BACKGROUND

Underground storage tanks ("USTs") have long been used in a wide variety of residential, commercial, and industrial applications. UST regulations are intended to safeguard public health and safety, as well as reduce the economic impacts of a UST system failure. Most obviously, leaks in UST systems have the potential to contaminate the natural environment, and groundwater in particular, which is a significant source of drinking water. Additionally, UST regulations are designed to prevent damage, injury or death by combustion of stored material.

Congress began legislating the regulation of UST systems in 1984, and has since developed increasingly more comprehensive and robust regulations, with the most recent iteration established in 2015. These developments represent responses to advances in preventative technology, including leak detection and secondary containment, as well as changes in the substances being stored in UST systems. Further, congressional action on UST systems has been underscored by the goal of creating a more uniform set of regulations among state and local governments, as well as on tribal lands.

Nothing in the federal UST system regulations precludes a state from adopting more stringent regulations. States also have the option to submit their own UST regulation program to the United States Environmental Protection Agency ("EPA") for approval as an alternative to the federal UST system regulations. The EPA has granted state program approval to 38 states (as well as Puerto Rico and the District of Columbia) who have exercised this option. UST operators in the remaining 12 states (and in Guam, Samoa, and the Northern Mariana Islands) must comply with both state and federal EPA regulations. The term "implementing agency" is defined as either the EPA or, in context of State Program Approval, the state or local agency responsible for carrying out the approved UST program.

A UST is defined as a tank, including peripheral piping, used to contain regulated substances, and whose volume is more than 10 percent underground. The term "regulated substance" is intended to include petroleum and a host of other substances deemed hazardous by the EPA. The federal regulations governing UST systems are generally codified in the Solid Waste Disposal Act and Title 40 of the Code of Federal Regulations. By these regulations, Congress has granted the EPA express authority to regulate UST systems. The purpose of this article is to discuss developments set forth in the most recent UST regulations, which became effective on October 13, 2015 and which provide a three-year window to achieve compliance.

The 2015 UST system regulations included the following notable developments: (1) added secondary containment requirements; (2) added operating training requirements; and (3) added UST system compatibility requirements for alternative fuels.

SECONDARY CONTAINMENT

Secondary containment describes a second layer of containment around both the UST and its piping, with a space between the primary containment layer and the secondary one. This space between the two containment layers is referred to as interstitial, and is designed to house a leak detection system. A sump or depression at the bottom of the secondary containment layer is constructed to hold any leaking material as well as the leak detection system, which is triggered when leaked material makes its way to the sump.

As of April 11, 2016, the Solid Waste Disposal Act requires UST operators to install both a secondary containment system and an interstitial leak detection system when installing or replacing USTs and piping. This new requirement reflects technological advances which make the use of these systems economically viable and therefore a baseline for UST system safety.

(continued on next page)
OPERATOR TRAINING

UST system regulations establish three classes of UST operators: ‘A,’ ‘B,’ and ‘C.’ Each operator class has training and examination requirements commensurate with the respective responsibilities of each class. Generally, Class A Operators are the individuals primarily responsible for operating and maintaining the UST system; Class B Operators are those responsible for the day-to-day implementation of the UST regulations; and Class C Operators are those responsible for the immediate response to a problem at a UST facility.

Class A operators are expected to be familiar with the basic requirements of operating a UST, including spill and overfill prevention, release detection, corrosion protection, product compatibility, reporting/record keeping, and testing/inspection. Class B operators are required to be familiar with class ‘A’ requirements as well as emergency response procedures. Class C operators are required to be familiar only with emergency response procedures and proper notification protocol to authorities in the event of a leak.

UST operators are required to complete their training requirements by October 13, 2018. Class ‘A’ and class ‘B’ UST operators assuming duties after this date are required to complete operator training requirements within 30 days, while Class ‘C’ UST operators must complete training prior to assuming duties. Class ‘A’ and class ‘B’ operators are required to submit to annual refresher training, while class ‘C’ operators are not subject to this requirement.

OPERATION AND MAINTENANCE

Beginning on October 13, 2018, UST systems are subject to new operation and maintenance requirements, which focus on thorough operation, inspection and testing practices.

As a preliminary matter, general operating requirements for UST systems require the use of spill and overflow prevention methods and leak detection equipment. Additionally, there are stringent performance standards for UST system tanks and piping.

After October 13, 2018, UST operators must perform walkthrough inspections of UST systems according to one of three sets of guidelines: (1) those guidelines established by federal UST regulations; (2) those guidelines established by a standard code of practice developed by a nationally recognized association or independent testing laboratory; or (3) those guidelines developed by a UST operator’s local implementing agency. The second option defers inspection parameters to guidelines established by industry organizations such as the American Petroleum Institute, American Society for Testing and Materials, and the National Fire Protection Association, among others.

According to the federal UST system regulations, UST operators must inspect spill prevention equipment and release detection equipment every 30 days, or less frequently if a UST system is receiving deliveries at intervals greater than 30 days. Containment sumps and hand-held release detection equipment must be inspected annually according to the federal UST regulations. These regulations also require inspection of overfill prevention equipment every three years.

The federal UST system regulations also mandate regular testing of various components. Spill prevention and containment sump equipment (used for interstitial monitoring between the primary and secondary layers of the tank or piping) must be tested every three years to ensure the equipment is liquid tight by either vacuum, pressure, or liquid testing methods. These methods may be based on manufacturer testing requirements (if applicable), a code of practice developed by a nationally recognized association or independent testing laboratory, or the UST system operator’s local implementing agency. Similarly, the electronic and mechanical components of release detection equipment must be tested annually based by the same methods.

SYSTEM COMPATIBILITY

Due to increasing demand for alternative fuels, the EPA has developed regulations to ensure that these fuels are chemically compatible with UST systems. Effective October 13, 2015, UST system operators are required to notify their implementing agency at least 30 days in advance of switching to a regulated substance containing greater than 10 percent ethanol or greater than 20 percent biodiesel (or any other substance regulated by the implementing agency). Additionally, these UST system operators must demonstrate compatibility either by written approval from the equipment manufacturer or by certification from a nationally recognized, independent testing laboratory. Alternatively, another option determined by the implementing agency to be no less protective of human health and the environment than the two compatibility demonstration options listed above may be used.

CONCLUSION & FURTHER INFORMATION

The most recent 2015 federal UST system regulations represent an overhaul of many important aspects of UST operation. Requirements relating to secondary containment, interstitial leak detection, operator training, and compatibility between UST systems and their contents, are all designed to minimize the risk of groundwater
contamination as well as the combustion of stored materials. It is important to note that – under the 2015 state program approval (SPA) regulations – the 38 states (plus the District of Columbia and Puerto Rico) which currently have SPA must reapply by October 13, 2018 in order to retain their SPA status. The remaining 16 non-SPA states and territories may apply for SPA at any time. We encourage readers to learn more by visiting the EPA's website, which is replete with resources relevant to compliance assistance, emergency response and remediation protocol, and unique considerations for airport hydrant systems and field-constructed UST systems.10


6 In California, for example, UST systems are governed by the State Water Resources Control Board, Division of Water Quality. See Division of Water Quality—Underground Storage Tank Program, CAL. ENVTL. PROTECTION AGENCY STATE WATER RES. BD., http://www.waterboards.ca.gov/water_issues/programs/ust/. UST operators in Indian Country must comply with federal UST system regulations.


8 42 U.S.C. § 6991(10) (2012). There are also a variety of limited exceptions to the definition of a UST which are found in 42 U.S.C. § 6991(10)(A)-(l). These exceptions are generally for the benefit of non-commercial UST system operators.

9 42 U.S.C. § 6991(7); 42 U.S.C. § 9601(4) (2012). The broad definition of “regulated substance” includes the scope of those substances regulated by the Federal Water Pollution Control Act, the Solid Waste Disposal Act, and the Toxic Substances Control Act, among others.


14 40 C.F.R. § 280.242(b).

15 40 C.F.R. § 280.242(c).


21 State Underground Storage Tank (UST) Programs, ENVTL. PROTECTION AGENCY, https://www.epa.gov/ust/underground-storage-tanks-usts-laws-and-regulations#code

22 40 C.F.R. § 280.36(a)(i)(i).

23 40 C.F.R. § 280.36(a)(i)(ii).

24 40 C.F.R. § 280.35(a)(2).

25 40 C.F.R. § 280.35(a)(i)(i).

26 Id.

27 40 C.F.R. § 280.40(a)(3).


29 Id.

30 See Underground Storage Tanks (USTs), ENVTL. PROTECTION AGENCY, http://www.epa.gov/ust/