

EPA’s Office of Underground Storage Tanks developed this document to describe the significant differences between the 1988 federal underground storage tank (UST) and State Program Approval (SPA) regulations and the revised UST regulatory changes, as well as provide additional information about the changes. See EPA’s website (<http://www.epa.gov/ust/revising-underground-storage-tank-regulations-revisions-existing-requirements-and-new>) for the revised federal UST and SPA regulations and additional information to help UST stakeholders understand the changes.

This document provides information about EPA’s changes to the 1988 federal UST and SPA regulations. It is not a substitute for the information in 40 CFR parts 280 and 281 or EPA’s notice of final rulemaking published in the *Federal Register*.

Area	1988 Requirement And Citation	Significant Changes To Requirements, Implementation, <sup>1</sup> And Preamble Location	Additional Information About The Change
Operator Training	None	<p>New Requirement that includes:</p> <ul style="list-style-type: none"> <li>▪ Owners and operators designate at least one individual for A and B operator classes and all individuals that meet Class C operator definition. Designated operators must be trained on minimum defined areas and may need to be retrained if the UST system is not in compliance.</li> <li>▪ Owners and operators retain a list of designated operators currently trained at each facility and proof of training or retraining. Documentation can be kept offsite.</li> <li>▪ EPA adds definitions for Class A operator, Class B operator, Class C operator, and training program.</li> </ul> <p><b>Implementation:</b> within three years</p> <p>[Section IV.A.1]</p>	<p>The Energy Policy Act of 2005 (EPAAct) required operator training in states that receive money from EPA. This proposed change will ensure that all operators across the country, including those in Indian country and in states without operator training requirements, are trained to prevent releases. States that have already implemented their own operator training programs that meets the grant guidelines will not have to change their program.</p>

<sup>1</sup> Implementation is the time frame the regulated community has to meet the requirement after the effective date of the final UST regulation.

Comparison Of 1988 UST Regulations And Revised 2015 UST Regulations

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Area	1988 Requirement And Citation	Significant Changes To Requirements, Implementation, <sup>1</sup> And Preamble Location	Additional Information About The Change
Secondary Containment	<p>Secondary containment and interstitial monitoring for hazardous substance tanks only</p> <p>[§ 280.42]</p>	<p>New Requirement that includes:</p> <ul style="list-style-type: none"> <li>▪ Owners and operators install secondary containment and interstitial monitoring for all (including petroleum) new and replaced tanks and piping (except safe suction piping and piping associated with field-constructed tanks greater than 50,000 gallons in size and airport hydrant systems). 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.</li> <li>▪ Owners and operators install under-dispenser containment for all new dispenser systems.</li> <li>▪ EPA adds definitions for dispenser, dispenser system, replaced, secondary containment, and under-dispenser containment.</li> </ul> <p><b>Implementation:</b> 180 days</p> <p>[Section IV.A.2]</p>	<p>EPAct required states to implement additional measures to protect groundwater as a condition of receiving money from EPA.<sup>2</sup> EPA is implementing secondary containment and under-dispenser containment (UDC) to meet this provision. This change will ensure secondary containment and UDC are required for all new and replaced UST systems across the country, including those in Indian country and in states without additional measures to protect groundwater requirements. States that have already implemented secondary containment that meets the grant guidelines will not have to change their requirements.</p>
Operation And Maintenance (O&M)	<p>Triennial cathodic protection testing; periodic internal lining inspections; annual line leak detector (LLD) testing; and release detection equipment operation and maintenance according to manufacturer's instructions</p>	<ul style="list-style-type: none"> <li>▪ EPA adds requirements for walkthrough inspections - owners and operators conduct walkthrough inspections which look at: spill prevention equipment and release detection equipment every 30 days; and containment sumps and hand held release detection equipment annually</li> </ul> <p><b>Implementation:</b> within three years</p> <p>[Section IV.B.1]</p>	<p>The 1988 UST regulation required equipment be in place to reduce and prevent releases to the environment. These changes will ensure owners and operators maintain their equipment to ensure it is working properly and preventing releases.</p>

<sup>2</sup> EPAct allows states the option of meeting the additional measures to protect groundwater requirement by either secondary containment and under-dispenser containment or evidence of financial responsibility and installer certification.

Area	1988 Requirement And Citation	Significant Changes To Requirements, Implementation, <sup>1</sup> And Preamble Location	Additional Information About The Change
	<p>[§ 280.31, § 280.21(b)(1)(ii), § 280.44(a), and § 280.40(a)(2)]</p>	<ul style="list-style-type: none"> <li>▪ EPA adds a spill prevention equipment test requirement - owners and operators test at least every three years for liquid tightness or use a double-walled spill bucket with periodic interstitial monitoring. <b>Implementation:</b> within three years</li> </ul> <p>[Section IV.B.2]</p> <ul style="list-style-type: none"> <li>▪ EPA adds an overfill prevention equipment inspection requirement - owners and operators inspect every three years to ensure equipment is set to activate at the appropriate level in the tank and will activate when regulated substances reach that height. <b>Implementation:</b> within three years</li> </ul> <p>[Section IV.B.3]</p> <ul style="list-style-type: none"> <li>▪ EPA adds a testing requirement for containment sumps used for piping interstitial monitoring - owners and operators test every three years for liquid tightness or use a double-walled containment sump with periodic interstitial monitoring. <b>Implementation:</b> within three years</li> </ul> <p>[Section IV.B.4]</p> <ul style="list-style-type: none"> <li>▪ EPA adds a release detection equipment testing requirement (including LLDs) - owners and operators test annually to ensure equipment is operating properly. <b>Implementation:</b> within three years</li> </ul> <p>[Section IV.B.5]</p>	<ul style="list-style-type: none"> <li>• Walkthrough inspections ensure owners are looking regularly at their equipment to catch problems early and prevent releases.</li> <li>• Spill prevention equipment was required under the 1988 UST regulation, but testing is not required. Spill prevention equipment will eventually fail; testing will ensure the integrity of the spill bucket because it will catch small spills when the delivery hose is disconnected from the fill pipe.</li> <li>• Overfill prevention equipment was required under the 1988 UST regulation, but does not have to be inspected regularly. Inspections will ensure overfill prevention equipment will activate properly and notify the delivery person that the tank is nearly full.</li> <li>• Testing containment sumps used for piping interstitial monitoring will ensure leaks will be caught before reaching the environment.</li> <li>• Release detection equipment was required under the 1988 UST regulation, but does not have to be tested regularly. Testing release detection equipment will ensure the equipment is operating properly and will detect a release quickly.</li> </ul>

Area	1988 Requirement And Citation	Significant Changes To Requirements, Implementation, <sup>1</sup> And Preamble Location	Additional Information About The Change
Deferrals	<p>UST systems storing fuel for use by emergency power generators deferred from release detection</p> <p>[§ 280.10(d)]</p>	<ul style="list-style-type: none"> <li>▪ EPA removes deferral and requires owners and operators to perform release detection.</li> </ul> <p><b>Implementation:</b> within three years</p> <p>[Section IV.C.1]</p>	<p>The 1988 UST regulation deferred emergency generator tanks from release detection because technology was not available to monitor remote sites. The technology is now available to monitor and detect releases from remote locations. These systems have releases similar to other regulated UST systems and need to have release detection monitoring. These UST systems have been subject to all other parts of the UST regulation since 1988.</p>

Area	1988 Requirement And Citation	Significant Changes To Requirements, Implementation, <sup>1</sup> And Preamble Location	Additional Information About The Change
	<p>Field-constructed tanks (FCT), airport hydrant systems (AHS) and wastewater treatment tank systems deferred from subparts B, C, D, E, G, and H</p> <p>[§ 280.10(c)(1), (4), and (5)]</p>	<ul style="list-style-type: none"> <li>▪ EPA removes deferral and modifies the requirements by regulating FCT and AHS under new subpart K. Owners and operators may use alternative release detection options for FCT and AHS systems. EPA adds hydrant pits and hydrant piping vaults to the periodic walkthrough inspection requirement. EPA partially excludes aboveground tanks associated with FCT and AHS.</li> <li>▪ EPA adds definitions for airport hydrant fuel distribution system and field-constructed tank.</li> <li>▪ EPA reclassifies wastewater treatment tank systems, USTs containing radioactive material, and emergency generator UST systems at NRC facilities under the new category: Partially Excluded UST systems.</li> </ul> <p><b>Implementation:</b> three years for subparts B (except notification), C, and D (except periodic bulk piping pressure testing which has a phase in over seven years) and immediate for subparts E, G, H, and notification</p> <p>[Sections IV.C.2, 3, and 4]</p>	<p>The 1988 UST regulation deferred wastewater treatment tanks, USTs containing radioactive material, and emergency generator UST systems at NRC facilities because of uncertainty about the universe and the appropriateness of some release detection methods for these systems. EPA intended to continue evaluating whether or not to regulate these tanks at a future date. EPA reconsidered these tanks and made the final determination to exclude these tanks from most of the UST requirements. Owners and operators of these tanks have always been required to comply with subparts A and F, and the regulatory requirements for these systems remain the same.</p> <p>The 1988 UST regulation deferred AHSs and FCTs because sufficient information and technology was not readily available for these unique systems. Technology is now available to monitor and detect releases at alternative leak rates and frequencies. These changes will prevent and quickly detect releases from these systems.</p>

Area	1988 Requirement And Citation	Significant Changes To Requirements, Implementation, <sup>1</sup> And Preamble Location	Additional Information About The Change
Flow Restrictors In Vent Lines	<p>USTs may use flow restrictors in vent lines (also called ball float valves) to meet the overfill prevention equipment requirement.</p> <p>[§ 280.20(c)(ii)]</p>	<ul style="list-style-type: none"> <li>▪ EPA eliminates 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.</li> </ul> <p><b>Implementation:</b> immediately</p> <p>[Section IV.D.1]</p>	<p>This technology has several inherent weaknesses and can result in tanks being over pressurized. This change eliminates flow restrictors in vent lines as an option for overfill protection in new and replaced systems. Owners and operators must use one of the other overfill prevention methods listed in 40 CFR part 280.</p>
Internal Lining	<p>USTs using internal lining as the sole method of corrosion protection can add another internal lining, cathodic protection, or both if the internal lining fails the periodic inspection and cannot be repaired in accordance with a code of practice.</p> <p>[§ 280.21(b)]</p>	<ul style="list-style-type: none"> <li>▪ EPA revises the internal lining requirement such that owners and operators must permanently close tanks using internal lining as the sole method of corrosion protection, if the internal lining fails the periodic inspection and cannot be repaired according to a code of practice.</li> </ul> <p><b>Implementation:</b> immediately</p> <p>[Section IV.D.2]</p>	<p>The 1988 UST regulation allowed lining as an upgrade option to extend the life of some tanks. While linings extended the life of many tanks, this is not a permanent solution. As the tank linings fail, these older tanks must be taken out of service to prevent releases to the environment.</p>
Notification	<p>Owners notify the state or local agency within 30 days of bringing an UST system into use.</p> <p>[§ 280.22]</p>	<ul style="list-style-type: none"> <li>▪ EPA adds a requirement that owners notify the implementing agency within 30 days of UST system ownership change.</li> <li>▪ EPA adds a requirement that, within three years, owners submit a one-time notification for previously deferred FCTs and AHSs.</li> <li>▪ EPA updated the notification form to reflect the new changes and editorial/formatting revisions.</li> <li>▪ EPA created new notification of ownership change form for owners to submit when necessary.</li> </ul> <p><b>Implementation:</b> immediately</p> <p>[Section IV.D.3]</p>	<p>This change provides implementing agencies with important information about regulated UST systems. Owners were required to notify state and local agencies using an outdated list in the 1988 UST regulation. In addition, owners were not required to notify EPA about USTs in Indian country. This change will help implementing agencies carry out the program effectively.</p>

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Compatibility	<p>Owners and operators must use UST systems made of or lined with materials that are compatible with the substance stored in the UST system. Two codes of practice are referenced in a note.</p> <p>[§ 280.32]</p>	<ul style="list-style-type: none"> <li>▪ EPA adds a requirement that owners and operators notify the implementing agency 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 the implementing agency identifies and meet one of the following:                             <ul style="list-style-type: none"> <li>○ Demonstrate compatibility through a listing by a nationally recognized independent testing laboratory or through equipment or component manufacturer approval;</li> <li>○ or Use another method determined by the implementing agency to be no less protective of human health and the environment than the compatibility demonstration methods listed above</li> </ul> </li> <li>▪ EPA adds a requirement to maintain records to demonstrate compliance with 280.32 for as long as the UST system is storing regulated substances containing greater than 10 percent ethanol, greater than 20 percent biodiesel, or any other regulated substance the implementing agency identifies.</li> <li>▪ EPA removes references to one code of practice.</li> <li>▪ EPA revises definitions of motor fuel and regulated substance.</li> </ul> <p><b>Implementation:</b> immediately</p> <p>[Section IV.D.4]</p>	<p>The 1988 UST regulation required UST systems to be compatible with the substance stored in them. This change does not alter that, but rather helps owners demonstrate their UST system is compatible with certain fuels before storing them. As newer fuels with different chemical properties enter the market place, it is even more important for owners and operators to clearly understand how to demonstrate that their UST systems are compatible with these fuels before storing them to ensure there are no releases to the environment due to stored fuels being incompatible with UST systems.</p>

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Repairs	<p>Definition of repair links a repair to a release; testing following a repair applies only to the tank, piping, and cathodic protection system.</p> <p>[§ 280.12 and § 280.33]</p>	<ul style="list-style-type: none"> <li>▪ EPA revises definition to remove the link that a repair must be associated with a release and adds examples of other UST system components that can be repaired.</li> <li>▪ EPA adds a requirement for owners and operators to test within 30 days after a repair to spill or overfill equipment and secondary containment areas.</li> </ul> <p><b>Implementation:</b> immediately</p> <p>[Section IV.D.5]</p>	<p>This change provides clarity that fixing parts of the UST system not linked to a release are also repairs, therefore testing following these activities is necessary.</p>
Vapor And Groundwater Monitoring	<p>Vapor and groundwater monitoring allowed as monthly methods of release detection.</p> <p>[§ 280.43(e) and (f)]</p>	<ul style="list-style-type: none"> <li>▪ EPA continues to allow vapor and groundwater monitoring as release detection options.</li> <li>▪ Owners and operators must maintain site assessment as long as methods are used.</li> <li>▪ EPA established minimal criteria for new or re-established site assessments.</li> <li>▪ EPA established separate criteria for use of methods with FCT and AHS</li> </ul> <p><b>Implementation:</b> record of site assessment within three years</p> <p>[Section IV.D.6]</p>	<p>EPA received a significant number of public comments requesting that these methods remain available to meet release detection requirement. These comments were primarily received from commenters in one concentrated area of the country. EPA’s compromise to avoid severe economic impact to this area of the country was to require a site assessment maintained for as long as methods are used.</p>
Interstitial Monitoring Results	<p>Reporting suspected releases and system testing associated with release investigation and confirmation.</p> <p>[§ 280.50 and § 280.52]</p>	<ul style="list-style-type: none"> <li>▪ EPA adds interstitial monitoring alarms as an example of an unusual operating condition under release reporting.</li> <li>▪ EPA adds a choice for secondary containment testing for secondarily contained tanks and piping using interstitial monitoring for the system test under release investigation and confirmation.</li> <li>▪ EPA adds closure as an option if a system test confirms a leak.</li> <li>▪ EPA clarifies use of the terms release and leak.</li> </ul> <p><b>Implementation:</b> immediately</p> <p>[Section IV.D.7]</p>	<p>As interstitial monitoring becomes used more widely, it is important to ensure the regulation is clear on all aspects of its use. This change provides clarity about reporting, response, and testing for interstitial alarms. It also clarifies that closure is allowed if a leak is confirmed.</p>



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Newer Technologies	Includes technologies from 1988 and before. [§ 280.20 and § 280.43]	<ul style="list-style-type: none"> <li>▪ EPA adds newer technologies: clad and jacketed tanks, non-corrodible piping, continuous in-tank leak detection, and statistical inventory reconciliation.</li> </ul> [Section IV E.1]	This change updates the 1988 UST regulation to include current technologies.
Codes Of Practice	Includes codes of practice from 1988 and before. [throughout 40 CFR part 280]	<ul style="list-style-type: none"> <li>▪ EPA adds newer codes of practices, updates titles of codes of practices, and removes codes of practice that are not applicable or no longer exist.</li> </ul> [Section IV E.2]	This change updates the 1988 UST regulation to include current codes of practice.
Upgrade Requirements	Includes options and requirements for upgrading UST systems with spill, overfill, corrosion protection, release detection, and financial responsibility. [§ 280.21, § 280.40, § 280.41, § 280.42, and § 280.91]	<ul style="list-style-type: none"> <li>▪ EPA removes references to 1993 through 1998 upgrades and phase in schedules associated with the original upgrade deadlines.</li> </ul> [Section IV E.3]	The upgrade deadlines passed more than ten years ago and no longer need to be included as part of the requirements. This change removes references to this outdated information.
Editorial And Technical Corrections	Not applicable	<ul style="list-style-type: none"> <li>▪ EPA corrects spelling, numbering, and other editorial errors. EPA adds guidance and interpretations we developed and implemented since 1988.</li> </ul> [Section IV E.4]	This change corrects previous errors in the 1988 UST regulation.

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State Program Approval Requirements	<p>Includes criteria for states choosing to obtain state program approval (SPA).</p> <p>[40 CFR part 281]</p>	<ul style="list-style-type: none"> <li>▪ EPA updates SPA requirements to address proposed changes to 40 CFR part 280 and implement delivery prohibition, operator training, and additional measures to protect groundwater requirements contained in the Energy Policy Act of 2005.</li> <li>▪ <b>Implementation:</b> States with program approval have 3 years to submit a revised SPA package.</li> </ul> <p>[Section V]</p>	<p>This change ensures states will also update their programs with the increased environmental protections. It provides consistency between federal and state UST regulations.</p>