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July 17, 2015

TO: National Association of Convenience Stores

FROM: R. Timothy Columbus
Eva V. Rigamonti

RE: EPA's Final Underground Storage Tank Regulations

On July 15, 2015, the Environmental Protection Agency ("EPA" or the "Agency") published its final rule updating its Underground Storage Tank ("UST") regulations.[1] These revisions focus on spill prevention and proper operation and maintenance, imposing new requirements for secondary containment and operator training. EPA asserts that the revisions will improve the detection and prevention of UST releases, leading to increased protection of human health and the environment.

This memorandum provides an overview of the new regulations. It contains a condensed summary of the final rule (Part I), compliance assistance charts (Part II), an overview of the legal background (Part III), and an in-depth analysis of the regulations (Part IV).

If you would like to discuss the rule in further detail, please contact Eva Rigamonti, Steptoe & Johnson LLP: erigamonti@steptoe.com or 202-429-6457.

[1] Revising Underground Storage Tank Regulations – Revisions to Existing Requirements and new Requirements for Secondary Containment and Operator Training, *available at* http://www.epa.gov/oust/fedlaws/regs2015-finalrule.pdf. Cf. Proposed Rule, 76 Fed. Reg. 71708 (Nov. 18, 2011).

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I. Summary

The new regulations, developed four years after the EPA initially proposed revisions in 2011, are the first substantial revisions to UST regulations that were first promulgated in 1988. The revisions are designed to make tank regulations universally applicable, establishing federal requirements similar to certain key provisions of the Energy Policy Act of 2005 ("Energy Policy Act"). The provisions of the Energy Policy Act apply to all states that receive federal money for their state programs, but do not apply to other states or Indian country. Now, these requirements will be imposed throughout the country.

Below is a brief overview of the key components of the new regulations:[2]

- **Operator Training Requirements –** Owners and operators must now designate at least one individual for each of three "classes" of operators.[3] Designated operators must be trained on minimum defined areas and may need to be retrained if the UST system is not in compliance. UST owners and operators must be in compliance with this rule no later than October 13, 2018.

- **Secondary Containment** – EPA now requires: (1) all new and replaced tanks and piping be secondarily contained with interstitial monitoring systems; and (2) new dispenser systems must be equipped with under-dispenser containment. Also, owners and operators must replace the entire piping run when 50 percent or more of the piping is removed and other piping is installed. These requirements only apply to new and replaced systems – there are no retrofit requirements.

- **Operation and Maintenance** – The regulations require periodic walkthrough inspections to prevent and quickly detect releases, as well as additional requirements for periodic spill, overfill, and secondary containment.

- **Deferrals –** EPA has extended its regulatory authority to certain underground storage systems that were previously exempt from regulation. See Section IV.D below.

- **Other Changes** – The final rule contains a number of other miscellaneous changes to the 1988 UST regulations:

    - **Overfill Prevention** – EPA has eliminated flow restrictors, or ball float valves, in vent lines as an option for owners and operators to meet the overfill prevention equipment requirements for newly installed UST systems and when flow restrictors in vent lines are replaced.

[2] The UST requirements apply to "all owners and operators of an UST system," i.e. any person who owns an UST system used for the storage, use, or dispensing of regulated substances (owner) or any person in control of, or having responsibility for, the daily operation of the UST system (operator).

[3] Owners and operators must now designate at least one individual from "Class A" and "Class B" operators and all individuals that classify as "Class C" operators for an UST facility.

- **Internal Lining** – Under the new rules, owners and operators must permanently close tanks that use internal lining as the sole method of corrosion protection when both (a) the internal lining fails the periodic inspection required under the rule, and (b) the lining cannot be repaired according to a code of practice developed by a nationally recognized association or independent testing laboratory.

- **Notification Requirements** – The final rule requires owners and operators to notify the *implementing agency* within 30 days of bringing an UST system into use or when there is a change in ownership, among other changes. Generally, the implementing agency will be the state agency enforcing the tank program, but for certain areas (such as Indian Country) it may be the U.S. E.P.A. The 1988 regulations required the state or local agency to be notified (regardless of whether that was the *implementing* agency).[4]

- **Tank Compatibility with Alternative Fuels** – EPA is requiring that owners and operators storing any regulated substance blended with greater than 10 percent ethanol or 20 percent biodiesel must demonstrate compatibility by relying upon certification of a nationally recognized testing laboratory (such as Underwriters Laboratories) or upon written certifications of the equipment manufacturer. EPA also allows owners to demonstrate compliance by a method determined by the implementing agency.

- **Leak/Overfill Detection Revisions –** EPA is retaining vapor monitoring and groundwater monitoring as methods of acceptable release detection for tanks installed before the regulations go into effect provided the owners and operators maintain a site assessment that demonstrates the release detection method meets requirements.

[4] Implementing Agency means EPA, or, potentially a designated state or local agency responsible for carrying out an approved UST program. Owners can obtain current contact and other information regarding their implementing agency at www.epa.gov/oust.

II. Compliance Assistance Charts

To assist you in complying with the above-described requirements, we have included two charts from the EPA's Final Rule:

1. COMPLIANCE IMPLEMENTATION DEADLINES

<table>
<tr><th colspan="2">Implementation Time Frames for New Requirements</th></tr>
<tr><th>New Requirement</th><th>Implementation Time Frame</th></tr>
<tr><td>Flow restrictors in vent lines may no longer be used to meet the overfill prevention requirement at new installations and when an existing flow restrictor is replaced</td><td rowspan="6">Owners and operators must begin meeting these requirements <u>on October 13, 2015</u>.</td></tr>
<tr><td>Testing following a repair</td></tr>
<tr><td>Closure of internally lined tanks that fail the internal lining inspection and cannot be repaired according to a code of practice</td></tr>
<tr><td>Notification of ownership changes</td></tr>
<tr><td>Demonstrating compatibility</td></tr>
<tr><td>For airport hydrant fuel distribution systems and UST systems with field-constructed tanks:
Notification and financial responsibility
Release reporting
Closure</td></tr>
<tr><td>Operator Training</td><td rowspan="2">Owners and operators must begin meeting these requirements <u>not later than October 13, 2018</u>.</td></tr>
<tr><td>For previously deferred UST systems:
Subpart D for UST systems that store fuel solely for use by emergency power generators
Subpart K (except notification, financial responsibility, release reporting, and closure) for airport hydrant fuel distribution systems and UST systems with field-constructed tanks</td></tr>
<tr><td>Spill prevention equipment testing</td><td>Owners and operators must conduct the first test or inspection <u>not later than October 13, 2018</u>.</td></tr>
</table>

2. PERFORMANCE TIMING REQUIREMENTS FOR SELECT OBLIGATIONS[5]

Regulatory Requirement	When You Must Perform Requirement
Walkthrough inspections	Every 30 days
Overfill prevention equipment Inspections	At least once every 3 years
Spill prevention equipment tests	At least once every 3 years
Containment sump tests	At least once every 3 years
Elimination of flow restrictors in vent lines for all new tanks and when overfill devices are replaced	Immediately
Operability checks for release detection equipment	Annually (plus annual check of sumps)
Groundwater and vapor monitoring for release detection	Continue to allow with site assessment
Remove release detection deferral for emergency generator tanks	Immediately
Requirements for demonstrating compatibility for fuels containing *greater than* E10 and *greater than* B20	Immediately
Remove deferrals for airport hydrant fuel distribution systems and UST systems with field constructed tanks	Regulate under alternative release detection requirements

[5] These apply once the rule goes into effect: October 13, 2015.

III. Background

A. Pre-1988 Regulations

In 1984, Congress responded to concerns over groundwater contamination posed by leaking USTs by requiring EPA to develop a comprehensive regulatory program for USTs storing petroleum or certain hazardous substances. In 1986, Congress created the Leaking Underground Storage Tank ("LUST") Trust Fund to implement a cleanup program and pay for cleanups at sites that require emergency action or where the owner or operator is unwilling or unable to respond or is unknown.

B. 1988 Regulations

In 1988, EPA promulgated the UST regulations setting minimum standards for new tanks and requiring owners and operators of existing tanks to upgrade, replace, or close them, and also requiring owners and operators to report and clean up releases from their USTs. The regulations set deadlines for owners and operators to meet the minimum standards; owners and operators who chose to upgrade or replace had to ensure their UST systems included spill and overfill prevention equipment and were protected from corrosion. They were also required to monitor their systems for releases using release detection. Finally, they were required to have financial responsibility and resources to pay for cleaning up releases.

In 1988, EPA also promulgated a program for state program approval, allowing states (the primary implementers of the UST program) to operate UST programs in lieu of the federal program provided they met certain requirements and obtained EPA approval.

C. Energy Policy Act of 2005

In 2005, Congress passed the Energy Policy Act, which, among other things, required states receiving federal money for their UST programs to meet certain requirements in addition to those imposed by the 1988 regulations. EPA later developed grant guidelines for states, which included operator training and secondary containment requirements. These requirements did *not* apply in Indian country.

D. EPA's Goals for Revising the 1988 Regulations

EPA's revised rules represent the first substantial revisions to UST regulations finalized in 1988. Although the 1988 UST requirements compelled owners and operators to have spill, overfill, and release detection equipment in place, they did not contain operation and maintenance standards for some of that equipment.[6] The final rule contains such operation and maintenance requirements, accounting for technological improvements such as the ability to detect releases from deferred UST systems.

[6] For example, the 1988 regulations required spill prevention equipment to capture drips and spills when the delivery hose is disconnected from the fill pipe but did not require periodic testing of that equipment.

In addition, the new rules establish federal requirements that are similar to certain key provisions of the Energy Policy Act. These provisions (such as secondary containment and operator training) apply to all states that receive federal money under the Solid Waste Disposal Act ("SWDA") to implement their state UST programs, regardless of their state program's approval status, but do not apply in Indian country or states that do not meet EPA's operator training or secondary containment grant guidelines. Part of EPA's goal in revising the 1988 regulations was to ensure parity in program implementation among states and Indian country, and establish federal UST requirements that are similar to the UST secondary containment and operator training requirements of the Energy Policy Act.

Beyond providing universal applicability for UST regulations, EPA is also seeking to reduce the number of new hazardous substance releases from UST systems into the environment. Approximately 7,000 new releases are discovered each year as of FY 2009.[7] According to EPA, a main cause of new releases is lack of proper operation and maintenance of UST systems. Further, according to EPA, data show that release detection equipment is only detecting approximately 50 percent of releases it is designed to detect.[8]

Thus, while the 1988 UST regulations require owners and operators to use equipment that can help prevent releases, the revisions focus on operating and maintaining such equipment in a manner that minimizes releases and detects releases early to avoid or mitigate soil and groundwater contamination.

[7] U.S. EPA, Semi-Annual Report of UST Performance Measures, End of Fiscal Year 2009, *available at* http://epa.gov/oust/cat/camarchv.htm.

[8] EPA primarily relied on two studies in support of its 2011 Proposal: *Petroleum Releases at Underground Storage Tank Facilities in Florida*, and *Evaluation of Releases from New and Upgraded Storage Tank Systems.* Both of these drafts were peer reviewed but never finalized because passage of the Energy Policy Act required a reallocation of personnel and resources. Nonetheless, EPA maintains that the studies' underlying data and calculations support the Proposal. *See* 76 Fed. Reg. 71710.

IV. EPA's Final UST Rules

The final UST regulations, which are discussed in detail below, apply to "all owners and operators of an UST system"— any person who owns an UST system used for the storage, use, or dispensing of regulated substances (owner) or any person in control of, or having responsibility for, the daily operation of the UST system (operator).[9]

A. Federal Requirements for Operator Training

i. *Old Requirements*

The 1988 UST regulations did not contain operator training requirements.

ii. *New Requirements*

Under the UST regulations, owners and operators must now designate at least one individual from "Class A" and "Class B" operators and all individuals that classify as "Class C" operators for an UST facility.[10] Designated operators must be trained (or pass a comparable examination) on minimum defined areas and may need to be retrained if the UST system is not in compliance. Owners and operators must retain a list of designated operators trained at each facility and proof of training or retraining. Class A, B, and C operators are not restricted to being employees; an owner or operator may designate contractors as their Class A, B, and C operators provided those individuals are properly trained and the owner maintains documentation of the individuals' names (not just the contractor company name).

Owners and operators of UST systems must ensure that they have designated and compliant Class A, B, and C operators no later than October 13, 2018. The "classes" of operators and their applicable training requirements are:

1) Class A Operator – Individual with *primary responsibility* for operating and maintaining a UST system. The Class A operator typically manages resources and personnel, such as establishing work assignments, to achieve and maintain compliance with regulatory requirements.

Class A Operator training must cover:

- Spill and overfill prevention;
- Release detection;
- Corrosion protection;
- Emergency response;
- Product and equipment compatibility and demonstration;

[9] 40 C.F.R. § 280.10.

[10] 40 C.F.R. § 280.240. The final regulations require training for Class A, B, and C operators at both attended and unattended UST system facilities. At an unattended facility, the Class operator may not be present when a facility is operating but Class A, B, and C operators must nonetheless be designated for that facility.

- Financial responsibility;
- Notification and storage tank registration;
- Temporary and permanent closure;
- Related reporting, recordkeeping, testing, and inspections;
- Environmental and regulatory consequences of releases; and
- Training requirements for Class B and C operators.

Training for Class A Operators is general (as opposed to site-specific) on all listed areas, and must occur *within 30 days* of the operator assuming duties.

2) Class B Operator – Individual with day-to-day responsibility for implementing applicable regulatory requirements established by the implementing agency (generally the state agency implementing the tank program). The Class B Operator typically implements in the field aspects of operation, maintenance, and associated recordkeeping for a UST system.

Class B Operator training must cover:

- Operation and maintenance;
- Spill overfill and prevention;
- Release detection and related reporting;
- Corrosion protection;
- Emergency response;
- Product and equipment compatibility and demonstration;
- Reporting, recordkeeping, testing, and inspections;
- Environmental and regulatory consequences of releases; and
- Training requirements for Class C operators.

Training for Class B Operators may be general or specific to a Class B Operator's site, and must occur *within 30 days* of the operator assuming duties.

3) Class C Operator – Each individual responsible for initially addressing emergencies presented by a spill or release from a UST system. The Class C Operator typically controls or monitors dispensing or sale of regulated substances. While the rule requires training for all Class C operators at a UST site, that does not mean that every worker at a UST facility needs to be trained as a Class C operator. A convenience store janitor, for example, who is not involved in the dispensing of petroleum products, does not need to be trained as a Class C operator.[11]

Class C Operator training must cover:

- Appropriate actions (including notifying appropriate authorities) to take in response to emergencies or alarms caused by spills or releases from a UST system.

[11] EPA notes that "numerous workers at convenience stores do not control or monitor dispensing or sale of petroleum products, nor are they responsible for initial alarms. As a result, it is unnecessary to designate and train these individuals to meet Class C operator training requirements."

Training for Class C operators must occur *before* the operators assume their duties.

A training program must evaluate knowledge through a test, practical demonstration, or another approach acceptable to the implementing agency (generally the state agency implementing the tank program). The burden is on owners and operators to ensure all designated Class A, B, and C operators are trained or successfully complete a comparable examination, which must be developed and administered by an independent organization, implementing authority, or delegated authority. Owners and operators also must maintain paper or electronic documents that identify all operators by class and demonstrate that training obligations have been met. If the implementing agency determines a Class A or Class B operator to be out of compliance, they will need to be retrained within 30 days in a manner that covers the area(s) determined to be out of compliance (except where the operator takes an annual refresher course or if the implementing agency waives this requirement).

iii. *Additional Information*

The Energy Policy Act required operator training in states that receive grants from the LUST Trust Fund. The new rules regarding operator training are consistent with EPA's operator training grant guidelines for states. Thus, the revisions seek to ensure that *all* operators across the country (including those in Indian country and in states without operator training requirements) are trained to prevent releases.

B. Changes to Establish Federal Requirements for Secondary Containment

i. *Old Requirements*

The 1988 rules required secondary containment and interstitial monitoring for *hazardous substance tanks only*.

ii. *New Requirements*

The new rules add secondary containment and interstitial monitoring requirements for all (including petroleum) new and replaced USTs and piping (with the exception of safe suction piping) installed after April 11, 2016.[12] Owners and operators must replace the entire piping run when 50 percent or more of piping (excluding connectors) is removed and other piping is installed.[13] If a UST has multiple piping runs, the secondary containment requirement will only apply to those where 50 percent or more of piping is replaced.

Specifically, secondarily contained tanks and piping must be:

[12] 40 C.F.R. §280.41.

[13] This is intended to prevent owners and operators from leaving small pipe sections in the ground to avoid the proposed secondary containment requirement. For pressurized piping, EPA considers a piping run to be the piping that connects the submersible turbine pump to all of the dispensers fed by that pump. For suction piping, a piping run is the piping that runs between the tank and the suction pump.

- Able to contain regulated substances leaked from the primary containment until they are detected and removed;
- Able to prevent release of regulated substances to the environment at any time during the operational life of the UST system; and
- Monitored for a leak at least once every 30 days using interstitial monitoring (if the tank was installed after April 11, 2016), or using automatic tank gauging, vapor monitoring, groundwater monitoring, interstitial monitoring, statistical inventory reconciliation, or other detection method (if tank was installed on or before April 11, 2016).[14]

Additionally, for piping installed or replaced after April 11, 2016: pressurized piping must be monitored for releases at least every 30 days and be equipped with an automatic line leak detector.[15] The revised rules also eliminate the option that was available for owners and operators to use a release detection method *other than* interstitial monitoring for hazardous substance USTs installed after October 13, 2015.[16]

In addition, owners and operators are now required to install *under-dispenser containment* beneath any dispenser system installed after April 11, 2016.[17] A dispenser system is considered "new" when both the dispenser system and the equipment needed to connect the dispenser system to the UST system are installed at a UST facility. Under-dispenser containment must be liquid tight on its sides, bottom, and at any penetrations and allow for visual inspection and access to the components in the containment system, or must be continuously monitored for leaks from the dispenser system.

iii. *Additional Information*

The Energy Policy Act required states to implement additional measures to protect groundwater as a condition of receiving LUST Trust Fund money from EPA. The Energy Policy Act allows states the option of meeting the additional measures requirement by either (a) mandating secondary containment and under-dispenser containment for new or replaced systems within 1,000 feet of a community water system,[18] *or* (b) evidence of financial responsibility and installer certification. The amended rules now mandate secondary containment and under-

[14] 40 C.F.R. § 280.43.

[15] 40 C.F.R. § 280.41(b). Suction piping must be monitored for releases at least every 30 days but is not required to have release detection if it is considered "safe suction piping."

[16] 40 C.F.R. § 280.42.

[17] 40 C.F.R. § 280.20(f).

[18] EPA assumes that any UST listed with a commercial ownership type, such as a gas station, is located within 1,000 feet of an on-site well or public water line because nearly all commercially-owned facilities with USTs require water utilities in order to operate and all privately owned facilities (*i.e.*, fleet fueling for non-marketers) are also assumed to be in close proximity to some type of water supply given that these sites are typically combined with other functional operations (office, maintenance, manufacturing, etc.) and require water for restrooms, water fountains, shops, etc.

dispenser containment for *all* new and replaced UST systems across the country, including systems in Indian country and in states that have not implemented additional measures to protect groundwater.

C. Additional Requirements for Operation and Maintenance

i. *Old Requirements*

The 1988 UST regulations focused on owners and operators installing improved UST equipment, but did not require significant equipment operation and maintenance activities. Specifically, they required triennial cathodic protection testing; periodic internal lining inspections; annual line leak detector ("LLD") testing; and release detection equipment operation and maintenance in accordance with the manufacturer's instructions.

ii. *New Requirements*

The revised rules require periodic walkthrough inspections to prevent and quickly detect releases, as well as additional requirements for periodic spill, overfill, and secondary containment.

a. Walkthrough Inspections

Walkthrough inspections must examine: spill prevention equipment, release detection equipment, containment sumps, and hand-held release detection equipment.[19]

In order to meet the requirements regarding walkthrough inspections of UST systems, owners and operators may choose from among the following three options:

1) Conduct operation and maintenance walkthrough inspections that, at a minimum, check spill prevention equipment, release detection equipment, containment sumps, and hand-held release detection equipment in the following manner:[20]

- Spill Prevention Equipment – Every 30 days, owner or operator must:
  - Visually check for damage.
  - Remove liquid/debris.
  - Check for and remove obstructions in the fill pipe.
  - Check each fill cap to make sure it is securely on the fill pipe.
  - If secondarily contained with continuous interstitial monitoring, check for a leak in the interstitial area.

- Release Detection Equipment – Every 30 days, owner or operator must:

[19] 40 C.F.R. § 280.36.

[20] EPA used the Petroleum Equipment Institute's ("PEI") Recommended Practice 900, Recommended Practices for the Inspection and Maintenance of UST Systems, as a guide as it developed these requirements.

- Check to make sure the release detection system is on and operating with no alarm conditions or other unusual operating conditions present.
- Ensure records of release detection testing are reviewed monthly and current.

- Containment Sumps – Annually, owner or operator must:
  - Visually check for any damage, leaks to the containment area, or releases to the environment.
  - Remove any liquid (in contained sumps) or debris.
  - If contained areas are secondarily contained with continuous interstitial monitoring, check for a leak in the interstitial area.

- Hand-Held Release Detection Equipment – Annually, owner or operator must:
  - Check any devices (such as tank gauge sticks or groundwater bailers) for operability and serviceability.

2) Conduct operation and maintenance walkthrough inspections according to a standard code of practice developed by a nationally recognized association or independent testing laboratory that are comparable to the specific requirements listed above.

3) Conduct operation and maintenance walkthrough inspections developed by the implementing agency that are comparable to the specific requirements contained in Option 1 above.

Owners and operators are also required to maintain walkthrough inspection records for one year. Each record must include a listing of each area checked, whether each area checked was acceptable or needed to have some 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. These walkthrough inspection requirements go into effect not later than October 13, 2018.

b. Spill Prevention Equipment Tests

Owners and operators are now required to test for liquid tightness once every three years or use double-walled equipment with periodic monitoring. This revision is intended to help ensure small releases occurring when the delivery transfer hose is disconnected from the fill pipe are contained in the spill prevention equipment.[21]

Specifically, owners and operators must monitor spill prevention equipment (such as a catchment basin, spill bucket, or other spill containment device) periodically, at least every 30 days. In addition, owners and operators must test spill prevention equipment and containment sumps used for interstitial monitoring of piping at least once every three years to ensure equipment is liquid tight by performing a vacuum, pressure, or liquid test in accordance with one of the following:

[21] 40 C.F.R. § 280.35(a)(1).

- Requirements developed by the manufacturer (if the manufacturer developed spill prevention test requirements);
- Code of practice developed by a nationally recognized association or independent testing laboratory; or
- Requirements determined by the implementing agency to be no less protective of human health and the environment than the two bulleted items above.

The rules do *not* require spill prevention equipment tests in those situations where spill prevention equipment has two walls and the space between the walls is monitored periodically (*i.e.*, interstitial monitoring). Owners and operators must maintain records of spill prevention tests for three years for each spill prevention device at a facility, or documentation showing the existence of periodic monitoring.

For UST systems in use on or before October 13, 2015, the initial spill prevention equipment tests must be conducted not later than October 13, 2018; for systems brought into use after that time, requirements apply at installation.

c. Overfill Prevention Equipment Inspections

Owners and operators must inspect for proper operation of overfill prevention equipment (*i.e.*, automatic shutoff devices, flow restrictors, and high level alarms) at least once every three years.[22] The inspection must ensure overfill prevention equipment is set to activate at the appropriate level in the tank and will activate when the regulated substance reaches specified levels.[23] This revision is expected to help ensure overfill prevention equipment is operating properly and will activate before a UST is overfilled.

Inspections must be conducted according to the following:

- Requirements developed by the manufacturer (if the manufacturer developed overfill prevention equipment test requirements);
- Code of practice developed by a nationally recognized association or independent testing laboratory; or
- Requirements determined by the implementing agency to be no less protective of human health and the environment than the two bulleted items above.

Under the revised rules, owners and operators must maintain records of overfill prevention equipment tests for three years for each overfill device installed at a facility.

For UST systems brought into use after October 13, 2015, owners and operators must meet this requirement at installation. For systems in use on or before October 13, 2015, the requirement must be met not later than October 13, 2018.

[22] 40 C.F.R. § 280.35(a)(2).
[23] 40 C.F.R. § 280.20(c)(1)(ii).

d. Secondary Containment Tests

Due to significant opposition from commentators, including NACS, EPA's new final rules do not require periodic secondary containment testing of secondarily contained tanks and piping. Now, testing is only required after completing repairs.[24] Specifically, when an owner or operator repairs secondary containment areas of tanks and piping used for interstitial monitoring as well as containment sumps used for interstitial monitoring of piping, s/he must test the secondary containment areas for tightness. (A secondary containment test is performed in the space between tank walls, pipe walls, or in a secondary containment sump area and ensures the area being tested has integrity and will contain a leak.)

Within 30 days following completion of the repair, owners and operators must test for secondary containment tightness according to one of the following:

- The manufacturer's instructions;
- Code of practice developed by a nationally recognized association or independent testing laboratory.
- Requirements determined by the implementing agency.

The new rules also require that all tanks and piping installed or replaced after April 11, 2016, must be secondarily contained.[25] Also, when the piping is replaced – *i.e.* when 50 percent or more of the piping, excluding connectors, is removed and other piping is installed – the entire piping run must be secondarily contained.[26]

e. Operation and Maintenance Requirements for Release Detection Equipment

Beginning October 13, 2018, owners and operators will be required to perform annual operation and maintenance tests on electronic and mechanical components of their release detection equipment to ensure the equipment is operating properly. Specifically, owners must test the following equipment components: automatic tank gauge and other controllers, probes and sensors, automatic line leak detector, vacuum pumps and pressure gauges, and hand-held electronic sampling equipment associated with groundwater and vapor monitoring.[27] Such inspections must occur in accordance with a manufacturer's instructions, a code of practice developed by a nationally recognized association or independent testing laboratory, or requirements developed by the implementing agency that are no less protective of the environment than the other two options. Owners and operators must maintain records of the annual operation tests for three years.

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[24] 40 C.F.R. § 280.33(d).

[25] 40 C.F.R. § 280.20.

[26] *Id; see also* § 280.12.

[27] EPA based the requirements for release detection on common requirements and recommendations by various equipment manufacturers of similar equipment. *See* 40 C.F.R. § 280.40.

D. Deferrals

i. *Old Requirements*

At the time the 1988 UST regulations were finalized, facilities with an aggregate completely buried storage capacity greater than 42,000 gallons and located near navigable waters of the U.S. or adjoining shorelines were subject to *both* UST and Spill Prevention Control and Countermeasures ("SPCC") rules. SPCC rules have since been amended to exempt completely buried storage tanks, as well as connected underground piping, underground ancillary equipment, and containment systems. Old regulations also exempted emergency power generator UST systems, airport hydrant fuel distribution systems, UST systems with field constructed tanks, and wastewater treatment tank systems.

ii. *New Requirements*

While EPA is now continuing to defer certain systems, it is also extending its regulatory authority to other systems that were previously exempt from regulation. The new rules continue to defer the aboveground components associated with airport hydrant systems and USTs with field-constructed tanks, but now regulate the underground components associated with airport-hydrant systems and USTs with field-constructed tanks.[28] In addition, UST systems (installed before October 13, 2015) that store fuel solely for use by emergency power generators (which were deferred under the 1988 regulation) must now comply with release detection requirements on or before October 13, 2018. UST systems that store fuel solely for use by emergency power generators installed after October 13, 2015, will be required to comply with all UST requirements.[29] After October 13, 2015, these UST systems may no longer be subject to SPCC requirements.

UST systems used for wastewater treatment, containing radioactive material, and nuclear power plant emergency generator systems have partial exemptions. And to the extent they were regulated by SPCC requirements, those requirements will remain.

iii. *Additional information*

The 1988 UST regulations deferred emergency generator tanks because technology was not available to monitor remote sites. The technology is now available to monitor and detect releases. These systems have releases similar to other regulated UST systems and thus, according to EPA, need to have release detection monitoring.

The 1988 regulations deferred airport hydrant systems and field-constructed tanks because sufficient information and technology was not available for such unique systems. Technology is now available to monitor and detect releases at alternative leak rates and frequencies. EPA maintains that the new rules will prevent and quickly detect releases from these systems.

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[28] 40 C.F.R. §§ 280.250-252 (Subpart K).

[29] 40 C.F.R. § 280.10.

E. Other Changes

Unless otherwise noted, owners and operators must begin meeting the requirements described below on October 13, 2015.

i. Changes to Overfill Prevention Equipment Requirements

Currently, USTs may use flow restrictors in vent lines (also called ball float valves) to meet the overfill prevention equipment requirement. Under the new regulations, EPA has *eliminated* flow restrictors in vent lines as an option for owners and operators to meet the overfill prevention equipment requirement for newly installed UST systems and when flow restrictors in vent lines are replaced.[30] Owners and operators must cease installing or replacing vent line flow restrictors after October 13, 2015.

Owners and operators using a vent line flow restrictor before the revisions become effective may continue using a flow restrictor to meet the overfill prevention requirements, provided it restricts the flow of regulated substances into the UST when the device activates. They must, however, periodically inspect vent line flow restrictors for proper operation every 30 days. Additionally, the regulations would *not* prevent the continued use of flow restrictors that are *not* in vent lines (such as flow restrictors in fill pipes, automatic shutoff devices, and high level alarms) as an overfill prevention for all UST systems. Owners and operators may continue to use flow restrictors in UST system vent lines for reasons other than meeting overfill prevention requirements, as long as those restrictors do not interfere with operation of the overfill prevention equipment being used.

ii. Internal Lining

Under the 1988 UST regulations, USTs using internal lining as the sole method of corrosion protection could have added another internal lining, cathodic protection, or both, if the internal lining failed the periodic inspection and could not be repaired in accordance with a code of practice. According to the new rules, owners and operators must permanently close tanks using internal lining as the sole method of corrosion protection when both (a) the internal lining fails the periodic inspection required, and (b) the lining cannot be repaired according to a code of practice developed by a nationally recognized association or independent testing laboratory. Nevertheless, for tanks where the internal lining fails and cannot be repaired, the rules contain an exception for certain tanks that are assessed and found to be structurally sound and free of corrosion holes when the cathodic protection is added to the tank, allowing those tanks to continue in use.

The 1988 regulations allowed lining as an upgrade option in order to extend the life of some tanks. While linings extended the life of many tanks, EPA does not believe this is a permanent solution. As the tank linings fail, these older tanks must be taken out of service to prevent releases to the environment, according to the Agency.

[30] 40 C.F.R. §280.20(c)(ii).

iii. Notification Requirements

The old 1988 regulations required UST owners and operators to notify the state or local agency within 30 days of bringing a UST system into use. Under the new rules, owners and operators will be required notify the appropriate *implementing* agency (rather than a state or local agency) within 30 days of bringing a system into use.[31] Additionally, owners and operators must now notify the implementing agency within 30 days of a UST system *ownership change* (as well as a system being brought into use). EPA maintains that these changes provide implementing agencies with important information about regulated UST systems.[32]

iv. Tank Compatibility with Alternative Fuels

The chemical and physical properties of ethanol and biodiesel can be more degrading to certain UST system materials than petroleum alone. As the use of ethanol and biodiesel-blended fuels increases—particularly in light of EPA's waiver allowing the use of E15 in cars model year 2001 and after—there is concern at EPA that not all UST system components are compatible with these fuel blends. Thus, the new rules change certain compatibility requirements of the 1988 UST regulations regarding how owners storing fuels with higher volume percentages of ethanol must demonstrate that their UST systems are compatible with the substances stored.

Specifically, owners and operators storing any regulated substance blended with greater than 10 percent ethanol or greater than 20 percent biodiesel, or any other regulated substance identified by the implementing agency, must now demonstrate compatibility by either: (a) certification or listing of their system equipment or components by a nationally recognized testing laboratory (such as Underwriters Laboratories) for use with the fuel stored; (b) written explicit approval of the equipment or component by the manufacturer; or (c) another method that the implementing agency determines to be no less protective of human health and the environment than the other two options.[33]

Owners and operators must maintain compatibility records for the life of the equipment or component for all new or replaced equipment and for UST systems storing the regulated substance.[34] Without such records, owners and operators will not be allowed to store regulated substances containing greater than 10 percent ethanol, 20 percent biodiesel, or other regulated substance. Finally, owners and operators must notify the implementing agency at least 30 days

[31] 40 C.F.R. §280.22. Implementing Agency means EPA, or, potentially a designated state or local agency responsible for carrying out an approved UST program. Owners can obtain current contact and other information regarding their implementing agency at www.epa.gov/oust.

[32] There is also a requirement that, within three years of the rule going into effect, owners must submit a one-time notification for previously deferred field tanks and airport hydrant systems.

[33] 40 C.F.R. §280.32.

[34] Owners and operators storing greater than 10 percent ethanol or 20 percent biodiesel must demonstrate compatibility with UST system equipment or components such as the tank or internal tank lining; piping; containment sumps; pumping equipment; release detection equipment; spill and overfill equipment and components; gaskets; seals; etc.

prior to switching to a regulated substance containing greater than 10 percent ethanol, 20 percent biodiesel, or other regulated substance.

v. Improving Repairs

The 1988 regulations' definition of "repair" linked a repair to a release. Mandatory testing following such a repair applied only to the tank, piping, and cathodic protection systems. The new regulations revise the definition to remove the nexus that a repair must be associated with a release and add examples of other UST system components that can be "repaired," including piping, spill or overfill prevention equipment, corrosion protection and release detection equipment. When conducting repairs, owners and operators must follow a code of practice developed by a nationally recognized association or independent testing laboratory. Furthermore, within 30 days after a repair, owners and operators must test the repaired spill, overfill, and/or secondary containment equipment to ensure it is operating properly. All records of each repair must be maintained until the UST system is permanently closed or undergoes a change-in-service.[35]

vi. Vapor and Groundwater Monitoring

Under the 1988 regulations, vapor and groundwater monitoring were permissible as monthly methods of release detection. The final regulations continue to allow vapor and groundwater monitoring for tanks installed before the effective date of the new regulations as long as owners and operators maintain a site assessment that demonstrates that the release detection method meets the requirements.[36]

vii. Interstitial Monitoring Results

EPA believes that the 1988 UST regulations adequately cover interstitial monitoring, yet has decided to reinforce that a leak into an interstitial space of a secondarily contained UST system is also a potential threat to the environment and must be investigated, addressed, and as necessary, reported. The new regulations require owners to investigate and confirm all suspected releases, including the investigation (and possible reporting of) alarms during release detection monitoring.[37] Although owners must conduct tests to determine whether a leak exists, the rules give owners an option of whether or not to perform secondary containment testing to uncover a leak or breach—and if the system test confirms an interstitial leak or release, the new rules now permit an owner to close the system as a permissible response.[38]

viii. Incorporating Newer Technologies

[35] Change-in-service refers to the continued use of a UST system to store a non-regulated substance. 40 C.F.R. §280.71(c).

[36] 40 C.F.R. §280.43(e), (f).

[37] 40 C.F.R. §280.50, 280.52.

[38] 40 C.F.R. §280.52.

Finally, the new regulations specifically add technologies developed after 1988 into the regulations and clarify their use. These technologies include clad and jacketed tanks, non-corrodible piping, continuous in-tank leak detection, and statistical inventory reconciliation. These additions update the 1988 UST regulations to include current technologies.

ix. Codes of Practice

The final regulations update the codes of practice listed in the 1988 UST regulation to reflect new codes, changes to code names, and new nationally recognized associations and independent testing laboratories.

x. Updates to Upgrade Requirements

The 1988 regulations include options and requirements for upgrading UST systems with spill, overfill, corrosion protection, release detection, and other equipment. References to the 1998 upgrade deadline and old phase-in schedules have now been removed from the regulations, although provisions permitting testing of corrosion protection and release detection remain.[39]

xi. State and Program Approval Requirements

The final regulations update requirements for states seeking to obtain EPA approval of state storage tank programs. States must now meet these altered performance criteria in order to be approved. States with program approval have three years to submit a revised state program approval package. According to EPA, this ensures that states will also update their programs with the increased environmental protections contained in the final UST regulations, providing consistency between federal and state UST regulations.

[39] EPA will no longer allow upgrades to UST systems that never met 1998 upgrade requirements, unless the implementing agency determines the UST system acceptable to upgrade. Otherwise, owners and operators must permanently close non-upgraded UST systems according to subpart G (40 C.F.R. §§280.70-74) closure requirements. *See also* 40 C.F.R. §280.21.