FAQs from the NWGLDE

…All you ever wanted to know about leak detection, but were afraid to ask.

How the NWGLDE List of Leak Detection Systems Can Be Used to Assist Compliance with the Revised 2015 Federal UST Regulation

Please note: The views expressed in this column represent those of the work group and not necessarily those of any implementing agency.

Q. Can the NWGLDE List of Leak Detection Systems (List) still be used to comply with the revised 2015 Federal UST Regulation?

A. Yes. Most leak detection equipment on the current List is still acceptable under the 2015 revised federal UST regulation. The NWGLDE will update the List so that users can know which methods of leak detection are no longer acceptable by adding a note stating that a method is, "No longer a viable method under the 2015 federal UST regulation." The mission of the NWGLDE is to:

- Review leak detection system evaluations to determine if each evaluation was performed in accordance with an acceptable leak detection test method protocol
- Ensure that the leak detection systems under review meet USEPA and/or other regulatory performance standards, if applicable
- Review draft and final leak detection test method protocols submitted to the Work Group by a peer review committee to ensure they meet equivalency standards stated in the USEPA standard test procedures
- Make the results of such reviews available to interested parties.

NWGLDE's mission is unchanged, particularly with regard to the second activity listed in our Mission Statement: "Ensure that the leak detection systems under review meet USEPA and/or other regulatory performance standards, if applicable" The NWGLDE List is still a relevant and very useful tool in helping users comply with regulatory requirements related to release detection for underground storage tank systems.

This article is the first in a series and broadly discusses how release detection systems on the NWGLDE List can be used for compliance with new and revised federal UST release detection requirements. Subsequent articles will discuss in greater detail how to get the most out of the information already provided in the List to address some of the 2015 changes to the federal regulation. Specific changes to the federal regulation include:

- Alternative release detection options for Field-Constructed Tanks (FCT) and Airport Hydrant Fuel Distribution Systems (AHS)
- Continuous In-Tank Leak Detection (CITLD) methods
- Statistical Inventory Reconciliation (SIR) methods

Q. Are there alternative release detection options for field-constructed tanks (FCT) and airport hydrant fuel distribution systems (AHS) in the NWGLDE List?

A. USEPA has removed the deferral on the release detection requirements for FCTs and AHSs. These deferrals had been in place since the original 1988 UST regulation. The date when release detection will be required on these UST systems will vary, depending on the state in which the UST system is located.

The release detection requirements for these previously deferred UST systems are not the same as those for UST systems located at more common UST sites, such as convenience stores. Although USEPA allows the use of traditional release detection methods on FCTs and AHSs, because of the greater size, operating pressures, and other substantial differences specific to these systems, USEPA also allows alternative release detection methods. These release detection methods must detect leak rates that are several orders of magnitude larger than traditional release detection methods.

NWGLDE's Bulk Underground Storage Tank Leak Detection Methods, intended for tanks 50,000 gallons or greater, may be used to meet USEPA's release detection requirements for FCTs. This section of the List includes eight vendors with 18 separate test methods among them, capable of testing various size FCTs. The performance of the volumetric methods on this list depends on the surface area of the liquid in the tank being tested. The NWGLDE List includes formulas based on the surface area of the liquid that can be used to calculate the size leak that can be detected, the pass/fail threshold for the method and the maximum size tank on which the method can be used.

NWGLDE's Large Diameter Line Leak Detection Methods may be used to meet USEPA's piping release detection requirements for FCTs and AHSs for sections of piping with a volume greater than 50,000 gallons. This section of the List currently includes eight vendors with 19 separate test methods among them. The List provides information that

FAQs… continued from page 20

can be used to determine the leak rate that can be detected, the pass/fail threshold for the method and the maximum volume of the pipe on which the method can be used.

In our next article in the series, we will discuss these methods in greater detail and provide examples of how the information in the List can be used to evaluate whether a specific method is appropriate for a specific FCT or AHS.

Q. Which release detection systems qualify as Continuous In-Tank Leak Detection Methods?

A. The 2015 revised federal UST regulation added Continuous In-Tank Leak Detection (CITLD) as a release detection method. CITLD encompasses all statistically based methods where, within a 30-day monitoring period, the system incrementally gathers measurements on an uninterrupted or nearly uninterrupted basis to determine a tank's leak status.

There are two major categories of release detection used by CITLD methods. USEPA refers to the first category as continuous statistical release detection, also known as continuous automatic tank gauging. NWGLDE lists this group of CITLD methods under the category of Continuous In-Tank Leak Detection Methods (Continuous Automatic Tank Gauging). This section of the List currently includes nine vendors with 12 separate test methods among them.

USEPA refers to the second group of CITLD methods as continual reconciliation. NWGLDE lists this group of CITLD methods under the category of Continuous In-Tank Leak Detection Methods (Continual Reconciliation). This section of the List currently includes one vendor with one test method. Continual reconciliation methods are further distinguished by their connection to dispensing meters that allow for automatic recording and use of dispensing data in analyzing a tank's leak status. Delivery volume, sales volume, and the volume of fuel in the tank are analyzed to account for all fuel.

In an upcoming article in the series, we will discuss the differences between CITLD and SIR methods.

Q. Which release detection systems are allowed as statistical inventory reconciliation methods?

A. The 2015 revised federal UST regulation formally added Statistical Inventory Reconciliation (SIR) methods to the list of acceptable leak detection methods. Previously, these methods were covered under the "Other Methods" category recognized by the federal UST regulation.

SIR methods analyze inventory, delivery, and dispensing data collected by the facility operator over a period of time to determine whether or not a tank or piping is leaking a regulated substance. Each operating day, the product level is measured using a gauge stick or other tank level monitor. The operator must also keep complete records of all withdrawals from the UST and all deliveries to the UST. After data have been collected for the period of time required by the SIR vendor, the operator provides the data to the SIR vendor.

The SIR vendor conducts a statistical analysis of the data to determine whether or not the UST system is leaking. The SIR vendor provides a test report of the analysis back to the operator.

USEPA no longer allows qualitative SIR methods to be used as a SIR method of leak detection. NWGLDE lists SIR methods under the test method category Statistical Inventory Reconciliation Test Method (Quantitative). This section of the List currently includes 15 vendors with 24 separate test methods among them.

The minimum number of operating days for these methods ranges from 15 to 42 days. However, to meet the federal release detection requirement, a quantitative report must be generated and returned to the operator so the operator can determine the leak status of his or her tank at least once every 30 days.

NWGLDE also lists SIR methods under the test method category Statistical Inventory Reconciliation Test Method (Qualitative). This section of the List includes three vendors with four separate test methods among them. NWGLDE plans to add an indication to this section that these methods are no longer a viable method under 2015 revised federal UST regulation.

In addition to the future articles mentioned above, other articles may be added as questions relevant to the new federal UST regulation are posed to the NWGLDE. Stay tuned for more information. ■

About the NWGLDE

The NWGLDE is an independent work group comprising eleven members, including ten state and one USEPA member. This column provides answers to frequently asked questions (FAQs) the NWGLDE receives from regulators and people in the industry on leak detection. If you have questions for the group, contact them at questions@nwglde.org.

NWGLDE's Mission

- Review leak detection system evaluations to determine if each evaluation was performed in accordance with an acceptable leak detection test method protocol and ensure that the leak detection system meets EPA and/or other applicable regulatory performance standards.
- Review only draft and final leak detection test method protocols submitted to the work group by a peer review committee to ensure they meet equivalency standards stated in the U.S. EPA standard test procedures.
- Make the results of such reviews available to interested parties.