releases of petroleum regulated substances must always be analyzed for the presence of benzene, ethylbenzene, toluene, and xylenes. In addition, if the release is suspected to include any petroleum regulated substance other than gasoline or gasoline blends, or if the source of the release is unknown, the samples must be tested for the presence of Total Extractable Hydrocarbons (TEH). Appendices A and B and department Tier 2 guidance define a method for converting TEH values to a default concentration for naphthalene, benzo(a)pyrene, benz(a)anthracene and chrysene and conversion back to a representative TEH value. These default values must be used in order to apply Tier 2 modeling to these constituents in the absence of accurate laboratory analysis. ~~At Tier 2 and Tier 3, owners and operators have the option of analyzing for these specific constituents and applying them to the specific target levels in Appendices A and B instead of using the TEH conversion method if an approved laboratory and laboratory technique are used.~~

ITEM 108. Amend subrule 135.9(1), introductory paragraph, as follows:

135.9(1) General. The main objective of a Tier 1 site assessment is to reasonably determine the highest concentrations of chemicals of concern which would be associated with any suspected or confirmed release and an accurate identification of applicable receptors. In addition, the The potential source of a release, nature of the substance released, site stratigraphy, depth to groundwater, and other appropriate factors must be considered when selecting the sample types, sample locations, and

measurements methods. The placement and depth of borings and the construction of monitoring wells must be sufficient to determine the sources of all releases, the vertical extent of contamination, an accurate description of site stratigraphy, and a reliable determination of groundwater flow direction.

ITEM 109. Amend paragraphs **135.9(1)“b”** and **“c”** as follows:

b. Pathway clearance. If ~~field data~~ contaminant concentrations for an individual pathway ~~does do~~ not exceed the applicable Tier 1 levels or if a pathway is incomplete, no further action is required to evaluate the pathway unless otherwise specified in these rules. If the ~~field data~~ contaminant concentrations for a pathway ~~exceeds~~ exceed the applicable Tier 1 level(s) in the “Iowa Tier 1 Look-up Table,” the response is to conduct further assessment under Tier 2 or Tier 3 unless an effective institutional control is approved. In limited circumstances excavation of contaminated soils may be used as an option to obtain pathway clearance. If further site assessment indicates site data exceeds an applicable Tier 1 level(s) for a previously cleared pathway or the conditions justifying a determination of pathway incompleteness change, that pathway must be reevaluated as part of a Tier 2 or Tier 3 assessment.

c. Chemical group clearance. If ~~field data~~ concentrations for all chemicals of concern within a designated group of chemicals ~~is are~~ below the Tier 1 levels, no further action is required as to the group of chemicals unless otherwise specified in these rules. Group one consists of benzene, ethylbenzene, toluene, and xylenes (BTEX). Group two consists of naphthalene, benzo(a)pyrene, benz(a)anthracene and chrysene; TEH default values are incorporated into the Iowa Tier 1 Look-Up Table and Appendix A for group two chemicals.

ITEM 110. Amend paragraph **135.9(3)“n”** as follows:

n. A Tier 1 site assessment in accordance with the department’s Tier 1 guidance. The Tier 1 report shall be submitted on forms and in a format prescribed by this guidance. ~~The Tier 1 data analysis shall be performed by using computer software developed by the department or by using the computer software’s hard-copy version.~~

ITEM 111. Amend paragraph **135.9(7)“e”** as follows:

e. Soil gas samples. To establish that the soil gas measurement is representative of the highest expected levels, a groundwater professional must obtain two soil gas samples taken at least two weeks apart. ~~One of the samples must be taken below the typical frostline depth during a seasonal period of lowest groundwater elevation~~ One of the samples should be collected beneath the frost line depth during a seasonal period of lowest groundwater elevation.

ITEM 112. Amend paragraph **135.9(7)“h”** as follows:

h. Soil excavation. Excavation of contaminated soils for the purpose of removing soils contaminated above the Tier 1 levels is permissible as an alternative to conducting a Tier 2 assessment. Adequate field screening methods must be used to identify maximum concentrations during excavation. At a minimum, one soil sample must be taken for field screening every 100 square feet of the base and each sidewall. Soil samples must be taken for laboratory analysis at least every 400 square feet of the base and each sidewall of the excavated area to confirm that remaining concentrations are below Tier 1 levels. If the base or a sidewall of the excavation is less than 400 square feet, a minimum of one sample must be analyzed for each sidewall and the base.

ITEM 113. Rescind and reserve paragraph **135.9(11)“g.”**

ITEM 114. Amend paragraph **135.10(1)“a”** as follows:

a. Guidance. The Tier 2 site assessment shall be conducted in accordance with the department’s “Tier 2 Site Assessment Guidance” and these rules. The site cleanup report shall be submitted on forms and in a format prescribed by this guidance. The Tier 2 data analysis shall be performed by using computer software or online application developed by the department ~~or by using the computer software’s hard-copy version.~~

ITEM 115. Rescind subparagraph **135.10(2)“f”(3)**.

ITEM 116. Amend paragraphs **135.10(2)“g”** and **“h”** as follows:

g. Modeled simulation line. The simulation line represents the predicted maximum extent of groundwater contamination and distribution of contaminant concentrations between the source(s) and actual or potential receptor locations. The model calculates the simulation line using maximum concentrations at the source(s) and predicting the amount of dispersion and degradation. Modeled data in the simulation line are compared with actual ~~field data~~ contaminant concentrations to verify the predictive validity of the model and to make risk classification decisions.

h. Modeled site-specific target level (SSTL) line. The modeled SSTL line represents acceptable levels of contaminant concentrations at points between and including the source(s) and an applicable point(s) of exposure or other point(s) of compliance (ex. a potential receptor point of exposure). The SSTL line is calculated by assuming an applicable target level concentration at the point(s) of exposure or point(s) of compliance and modeling back to the source to determine the maximum concentrations at the source (SSTL) that must be achieved to meet the target level at the point of exposure or compliance. Comparison of ~~field data~~ contaminant concentrations from actual samples to this SSTL line is used to determine a risk classification and determine appropriate corrective action response.

ITEM 117. Rescind paragraph **135.10(2)“m.”**

ITEM 118. Amend subparagraphs **135.10(3)“a”(2)** and **(3)** as follows:

(2) Granular bedrock. Granular bedrock is bedrock which is determined to act as a granular aquifer and for which monitoring wells do not exist at the source ~~as of August 15, 1996~~. For purposes of this rule, a granular aquifer is one that shows no extraordinary variations or inconsistencies in groundwater elevations across the site, groundwater flow, hydraulic conductivities, or total dissolved solid concentrations among monitoring wells. Although the extent of contamination can be defined in granular bedrock, groundwater transport modeling cannot be used because ~~there are no~~ monitoring wells shall not be installed at the source if soil contamination is present. If soil contamination above a Tier 1 level is not identified or an overexcavation of contaminated soil has successfully removed all soil contamination greater than a Tier 1 level, then monitoring wells can be installed in the source area and the site can be evaluated as exempt granular bedrock.

(3) Exempt granular bedrock. Exempt granular bedrock is bedrock which is determined to act as a granular aquifer as provided in subparagraph (2) and for which monitoring wells exist at the source as of August 15, 1996. Sites in exempt granular bedrock shall be evaluated using ~~the normal regular~~ Tier 1 ~~or and~~ Tier 2 procedures in this rule. ~~Nongranular bedrock is not exempt from this subrule even if groundwater monitoring wells exist at the source.~~

NOTE: Nongranular bedrock is subject to special bedrock assessment procedures even if groundwater monitoring wells exist at the source, because the flow is not predictable by the Tier 2 model.

ITEM 119. Amend paragraph **135.10(3)“b”** as follows:

b. Exempt soil pathways. The soil vapor to enclosed space pathway and the soil to ~~plastic~~ water lines pathway shall be assessed under the ~~normal regular~~ Tier 2 procedures in subrules 135.10(7) and 135.10(9) respectively. In all cases, the ~~normal~~ assessment must comply with the policy of avoiding a preferential pathway to groundwater consistent with subrule 135.8(5) and this subrule.

ITEM 120. Amend subparagraph **135.10(3)“g”(2)** as follows:

(2) Groundwater well receptor evaluation for granular and nongranular bedrock designations. All drinking and non-drinking water wells within 1,000 feet of the source must be identified and tested for chemicals of concern. All public water supply systems within one mile of the source must be identified and raw water tested for chemicals of concern. ~~If no drinking water wells are located within 1,000 feet of the source, all the~~ All area within 1,000 feet of the source is considered a potential receptor point of exposure.

ITEM 121. Amend subparagraph **135.10(3)“i”(2)** as follows:

(2) High risk classification. A site designated as granular or nongranular bedrock shall be classified high risk for this pathway if the highest groundwater elevation is ~~higher than~~ within three feet ~~below of~~

the bottom of a water line as provided in subparagraph 135.10(8)“a”(1), risk classification cannot be determined as provided in rule 567—135.12(455B) due to limitations on placement of monitoring wells, and water lines exist within 200 feet of a monitoring well which exceeds the Tier 1 level.

ITEM 122. Amend subparagraph **135.10(3)“j”(1)** as follows:

(1) Point of compliance. The monitoring well closest to the surface water body must be used as the point of compliance to evaluate impacts to designated use segments as described in subrule 135.10(10) and for general use segments that fail the visual inspection criteria of paragraph 135.10(10)“b.” If the surface water criteria is are exceeded for a designated use segment, an allowable discharge concentration must be calculated and met at the point of compliance. For general use segments failing the visual inspection criteria, the acutely toxic target level must be met at the point of compliance.

ITEM 123. Amend subparagraphs **135.10(3)“k”(1)** and **(2)** as follows:

(1) Groundwater ingestion pathway. For high risk sites, where soil exceeds the soil leaching to groundwater Tier 1 level for actual receptors, soil excavation or other active remediation of soils must be conducted in accordance with department guidance to reduce soil concentrations to below the soil leaching Tier 1 level. Corrective action other than monitoring of groundwater is required at sites designated as nongranular bedrock if the actual receptor has been or is likely to be impacted. Corrective action other than monitoring of groundwater is required at sites designated as granular bedrock if the actual receptor has been impacted or the sentry well required by subparagraph 135.10(3)“g”(4) has been impacted above Tier 1 levels. Acceptable corrective action for impacted or vulnerable groundwater wells may include active remediation, technological controls, institutional controls, well plugging, relocation, and well reinstallation with construction measures sufficient to prevent contaminant infiltration to the well and to prevent formation of a preferential pathway.

(2) Groundwater ingestion pathway high risk monitoring. For high risk sites designated as nongranular or granular bedrock, if the soil concentrations do not exceed the soil leaching to groundwater Tier 1 levels or have been reduced to this level by corrective action, and corrective action of groundwater is not required as in subparagraph 135.10(3)“k”(1), these sites shall be subject to groundwater monitoring as provided in paragraph 135.10(3)“l.” Corrective action other than monitoring of groundwater is required at sites designated as granular bedrock if groundwater concentrations exceed the applicable target level less than 200 feet from an actual receptor. Reevaluation of the potential for impact to actual receptors is required at sites designated as nongranular bedrock if concentrations from monitoring wells ~~increases~~ increase more than 20 percent of the previous samples.

ITEM 124. Amend subparagraphs **135.10(3)“m”(1)** and **(2)** as follows:

(1) Groundwater in nongranular bedrock designations. Exit monitoring requires that samples from all groundwater monitoring wells must not exceed the applicable target levels for annual sampling for three consecutive years. If soil contamination above a Tier 1 level is not identified or if an overexcavation has successfully removed all soil contamination greater than a Tier 1 level and monitoring wells are installed in the source area, exit monitoring criteria are met when two consecutive samples collected at least six months apart from all monitoring wells show concentrations less than the lowest target level.

(2) Groundwater in granular bedrock designations. Exit monitoring must be met in two ways: A monitoring well between the source and the receptor must not exceed applicable target levels for three sampling events, and samples must be separated by at least six months; and the three most recent consecutive groundwater samples from a monitoring well between the source and the receptor with detected levels of contamination must show a steady or declining trend and meet the following criteria: The first of the three samples must be more greater than detection limits, concentrations cannot increase more than 20 percent from the first of the three samples to the third sample; concentrations cannot increase more than 20 percent of from the previous sample; and samples must be separated by collected at least six months apart.

ITEM 125. Amend paragraph **135.10(4)“j”** as follows:

j. Use of institutional controls. ~~The use of institutional~~ Institutional controls may be used to obtain no action required pathway classification. If the pathway is complete and the concentrations exceed the

applicable Tier 1 level(s) for actual receptors, the drinking or non-drinking water well must be properly plugged in accordance with 567—Chapters 39 and 49 and the institutional control must prohibit the use of a protected groundwater source (if one exists) within the actual or modeled plume as provided in paragraphs 135.10(2)“j” and 135.10(2)“k.” If the Tier 1 level is exceeded for potential receptors, the institutional control must prohibit the use of a protected groundwater source within the actual or modeled plume, whichever is greater. If concentrations exceed the Tier 1 level for drinking water wells and the groundwater is a protected groundwater source, the owner or operator must provide notification of the site conditions on a department form to the department water supply section, or if a county has delegated authority, then the designated county authority responsible for issuing private water supply construction permits or regulating non-public water well construction as provided in 567—Chapters 38 and 49.

ITEM 126. Amend paragraph **135.10(6)“g,”** introductory paragraph, as follows:

g. Pathway evaluation and classification. Upon completion of ~~analysis evaluation of field data~~ analytical results of appropriate samples and modeled data, the pathway must be classified high risk, low risk or no further action as provided in rule 567—135.12(455B).

ITEM 127. Amend paragraph **135.10(8)“d”** as follows:

d. Pathway evaluation and classification. Upon completion of ~~analysis evaluation of field data~~ analytical results of appropriate samples and modeled data, the pathway must be classified high risk, low risk or no further action as provided in rule 567—135.12(455B). The water quality inside the water lines is not a criterion for clearance of this pathway.

ITEM 128. Amend paragraph **135.10(9)“d”** as follows:

d. Pathway classification. Upon completion of ~~analysis evaluation of field data~~ analytical results of appropriate samples, the pathway must be classified high risk, low risk or no further action as provided in rule 567—135.12(455B). Measurements of water quality inside the water lines may be required, but are not allowed as criteria to clear this pathway.

ITEM 129. Amend paragraph **135.10(10)“e”** as follows:

e. Target levels. Determining target levels for this pathway involves a two-step process.

(1) Groundwater modeling as provided in subrule 135.10(2) must be used to calculate the projected concentrations of chemicals of concern at the point of compliance. If the modeled concentrations or field data at the point of compliance exceed surface water criteria for designated use segments, an allowable discharge concentration must be calculated. If the projected concentrations and ~~field data~~ actual concentrations at the point of compliance do not exceed surface water criteria, no further action is required to assess this pathway.

(2) The department water quality section will calculate the allowable discharge concentration using information provided by the certified groundwater professional on a department form. Required information includes, at a minimum, the site location and a discharge flow rate calculated according to the department’s Tier 2 guidance. The allowable discharge concentration is the target level which must be met adjacent to the surface water body which is the point of compliance.

(3) The target level at the point of exposure/compliance for general use segments subject to evaluation is the acutely toxic levels established by the department under 567—Chapter 61 and ~~subrule 567—subrule 62.8(2).~~ If the modeled concentrations of ~~field data~~ contaminant concentrations at the point of exposure/compliance exceed the acutely toxic levels, modeling must be used to determine site classifications and corrective action in accordance with rule 567—135.12(455B).

ITEM 130. Amend paragraph **135.10(10)“f”** as follows:

f. Pathway evaluation and classification. Upon completion of ~~analysis of field data~~ evaluation of analytical results of appropriate samples and modeled data, the pathway must be classified high risk, low risk or no further action as provided in rule 567—135.12(455B).

(1) For general use segments, as defined in 567—subrule 61.3(1), if the groundwater professional determines there is no sheen or residue present or if the site is not the source of the sheen or residue or if the sheen does not consist of petroleum-regulated substances, no further action is required for assessment

of this pathway. If a petroleum-regulated substance sheen is present, the pathway is high risk and subject to classification in accordance with rule 567—135.12(455B).

(2) For designated use segments, as provided in 567—subrules 61.3(1) and 61.3(5), if projected concentrations of chemicals of concern and ~~field data~~ actual contaminant concentrations at the point of compliance do not exceed the target level adjacent to the surface water, and the groundwater professional determines there is no sheen or residue present, no further action is required for assessment of this pathway.

ITEM 131. Rescind paragraph **135.10(11)“f.”**

ITEM 132. Reletter paragraphs **135.10(11)“g”** and **“h”** as **135.10(11)“f”** and **“g.”**

ITEM 133. Amend subrule 135.12(1) as follows:

135.12(1) General. 1995 Iowa Code section 455B.474(1)“d”(2) provides that sites shall be classified as high risk, low risk and no action required. Risk classification is accomplished by comparing actual ~~field data~~ contaminant concentrations to the concentrations that are predicted by the use of models. ~~Field data~~ Concentrations must be compared to the simulation model which uses the maximum concentrations at a source and predicts at what levels actual or potential receptors could be impacted in the future. ~~Field data~~ Concentrations must also be compared to the site-specific target level line which assumes a target level concentration at the point of exposure and is used to predict the reduction in concentration that must be achieved at the source in order to meet the applicable target level at the point of exposure. These models not only predict concentrations at points of exposure or a point of compliance at a source but also predict a distribution of concentrations between the source and the point of exposure which may also be points of compliance. The comparison of ~~field data~~ contaminant concentrations with these distribution curves primarily is considered for purposes of judging whether the modeled data is reasonably predictive and what measures such as monitoring are prudent to determine the reliability of modeled data and actual ~~field data~~ contaminant concentrations.

For the soil vapor to enclosed space and soil to water line pathways, there are no horizontal transport models to use for predicting future impacts. Therefore, for these pathways, sites are classified as high risk, low risk or no action required based on specified criteria below and in rule 567—135.10(455B).

ITEM 134. Amend subrule 135.12(2), introductory paragraph, as follows:

135.12(2) High risk classification. Except as provided below, sites shall be classified as high risk if, for any pathway, any actual ~~field data exceeds~~ contaminant concentrations exceed the site-specific target level line at any point for an actual receptor.

ITEM 135. Amend paragraphs **135.12(3)“a”** and **“b”** as follows:

a. Objectives. The primary objectives of corrective action in response to a high risk classification are both ~~short-term~~ short-term and long-term. The short-term goal is to eliminate or reduce the risk of exposure at actual receptors which have been or are imminently threatened with exposure above target levels. The longer term goal is to prevent exposure to actual receptors which are not currently impacted or are not imminently threatened with exposure. To achieve these objectives, it is the intent of these rules that concentrations of applicable chemicals of concern be reduced by active remediation to levels below the site-specific target level line at all points between the source(s) and the point(s) of exposure as well as to undertake such interim corrective action as necessary to eliminate or prevent exposure until concentrations below the SSTL line are achieved. If it is shown that concentrations at all applicable points have been reduced to below the SSTL line, the secondary objective is to establish that the ~~field data~~ actual chemical concentrations can be reasonably relied upon to predict future conditions at points of exposure rather than reliance on the modeled data. Reliance on ~~field data~~ actual contaminant concentrations is achieved by establishing through monitoring that concentrations within the contaminant plume are steady or declining. ~~Use of institutional control~~ Institutional controls and technological controls may be used to sever pathways or control the risk of receptor impacts.

b. For the groundwater to water line and soil to water line receptors, these objectives are achieved by active remediation, replacement or relocation of high risk water line receptors ~~from areas within the actual plume plus some added site-specific distance to provide a safety factor to areas outside the~~

~~site-specific target level line. In areas of free product, all water lines regardless of construction material must be relocated unless there is no other option and the department has approved an alternate plan of construction in the actual and modeled plume areas. If water lines and gaskets are replaced in an area of contamination, they must be replaced with water line materials and gasket materials of appropriate construction in accordance with current department standards set forth in 567—Chapter 43 and with no less than nitrile or FKM gaskets or as otherwise approved by the department. If a service line is replaced and remains in a contaminated area, a backflow preventer shall be installed to prevent impacts to the larger water distribution system.~~

ITEM 136. Reletter paragraphs **135.12(3)“c”** to **“i”** as **135.12(3)“d”** to **“j.”**

ITEM 137. Adopt the following **new** paragraph **135.12(3)“c”**:

c. In areas of free product, all water lines, regardless of construction material, must be relocated unless there is no other option and the department has approved an alternate plan of construction. Refer to subparagraph 135.7(5)“*d*”(11). If a service line remains in the area of LNAPL, a backflow preventer shall be installed to prevent impacts to the larger water distribution system.

ITEM 138. Amend subrule 135.12(4) as follows:

135.12(4) *Low risk classification.* A site shall be classified as low risk if none of the pathways are high risk and if any of the pathways are low risk. A pathway shall be classified low risk if it meets one of the following conditions:

a. For actual and potential receptors, if the modeled data and the actual field data concentrations are less than the site-specific target level line, and any of the field data is actual concentrations are greater than the simulation line.

b. For potential receptors, if any actual field data exceeds concentrations exceed the site-specific target level line at any point.

c. For the soil leaching to groundwater ingestion pathway where modeling predicts that the Tier 1 levels for potential receptors would be exceeded in groundwater at applicable potential receptor points of compliance and the soil concentration exceeds the soil leaching to groundwater site-specific target level but groundwater concentrations are currently below the Tier 1 level for potential receptors, the site shall be initially classified as low risk and subject to monitoring under subparagraph 135.12(5)“d”(2). If at any time during the three-year monitoring period, groundwater concentrations exceed the Tier 1 level for potential receptors, the site shall be classified as high risk requiring soil remediation in accordance with ~~135.12(3)“e.”~~ paragraph 135.12(3)“d.”

ITEM 139. Amend paragraphs **135.12(6)“b”** to **“e”** as follows:

b. For initial classification, groundwater pathways shall be classified as no action required if the field data is contaminant concentrations are below the site-specific target level line and all field data is concentrations are at or less than the simulation line, and confirmation monitoring has been completed successfully. Confirmation sampling for groundwater is a second sample which confirms the no action required criteria.

c. A groundwater pathway shall be reclassified from high risk to no action required if all field data is contaminant concentrations are below the site-specific target level and if exit monitoring criteria have been met. Exit monitoring criteria means that the three most recent consecutive groundwater samples from all monitoring wells must show a steady or declining trend and the most recent samples are below the site-specific target level. Other criteria include the following: The first of the three samples for the source well and transition well must be more than detection limits; concentrations cannot increase more than 20 percent from the first of the three samples to the third sample; concentrations cannot increase more than 20 percent of the previous sample; and samples must be separated by at least six months.

d. A low risk site shall be reclassified as “no action required” if field data is contaminant concentrations are below the site-specific target level and if exit monitoring criteria have been met pursuant to paragraph 135.12(6)“c” or if the site has maintained less than the applicable target level for four consecutive sampling events separated by at least six months as defined in the monitoring plan regardless of exit monitoring criteria and guidance.

e. Confirmation sampling for soil gas and indoor vapor. For the enclosed space pathways, confirmation sampling is required to reasonably establish that the soil gas and indoor vapor samples represent the highest expected levels. A groundwater professional must obtain two samples taken at least two weeks apart. ~~One of the samples must be taken during a seasonal period of lowest groundwater elevation and soil gas samples must be taken below the frost line~~ One of the samples should be collected beneath the frost line depth during a seasonal period of lowest groundwater elevation.

ITEM 140. Amend paragraph **135.12(9)“d”** as follows:

d. Review. A CADR submitted by a groundwater professional shall be accepted by the department and shall be primarily relied upon by the department to determine the corrective action response requirements of the site. However, if within 90 days of receipt of a CADR, the department identifies material information in the CADR that is inaccurate or incomplete, and if based upon information in the report the appropriate corrective action response cannot be reasonably determined by the department based on industry standards, the department may reject the report and require modifications. If the department does not reject the report within 90 days of receipt, the report shall be deemed approved as submitted unless changes to the report are requested by the groundwater professional. The department shall work with the groundwater professional and the owner or operator to correct any materially inaccurate information or to obtain the additional information necessary to determine the appropriate corrective action response as soon as practicable. ~~However, from July 1, 2010, through June 30, 2011, the department shall have 120 days to notify the certified groundwater professional when a report is not accepted based on material information that is found to be inaccurate or incomplete.~~

ITEM 141. Amend paragraph **135.12(10)“b,”** introductory paragraph, as follows:

b. No further action certificate. When the no action required site classification has been determined based on a recommendation of the certified groundwater professional as provided in subrules 135.9(11), 135.10(11) and 135.12(12) 135.12(6) (see also 2009 Iowa Code Supplement section 455B.474(1)“h”(1) and (3) as amended by 2010 Iowa Acts, House File 2531, section 174 455B.474.1 “a”(8)(a) and (c)), the department shall issue a no further action certificate.

ITEM 142. Amend subparagraph **135.12(10)“b”(9)** as follows:

(9) The owner or operator or other persons conducting corrective action shall be responsible for recording the no further action certificate with the county recorder and return a file-stamped copy to the department within 30 days of the issue date. At its discretion, the department may record the no further action certificate with the appropriate county recorder as authorized in 2009 Iowa Code Supplement section 455B.474(1)“h”(3) as amended by 2010 Iowa Acts, House File 2531, section 174 455B.474.1 “a”(8)(c).

ITEM 143. Amend subrule 135.12(11) as follows:

135.12(11) Expedited corrective action. An owner, operator or responsible party of a site at which a release of regulated substance is suspected to have occurred may carry out corrective actions at the site so long as the department receives notice of the expedited cleanup activities within prior to 30 calendar days of their commencement; the owner, operator, or responsible party complies with the provisions of these rules; and the corrective action does not include active treatment of groundwater other than:

- a. As previously approved by the department; or
- b. Free product recovery pursuant to subrule 135.7(5).
- c. Soil excavation overexcavation. When undertaking excavation overexcavation of contaminated soils, adequate field screening methods must be used to identify maximum concentrations during excavation. At a minimum one soil sample must be taken for field screening every 100 square feet of the base and each sidewall. Soil samples must be taken for laboratory analysis at least every 400 square feet of the base and each sidewall of the excavated area to confirm remaining concentrations are below Tier 1 levels. If the excavation is less than 400 square feet, a minimum of one sample must be analyzed for each sidewall and the base. The owner or operator must maintain adequate records of the excavation

area to document compliance with this procedure unless submitted to the department and must provide it to the department upon request.

ITEM 144. Amend rule 567—135.14(455B) as follows:

567—135.14(455B) Action levels. The following corrective action levels apply to petroleum-regulated substances as regulated by this chapter. These action levels shall be used to determine if further corrective action under rules 567—135.6(455B) through 567—135.12(455B) or rule 567—135.15(455B) is required as the result of tank closure sampling under subrule 135.15(3) or other analytical results submitted to the department. The contaminant concentrations must be determined by laboratory analysis as stated in rule 567—135.16(455B). Final cleanup determination is not limited to these contaminants. The contamination corrective action levels are:

	Soil (mg/kg)	Groundwater (ug/L)
Benzene	0.54	5
Toluene	3.2	1,000
Ethylbenzene	15	700
Xylenes	52	10,000
Total Extractable Hydrocarbons—Diesel	3,800	1,200
Total Extractable Hydrocarbons—Waste Oil		400

ITEM 145. Amend rule **567—135.15(455B)**, catchwords, as follows:

567—135.15(455B) Out-of-service UST systems, temporary closure, and permanent closure.

ITEM 146. Rescind subrule 135.15(1) and adopt the following **new** subrule in lieu thereof:

135.15(1) Out-of-service UST systems and temporary closure.

a. UST systems not meeting either the performance standards in subrule 135.3(1) for new UST systems or the upgrading requirements in subrule 135.3(2) by December 22, 1998, must be permanently closed according to subrule 135.15(2). The tanks cannot be brought back into use.

b. When a UST system in compliance with new tank standards is out of service for less than three months, owners and operators must:

(1) Continue operation and maintenance of corrosion protection in accordance with subrule 135.4(2);

(2) Continue operation and maintenance of any release detection in accordance with rule 567—135.5(455B) unless the system is empty. The UST system is empty when all materials have been removed using commonly employed practices. No more than 2.5 centimeters (1 inch) of residue, or 0.3 percent by weight of the total capacity of the UST system, may remain in the system;

(3) Comply with rules 567—135.6(455B) to 567—135.12(455B) if a release is suspected or confirmed;

(4) Maintain financial responsibility (e.g., insurance) in accordance with 567—Chapter 136. If at any time financial responsibility coverage is or will be terminated, a site check for contamination must be completed before coverage is terminated. A site check must use the closure-in-place sampling procedures in paragraphs 135.15(3)“b” and “d” or the Tier 1 site assessment in rule 567—135.9(455B). If the tanks are located in a contaminated area with active monitoring and remediation, the tank owner may request the department waive the site check providing justification.

(5) Continue to pay the tank management fee as required in subrule 135.3(5).

(6) Continue to have compliance inspections conducted as required in rule 567—135.20(455B).

c. When a UST system is out of service for three months or more, an owner must submit a notification of temporary closure form to the department. Owners and operators must complete the requirements in paragraph 135.15(1)“b” for temporary closure and certify the following:

- (1) The UST system is empty of all regulated substances (e.g., receipt of product removal).
- (2) Vent lines are open and functioning.
- (3) All other piping, pumps, accesses, and ancillary equipment are capped and locked.
- (4) The corrosion protection system is being maintained in accordance with subrule 135.4(2).

Include documentation that electricity is being maintained to operate the impressed current cathodic protection system if present.

- (5) For lined tanks, provide a copy of the last internal inspection.
- (6) Provide proof of financial responsibility (e.g., insurance) according to 567—Chapter 136.

d. When a tank system is temporarily closed for more than 12 months, the owner must remain in compliance with the department's temporary closure requirements in paragraph 135.15(1)“*c.*” The department may provide an extension to the 12-month temporary closure period. Owners and operators must complete a site check in accordance with paragraph 135.6(3)“*b*” before such an extension can be applied for.

e. If a tank system is temporarily closed for more than 12 months, but the tank system has not been temporarily closed according to the requirements of paragraph 135.15(1)“*c.*” or the owner or operator has failed to maintain out-of-service requirements in paragraph 135.15(1)“*b.*” the UST system must be permanently closed in accordance with subrule 135.15(2).

f. Prior to returning a temporarily closed tank back into service, the owner or operator must complete and submit the department's return-to-service form signed by a licensed installer and provide the following documentation. The tank system cannot be operated or receive fuel until current tank tags have been issued.

- (1) Documentation that the tanks were temporarily closed in accordance with subrule 135.15(1).
- (2) Where applicable, documentation that corrosion protection has been maintained continuously in accordance with subrule 135.4(2). The owner or operator must provide an inspection log of the cathodic protection system and the inspection report of the cathodic protection system completed by an Iowa-licensed corrosion tester.
- (3) For lined tanks, provide a lining and tank integrity inspection report.
- (4) Results of precision tightness tests (0.1 gph) conducted on tanks in accordance with rule 567—135.5(455B).
- (5) Results of precision tightness tests (0.1 gph) conducted on lines in accordance with rule 567—135.5(455B). This includes piping used for remote fill.
- (6) Function test (3.0 gph) results of mechanical or electronic leak detectors conducted in accordance with rule 567—135.5(455B).

NOTE: Function tests are not required on confirmed “safe suction” dispensing lines.

- (7) Tank and piping leak detection is operational and in good condition.
- (8) Secondary containment is installed where necessary in accordance with subrule 135.3(9).
- (9) Spill containment, overfill prevention and all containment sumps are in good condition and operating in accordance with subrule 135.4(1). Tightness tests conducted within the last 12 months must be provided for secondary containment of tanks, piping, sumps, under dispenser containment and spill containment.
- (10) Copy of the financial responsibility (e.g., UST insurance) mechanism in accordance with 567—Chapter 136.
- (11) Certification from an Iowa-licensed installer that the UST system and equipment are installed correctly, are in good operable condition and meet all regulatory requirements for startup and operation.
- (12) Copies of Class A and Class B operator training certificates.
- (13) Change of ownership form (if the UST facility was sold).

ITEM 147. Amend subrule 135.15(2) as follows:

135.15(2) *Permanent closure and changes-in-service.* Permanent closure of an underground storage tank system must be conducted by an Iowa-licensed tank remover. Closure sampling must be conducted by or under the supervision of an Iowa-certified groundwater professional.

- a.* No change.

b. To permanently close a tank or piping, owners and operators must empty and clean them by removing all liquids and accumulated sludge. All tanks taken out of service permanently must also be either removed from the ground, or filled with an inert solid material, or closed in place by a method approved by the department. Piping must either be removed from the ground or have the ends plugged with an inert solid material.

When permanently closing a tank by filling with inert solid material, the tank may not be filled until a closure report is approved by the department. The tank must be filled within 30 days after department approval. The owner and operator must notify the department within 15 days after filling the tank with inert solid material.

c. No change.

d. Permanent closure procedures must be followed in the replacement of tanks or piping. Notification must be made using DNR Form 542-1308, "Notification of Tank Closure or Change-in-Service." The form must include the date scheduled for the closure. Oral confirmation of the closure date must be given to the DNR field office 24 hours prior to the actual closure. The required assessment of the excavation zone under ~~139.15(3)~~ subrule 135.15(3) must be performed after notifying the department but before completion of the permanent closure or change-in-service.

NOTE: The following cleaning and closure procedures may be used to comply with subrule 135.15(2): ~~American Petroleum Institute Recommended Practice 1604, "Removal and Disposal of Used Underground Petroleum Storage Tanks"; American Petroleum Institute Publication 2015, "Cleaning Petroleum Storage Tanks"; American Petroleum Institute Recommended Practice 1631, "Interior Lining of Underground Storage Tanks," may be used as guidance for compliance with this subrule; and the National Institute for Occupational Safety and Health "Criteria for a Recommended Standard . . . Working in Confined Space" may be used as guidance for conducting safe closure procedures at some hazardous substance tanks.~~

- American Petroleum Institute Recommended Practice RP 1604, "Closure of Underground Petroleum Storage Tanks";
- American Petroleum Institute Standard 2015, "Safe Entry and Cleaning of Petroleum Storage Tanks, Planning and Managing Tank Entry From Decommissioning Through Recommissioning";
- American Petroleum Institute Recommended Practice 2016, "Guidelines and Procedures for Entering and Cleaning Petroleum Storage Tanks";
- American Petroleum Institute Recommended Practice RP 1631, "Interior Lining and Periodic Inspection of Underground Storage Tanks," may be used as guidance for compliance with this subrule;
- National Fire Protection Association Standard 326, "Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair"; and
- National Institute for Occupational Safety and Health Publication 80-106, "Criteria for a Recommended Standard...Working in Confined Space" may be used as guidance for conducting safe closure procedures at some hazardous substance tanks.

ITEM 148. Amend subrule 135.15(3) as follows:

135.15(3) *Assessing the site at closure or change-in-service.*

a. Before permanent closure or a change-in-service is completed, owners or operators must measure for the presence of a release where contamination is most likely to be present at the UST site. This soil and groundwater closure investigation must be conducted or supervised by a groundwater professional certified under 567—Chapter 134, Part A, unless the department in its discretion grants an exemption and provides direct supervision of the closure investigation. In selecting the sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a release.

At UST sites with a history of petroleum storage, soil and groundwater samples shall in every case be analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) with each compound reported separately in accordance with rule 567—135.16(455B). If there has been a history or suspected history of petroleum storage other than gasoline or gasoline blends (i.e., all grades of diesel fuels, fuel oil, kerosene,

oil and mineral spirits), or such storage history is unknown or uncertain, soil and groundwater samples shall also be analyzed for total extractable hydrocarbons in accordance with rule 567—135.16(455B).

All such samples shall be collected separately and shipped to a laboratory certified under 567—Chapter 42, Part C, 567—Chapter 83 within 72 hours of collection. Samples shall be refrigerated and protected from freezing during shipment to the laboratory.

When a UST is removed from an area of confirmed contamination, the department may waive closure sampling if written documentation is submitted with the closure notification. Documentation should include laboratory analytical reports and a site map showing tank and piping locations along with contamination plume and sampling locations.

b. For all permanent tank and piping closures or changes-in-service, at least one water sample must be taken from the first saturated groundwater zone via a developed monitoring well or borehole except as provided in paragraph 135.13(3)“g.” The well ~~or borehole~~ must be located downgradient from and as close as possible to the ~~excavation~~ UST system but no farther away than 20 feet from system components. At some tank and piping closures, a minimum of one monitoring well may not be sufficient to represent a release where it is most likely to be present. An additional groundwater monitoring well or wells may be necessary.

If, however, the first saturated groundwater zone is not encountered within 10 feet below the lowest elevation of the tank excavation, the requirement for groundwater sampling shall not apply unless:

(1) and (2) No change.

c. For permanent closure by tank removal, the departmental guidance document entitled “Underground Storage Tank Closure Procedures for Tank and Piping Removal Guidance” must be followed. The minimum number of soil samples that must be taken depends on the tank size and length of product piping. Samples must be taken at a depth of 1 to 2 feet beneath the tank fill area below the base of the tank along the tank’s centerline. Soil samples must also be taken at least every 10 feet along the product piping at a depth of 1 to 2 feet beneath the piping fill area below the piping, unless alternate sampling is approved by the department.

If sands or other highly permeable soils are encountered, alternative sampling methods may be required.

If contamination is suspected or found in any area within the excavation (i.e., sidewall or bottom), a soil sample must be taken at that location.

The numbers of samples required for tanks are as follows:

Nominal Tank Capacity (gallons)	Number of Samples	Location on Centerline
1,000 or less	1	center of tank
1,001 - 8,000	2	1/3 from ends
8,001 - 30,000	3	5 feet from ends and at center of tank
30,001 - 40,000	4	5 and 15 feet from ends
40,001 and more	5	5 and 15 feet from ends and at center of tank

d. For closing a tank in place by filling with an inert solid material or for a change-in-service, the departmental guidance document entitled “Underground Storage Tank Closure for Filling in Place” must be followed. The minimum number of soil borings required for sampling depends on the size of the tank and the length of the product piping. Soil samples must be taken within 5 feet of the sides and ends of the tank at a depth of 2 to 4 feet below the base of the tank, but outside the backfill material, at equal intervals around the tank. Soil samples must also be taken at least every 10 feet along the product piping at a depth of 1 to 2 feet beneath the piping fill area below the piping, unless alternate sampling is approved by the department. If sands or other highly permeable soils are encountered, alternative sampling methods may be required.

The minimum numbers of soil borings and samples required are as follows:

Nominal Tank Capacity (gallons)	Number of Samples	Location of Samples
6,000 or less	4	1 each end and each side
6,001 - 12,000	6	1 each end and 2 each side
12,001 or more	8	1 each end and 3 each side

e. A closure report in a format prescribed by the department must be submitted to the department within 45 days of the tank removal or sampling for a closure in place. ~~The report must include all laboratory analytical reports, soil boring and well or borehole construction details and stratigraphic logs, and a dimensional drawing showing location and depth of all tanks, piping, sampling, and wells or boreholes, and contaminated soil encountered. Refer to the Underground Storage Tank Closure Guidance for reporting format.~~ The tank tags must be returned with the closure report.

f. and g. No change.

ITEM 149. Amend subrule 135.15(7) as follows:

135.15(7) Applicability to pre-1974 USTs. The closure provisions of rule 567—135.15(455B) are not applicable to USTs which have been out of operation ~~as of~~ prior to January 1, 1974. For purposes of this subrule, out of operation means that no regulated substance has been deposited into or dispensed from the tanks and that the tanks do not currently contain an accumulation of regulated substances other than a de minimus minimis amount as provided in paragraph 135.15(1)“a.”

Owners and operators or other interested parties are not required to submit documentation that USTs meet the exemption conditions and may rely on this subrule as guidance. However, should a question arise as to whether USTs meet the exemption, or owners and operators or other interested parties request acknowledgment by the department that USTs are exempt, they must submit an affidavit on a form provided by the department. The affiant must certify that based on a reasonable investigation and to the best of the affiant’s knowledge, the USTs were taken out of operation prior to January 1, 1974, the USTs have not contained a regulated substance since January 1, 1974, and the USTs do not currently contain an accumulation of regulated substances.

If the department has a reasonable basis to suspect a release has occurred, the release investigation and confirmation steps of ~~subrule 135.8(1) rule 567—135.6(455B)~~ and the corrective action requirements as provided in ~~rules 567—135.7(455B) to 567—135.8(455B)~~ through 567—135.12(455B) shall apply.

ITEM 150. Amend rule 567—135.16(455B) as follows:

567—135.16(455B) Laboratory analytical methods for petroleum contamination of soil and water.

135.16(1) General. When ~~having soil or water analyzed~~ analyzing for petroleum or hazardous substances, owners and operators of UST systems must use a laboratory certified under 567—Chapter 83. In addition they must ensure that all ~~soil and groundwater~~ samples are properly preserved and shipped within 72 hours of collection to a laboratory certified under 567—Chapter 83, ~~for UST petroleum analyses.~~ This rule provides acceptable analytical procedures for petroleum substances and required information that must be provided in all laboratory reports.

135.16(2) No change.

135.16(3) Analysis of soil and water for high volatile petroleum compounds (i.e., gasoline, benzene, ethylbenzene, toluene, xylene). Sample preparation and analysis shall be by Method OA-1, “Method for Determination of Volatile Petroleum Hydrocarbons (gasoline),” revision 7/27/93, University Hygienic Laboratory, Iowa City, Iowa. ~~This method is based on U.S. EPA methods 5030, 8000, and 8015, SW-846, “Test Methods for Evaluating Solid Waste,” 3rd Edition. 12/01/2019, state hygienic laboratory at the University of Iowa, or EPA Method 8260D, “Test Methods for Evaluating Solid Waste,” 3rd Edition—Update 6, July 2018. Copies of Method OA-1 are available from the department.~~

135.16(4) Analysis of soil and water for low volatile petroleum hydrocarbon contamination (i.e., all grades of diesel fuel, fuel oil, kerosene, oil, and mineral spirits). Sample preparation and analysis shall be by Method OA-2, “Determination of Extractable Petroleum Products (and Related Low Volatility Organic Compounds),” revision 7/27/93, University Hygienic Laboratory, Iowa City, Iowa. This method

is based on U.S. EPA methods 3500, 3510, 3520, 3540, 3550, 8000, and 8100, SW 846, “Test Methods for Evaluating Solid Waste,” 3rd Edition, 12/01/2019, state hygienic laboratory at the University of Iowa. Copies of Method OA-2 are available from the department.

135.16(5) *Analysis of soil gas for volatile petroleum hydrocarbons.* Analysis of soil gas for volatile petroleum hydrocarbons shall be conducted in accordance with the National Institute for Occupational Safety and Health (NIOSH) Method 1501, Issue 3, March 15, 2003, or a department-approved equivalent method.

135.16(6) *Analytical methods for methyl tertiary-butyl ether (MTBE).* Analysis of water for MTBE must be conducted by a laboratory certified under 567—Chapter 83 for petroleum analyses.

a. Sample preparation and analysis shall be by U.S. Environmental Protection Agency Method 8260D, “Test Methods for Evaluating Solid Waste,” 3rd Edition—Update 6, July 2018.

b. Laboratories performing the analyses must run standards for MTBE on a routine basis, and standards for other possible compounds like ethyl tertiary-butyl ether (ETBE), tertiary-amyl methyl ether (TAME), di-isopropyl ether (DIPE), and tertiary-butyl alcohol (TBA) to be certain of their identification should they be detected.

c. Laboratories must run a method detection limit study and an initial demonstration of capability for MTBE. These records must be kept on file.

d. The minimum detection level for MTBE in water is 15 ug/L.

ITEM 151. Amend subrule 135.17(2) as follows:

135.17(2) *Individual claims.* The financial ability of individual owners and operators of USTs, with or without an active business (including but not limited to sole proprietorships and general partnerships), ~~shall~~ may be evaluated using the “Individual Ability to Pay Guidance” document dated June 19, 1992, most current version of “INDIPAY” developed by the U.S. Environmental Protection Agency and generally accepted principles of financial analysis. This guidance is only one tool the department may use in evaluating claims of financial inability.

ITEM 152. Amend subrule 135.17(3) as follows:

135.17(3) *Corporate claims.* The financial ability of corporate owners and operators of USTs ~~shall~~ may be evaluated using the June 1992 most current version of “ABEL” developed by the U.S. Environmental Protection Agency and generally accepted principles of financial analysis. This guidance is only one tool the department may use in evaluating claims of financial inability.

ITEM 153. Rescind subrules **135.18(1)** to **135.18(4)**.

ITEM 154. Renumber subrules **135.18(5)** to **135.18(7)** as **135.18(1)** to **135.18(3)**.

ITEM 155. Amend rule 567—135.19(455B) as follows:

567—135.19(455B) Analyzing for methyl tertiary-butyl ether (MTBE) in soil and groundwater samples.

135.19(1) *General.* The objective of analyzing for MTBE is to determine its presence in ~~soil and~~ water samples collected as part of investigation and remediation of contamination ~~at~~ for underground storage tank facilities.

135.19(2) *Required MTBE testing.* ~~Soil and water~~ Water samples must be analyzed for MTBE when collected for risk-based corrective action as required in rules 567—135.8(455B) through 567—135.12(455B). These sampling requirements include but are not limited to: Tier 2 and Tier 3 assessments where groundwater ingestion pathway evaluation and subsequent monitoring is required.

a. ~~Risk-based corrective action (RBCA) evaluations required for Tier 1, Tier 2, and Tier 3 assessments and corrective action design reports.~~

b. ~~Site monitoring.~~

c. ~~Site remediation monitoring.~~

135.19(3) *MTBE testing not required.* ~~Soil and water samples~~ Analysis for MTBE is not required for the following actions are not required to be analyzed for MTBE:

- a. Closure sampling under rule 567—135.15(455B) ~~unless Tier 1 or Tier 2 sampling is being performed.~~
- b. Site checks under subrule 135.7(3) ~~unless Tier 1 or Tier 2 sampling is being performed~~ 135.6(3).
- c. If prior analysis at a site under subrule 135.19(2) has not shown MTBE present ~~in soil or groundwater.~~
- d. If the department determines MTBE analysis is no longer needed at a site.

135.19(4) Reporting. The analytical data must be submitted in a format prescribed by the department.

~~**135.19(5) Analytical methods for methyl tertiary butyl ether (MTBE).** When having soil or water analyzed for MTBE from contamination caused by petroleum or hazardous substances, owners and operators of UST systems must use a laboratory certified under 567—Chapter 83 for petroleum analyses. In addition, the owners and operators must ensure all soil and water samples are properly preserved and shipped within 72 hours of collection to a laboratory certified under 567—Chapter 83 for petroleum analyses.~~

- a. ~~Sample preparation and analysis shall be by:~~
 - (1) ~~GC/MS version of OA-1, “Method for Determination of Volatile Petroleum Hydrocarbons (gasoline),” revision 7/27/93, University Hygienic Laboratory, Iowa City, Iowa; or~~
 - (2) ~~U.S. Environmental Protection Agency Method 8260B, SW-846, “Test Methods for Evaluating Solid Waste,” Third Edition.~~
- b. ~~Laboratories performing the analyses must run standards for MTBE on a routine basis, and standards for other possible compounds like ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), diisopropyl ether (DIPE), and tertiary butyl alcohol (TBA) to be certain of their identification should they be detected.~~
- c. ~~Laboratories must run a method detection limit study and an initial demonstration of capability for MTBE. These records must be kept on file.~~
- d. ~~The minimum detection level for MTBE in soil is 15 ug/kg. The minimum detection level for MTBE in water is 15 ug/l.~~

ITEM 156. Amend subrule 135.20(1) as follows:

135.20(1) The owner or operator must have the UST system inspected and an inspection report submitted to the department by a UST compliance inspector certified by the department under 567—Chapter 134, Part B. An initial compliance site inspection shall be conducted ~~no later than December 31, 2007~~ within two years after new tank installation. All subsequent compliance site inspections conducted after the initial compliance site inspection ~~for the 2008-2009 biennial period~~ shall be conducted within 24 months of the prior compliance site inspection. Compliance site inspections must be separated by at least six months.

ITEM 157. Adopt the following new rule 567—135.21:

567—135.21(455B) UST systems with field-constructed tanks and airport hydrant fuel distribution systems.

135.21(1) General requirements.

a. Implementation of requirements. Owners and operators must comply with the requirements of this rule for UST systems with field-constructed tanks and airport hydrant systems as follows:

(1) For UST systems installed on or before [the effective date of this rule], the requirements are effective according to the following schedule:

Requirement	Effective Date
Upgrading UST systems, general operating requirements, and operator training	October 13, 2021
Release detection	October 13, 2021
Release reporting, response, and investigation; closure; financial responsibility and notification (except as provided in paragraph 135.21(1)“b”)	[the effective date of this rule]

(2) For UST systems installed after [the effective date of this rule], the requirements apply at installation.

b. All owners of previously deferred UST systems must submit a registration form provided by the department. Owners and operators of UST systems must demonstrate financial responsibility at the time of submission of the registration form.

c. Except as provided in subrule 135.21(2), owners and operators must comply with the requirements of rules 567—135.1(455B) through 567—135.20(455B) and 567—Chapter 136.

d. In addition to the codes of practice listed in subrule 135.3(1), owners and operators may use military construction criteria, such as Unified Facilities Criteria (UFC) 3-460-01, Petroleum Fuel Facilities, when designing, constructing, and installing airport hydrant systems and UST systems with field-constructed tanks.

135.21(2) Additions, exceptions, and alternatives for UST systems with field-constructed tanks and airport hydrant systems.

a. Exception to piping secondary containment requirements. Owners and operators may use single-walled piping when installing or replacing piping associated with UST systems with field-constructed tanks greater than 50,000 gallons and piping associated with airport hydrant systems. Piping associated with UST systems with field-constructed tanks less than or equal to 50,000 gallons not part of an airport hydrant system must meet the secondary containment requirement when installed or replaced.

b. Upgrade requirements. Not later than October 13, 2021, airport hydrant systems and UST systems with field-constructed tanks where installation commenced on or before [the effective date of this rule] must meet the following requirements or be permanently closed pursuant to rule 567—135.15(455B).

(1) Corrosion protection. UST system components in contact with the ground that routinely contain regulated substances must meet one of the following:

1. Except as provided in paragraph 135.21(2)“*a*,” the new UST system performance standards for tanks in paragraph 135.3(1)“*a*” and for piping in paragraph 135.3(1)“*b*”; or

2. Be constructed of metal and cathodically protected according to a code of practice developed by a nationally recognized association or independent testing laboratory, and meet the requirements of paragraphs 135.3(1)“*a*”(2)“3” and “4” for tanks, and subparagraphs 135.3(1)“*a*”(2), (3) and (4) for piping. A tank greater than ten years old without cathodic protection must be assessed to ensure the tank is structurally sound and free of corrosion holes prior to adding cathodic protection. The assessment must be by internal inspection or another method determined by the department to adequately assess the tank for structural soundness and corrosion holes.

NOTE regarding paragraph 135.21(2)“*b*”: The following codes of practice may be used to comply with this paragraph:

- NACE International Standard Practice SP 0285, “External Control of Underground Storage Tank Systems by Cathodic Protection”;

- NACE International Standard Practice SP 0169, “Control of External Corrosion on Underground or Submerged Metallic Piping Systems”;

- National Leak Prevention Association Standard 631, Chapter C, “Internal Inspection of Steel Tanks for Retrofit of Cathodic Protection”;

- American Society for Testing and Materials Standard G158, “Standard Guide for Three Methods of Assessing Buried Steel Tanks.”

(2) Spill and overflow prevention equipment. To prevent spilling and overflowing associated with product transfer to the UST system, all UST systems with field-constructed tanks and airport hydrant systems must comply with new UST system spill and overflow prevention equipment requirements specified in paragraph 135.3(1)“*c*.”

c. Walkthrough inspections. In addition to the walkthrough inspection requirements in subrule 135.4(13), owners and operators must inspect the following additional areas for airport hydrant systems at least once every 30 days if confined space entry according to the Occupational Safety and Health

Administration (see 29 CFR part 1910) is not required or at least annually if confined space entry is required and keep documentation of the inspection according to paragraph 135.4(13) “e.”

(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.

d. Release detection. Owners and operators of UST systems with field-constructed tanks and airport hydrant systems must begin meeting the release detection requirements described in this subrule not later than October 13, 2021.

(1) Methods of release detection for field-constructed tanks. Owners and operators of field-constructed tanks with a capacity less than or equal to 50,000 gallons must meet the release detection requirements in rule 567—135.5(455B).

(2) Owners and operators of field-constructed tanks with a capacity greater than 50,000 gallons must meet either the requirements in rule 567—135.5(455B) (except paragraphs 135.5(4) “e” and “f” must be combined with inventory control as stated below) or use one or a combination of the following alternative methods of release detection:

1. Conduct an annual tank tightness test that can detect a 0.5 gallon per hour leak rate;

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

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

4. Perform vapor monitoring (conducted in accordance with paragraph 135.5(4) “e” for a tracer compound placed in the tank system) capable of detecting a 0.1 gallon-per-hour leak rate at least every two years;

5. Perform inventory control (conducted in accordance with Department of Defense Directive 4140.25; ATA Airport Fuel Facility Operations and Maintenance Guidance Manual; or equivalent procedures) at least every 30 days that can detect a leak equal to or less than 0.5 percent of flow-through; and

- Perform a tank tightness test that can detect a 0.5 gallon per hour leak rate at least every two years; or

- Perform vapor monitoring or groundwater monitoring (conducted in accordance with paragraph 135.5(4) “e” or “f,” respectively, for the stored regulated substance) at least every 30 days; or

6. Another method approved by the department if the owner and operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in subparagraph 135.21(2) “d”(2). In comparing methods, the department shall consider the size of release that the method can detect and the frequency and reliability of detection.

(3) Methods of release detection for piping. Owners and operators of underground piping associated with field-constructed tanks less than or equal to 50,000 gallons must meet the release detection requirements in rule 567—135.5(455B). Owners and operators of underground piping associated with airport hydrant systems and field-constructed tanks greater than 50,000 gallons must follow either the requirements in rule 567—135.5(455B) (except paragraphs 135.5(4) “e” and “f” must be combined with inventory control as stated below) or use one or a combination of the following alternative methods of release detection:

1. Perform a semiannual or annual line tightness test at or above the piping operating pressure in accordance with the table below.

Test Section Volume (Gallons)	Maximum Leak Detection Rate Per Test Section Volume	
	Semiannual Test—	Annual Test—
	Leak Detection Rate Not to Exceed (Gallons Per Hour)	Leak Detection Rate Not to Exceed (Gallons Per Hour)
< 50,000	1.0	0.5
≥ 50,000 to < 75,000	1.5	0.75
≥ 75,000 to < 100,000	2.0	1.0
≥ 100,000	3.0	1.5

Piping segment volumes ≥ 100,000 gallons not capable of meeting the maximum 3.0 gallon per hour leak rate for the semiannual test may be tested at a leak rate up to 6.0 gallons per hour according to the following schedule:

Phase in for Piping Segments ≥ 100,000 Gallons in Volume

First test	Not later than October 13, 2021 (may use up to 6.0 gph leak rate)
Second test	Between October 13, 2021, and October 13, 2024 (may use up to 6.0 gph leak rate)
Third test	Between October 13, 2024, and October 13, 2025 (must use 3.0 gph for leak rate)
Subsequent tests	After October 13, 2025, begin using semiannual or annual line testing according to the Maximum Leak Detection Rate Per Test Section Volume table above

2. Perform vapor monitoring (conducted in accordance with paragraph 135.5(4) “e” for a tracer compound placed in the tank system) capable of detecting a 0.1 gallon per hour leak rate at least every two years;

3. Perform inventory control (conducted in accordance with Department of Defense Directive 4140.25, ATA Airport Fuel Facility Operations and Maintenance Guidance Manual; or equivalent procedures) at least every 30 days that can detect a leak equal to or less than 0.5 percent of flow-through, and

- Perform a line tightness test (conducted in accordance with paragraph 1 of this section using the leak rates for the semiannual test) at least every two years; or
- Perform vapor monitoring or groundwater monitoring (conducted in accordance with paragraph 135.5(4) “e” or “f;” respectively, for the stored regulated substance) at least every 30 days; or

4. Another method approved by the department if the owner and operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in paragraphs 1 through 3 of this section. In comparing methods, the department shall consider the size of release that the method can detect and the frequency and reliability of detection.

(4) Record keeping for release detection. Owners and operators must maintain release detection records according to the recordkeeping requirements in subrule 135.5(6).

e. Applicability of closure requirements to previously closed UST systems. When directed by the department, the owner and operator of a UST system with field-constructed tanks or airport hydrant system permanently closed before [the effective date of this rule] must assess the excavation zone and close the UST system in accordance with rule 567—135.15(455B) if releases from the UST may, in the judgment of the department, pose a current or potential threat to human health and the environment.

ITEM 158. Strike “Rural Electrification Administration” wherever it appears in **567—Chapter 136** and insert “Rural Utilities Service” in lieu thereof.

ITEM 159. Amend subrule 136.1(4) as follows:

136.1(4) The requirements of this chapter do not apply to owners and operators of farm or residential tanks of 1,100 gallons or less capacity installed prior to July 1, 1987, or any UST system described in 567—paragraph 135.1(3) “b” or “e.” subparagraph 135.1(3) “c” (1), (3) or (4).

ITEM 160. Amend rule **567—136.3(455B)**, definition of “Accidental release,” as follows:
“*Accidental release*” means any sudden or nonsudden release of petroleum arising from operating an underground storage tank that results in a need for corrective action and/or compensation for bodily injury or property damage neither expected nor intended by the tank owner or operator.

ITEM 161. Rescind the definition of “Petroleum marketing firms” in rule **567—136.3(455B)**.

ITEM 162. Amend subrule **136.6(4)**, first paragraph of the “Letter from Chief Financial Officer,” as follows:

I am the chief financial officer of [insert: name and address of the owner or operator, or guarantor]. This letter is in support of the use of [insert: “the financial test of self-insurance,” and/or “guarantee”] to demonstrate financial responsibility for [insert: “taking corrective action” and/or “compensating third parties for bodily injury and property damage”] caused by [insert: “sudden accidental releases” and/or or “nonsudden accidental releases” or “accidental releases”] in the amount of at least [insert: dollar amount] per occurrence and [insert: dollar amount] annual aggregate arising from operating (an) underground storage tank(s).

ITEM 163. Amend subrule **136.6(4)**, third paragraph of the “Letter from Chief Financial Officer,” as follows:

A [insert: “financial test,” and/or “guarantee”] is also used by this [insert: “owner or operator,” or “guarantor”] to demonstrate evidence of financial responsibility in the following amounts under other EPA regulations or state programs authorized by EPA under ~~50~~ 40 CFR Parts 271 and 145:

ITEM 164. Amend paragraph **136.8(2)“a”(2)“2”** as follows:

2. The [“Insurer” or “Group”] is liable for the payment of amounts within any deductible applicable to the policy to the provider of corrective action or a damaged third party, with a right of reimbursement by the insured for any such payment made by the [“Insurer” or “Group”]. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated under another mechanism or combination of mechanisms as specified in rules ~~567—136.6(455B) to 136.11(455B)~~ 567—136.17(455B).

ITEM 165. Amend subrule **136.9(2)**, third to fifth unnumbered paragraphs, as follows:

Whereas said Principal is required under Subtitle I of the ~~Resource Conservation and Recovery Act (RCRA), Solid Waste Disposal Act~~, as amended, to provide financial assurance for [insert: “Taking corrective action” and/or “compensating third parties for bodily injury and property damage caused by” either “sudden accidental releases” or “nonsudden accidental releases” or “accidental releases”; if coverage is different for different tanks or locations, indicate the type of coverage applicable to each tank or location] arising from operating the underground storage tanks identified above, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, therefore, the conditions of the obligation are such that if the Principal shall faithfully [“take corrective action, in accordance with rule ~~567—135.7(455B)~~ and the Director of the Iowa Department of Natural Resources instructions for,” and/or “compensate injured third parties for bodily injury and property damage caused by” either “sudden accidental releases” or “nonsudden accidental releases” or “~~sudden and nonsudden~~ accidental releases “accidental releases”] arising from operating the tank(s) identified above, or if the Principal shall provide alternate financial assurance, as specified in ~~567—Chapter 136~~, within 120 days after the date the notice of cancellation is received by the Principal from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

ITEM 166. Amend subrule **136.9(4)** as follows:

136.9(4) The owner or operator who uses a surety bond to satisfy the requirements of rule ~~136.4 (455B) 567—136.4(455B)~~ must establish a standby trust fund when the surety bond is acquired. Under the terms of the bond, all amounts paid by the surety under the bond will be deposited directly into the standby trust fund in accordance with instructions from the director under rule ~~136.23(455B)~~

567—136.21(455B). This standby trust fund must meet the requirements specified in rule 136.18(455B) 567—136.12(455B).

ITEM 167. Amend subrule **136.10(2)**, paragraph (2) of the “Irrevocable Standby Letter of Credit” as follows:

(2) your signed statement reading as follows: “I certify that the amount of the draft is payable pursuant to regulations issued under authority of Subtitle I of the ~~Resource Conservation and Recovery Act of 1976~~ Solid Waste Disposal Act, as amended.”

ITEM 168. Amend subrule **136.13(4)**, first paragraph of the “Letter from Chief Financial Officer,” as follows:

I am the chief financial officer of [insert: name and address of local government owner or operator, or guarantor]. This letter is in support of the use of the bond rating test to demonstrate financial responsibility for [insert: “taking corrective action” and/or “compensating third parties for bodily injury and property damage”] caused by [insert: “sudden accidental releases” ~~and/or~~ or “nonsudden accidental releases” or “accidental releases”] in the amount of at least [insert: dollar amount] per occurrence and [insert: dollar amount] annual aggregate arising from operating (an) underground storage tank(s).

ITEM 169. Amend subrule **136.13(5)**, first paragraph of the “Letter from Chief Financial Officer,” as follows:

I am the chief financial officer of [insert: name and address of local government owner or operator, or guarantor]. This letter is in support of the use of the bond rating test to demonstrate financial responsibility for [insert: “taking corrective action” and/or “compensating third parties for bodily injury and property damage”] caused by [insert: “sudden accidental releases” ~~and/or~~ or “nonsudden accidental releases” or “accidental releases”] in the amount of at least [insert: dollar amount] per occurrence and [insert: dollar amount] annual aggregate arising from operating (an) underground storage tank(s). This local government is not organized to provide general governmental services and does not have the legal authority under state law or constitutional provisions to issue general obligation debt.

ITEM 170. Adopt the following **new** subrule 136.13(8):

136.13(8) If the local government owner or operator fails to obtain alternate assurance within 150 days of finding that it no longer meets the requirements of the bond rating test or within 30 days of notification by the director of the department that it no longer meets the requirements of the bond rating test, the owner or operator must notify the director of such failure within 10 days.

ITEM 171. Amend subrule **136.14(5)**, first paragraph of the “Letter from Chief Financial Officer,” as follows:

I am the chief financial officer of [insert: name and address of the owner or operator]. This letter is in support of the use of the local government financial test to demonstrate financial responsibility for [insert: “taking corrective action” and/or “compensating third parties for bodily injury and property damage”] caused by [insert: “sudden accidental releases” ~~and/or~~ or “nonsudden accidental releases” or “accidental releases”] in the amount of at least [insert: dollar amount] per occurrence and [insert: dollar amount] annual aggregate arising from operating (an) underground storage tank(s).

ITEM 172. Amend subrule **136.16(4)**, first to third unnumbered paragraphs of the “Letter of Chief Financial Officer,” as follows:

I am the chief financial officer of [insert: name and address of local government owner or operator, or guarantor]. This letter is in support of the use of the local government fund mechanism to demonstrate financial responsibility for [insert: “taking corrective action” and/or “compensating third parties for bodily injury and property damage”] caused by [insert: “sudden accidental releases” ~~and/or~~ or “nonsudden accidental releases” or “accidental releases”] in the amount of at least [insert: dollar amount] per occurrence and [insert: dollar amount] annual aggregate arising from operating (an) underground storage tank(s).

Underground storage tanks at the following facilities are assured by this local government fund mechanism: [List for each facility: the name and address of the facility where tanks are assured by the local government fund].

[Insert: “The local government fund is funded for the full amount of coverage required under 567—136.4(455B) of the Iowa Administrative Code (IAC), or funded for part of the required amount of coverage and used in combination with other mechanism(s) that provide the remaining coverage,” or “The local government fund is funded for ~~ten~~ five times the full amount of coverage required under 567—136.4(455B) IAC, or funded for part of the required amount of coverage and used in combination with other mechanism(s) that provide the remaining coverage,” or “A payment is made to the fund once every year for seven years until the fund is fully funded and [name of local government owner or operator] has available bonding authority, approved through voter referendum, of an amount equal to the difference between the required amount of coverage and the amount held in the dedicated fund” or “A payment is made to the fund once every year for seven years until the fund is fully funded and I have attached a letter signed by the state attorney general stating that (1) the use of the bonding authority will not increase the local government’s debt beyond the legal debt ceilings established by the relevant state laws and (2) prior voter approval is not necessary before use of the bonding authority”.]

ITEM 173. Amend rule 567—136.22(455B) as follows:

567—136.22(455B) Release from the requirements. An owner or operator is no longer required to maintain financial responsibility under this chapter for an underground storage tank after the tank has been ~~properly~~ permanently closed or undergoes a change-in-service or, if corrective action is required, after corrective action has been completed and the tank has been ~~properly~~ permanently closed or undergoes a change-in-service as required by rule 567—135.15(455B).