

FAQs from the NWGLDE

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

Leak Detection Test Method Listings for Underground Piping Associated with Airport Hydrant Fuel Distribution Systems and Field-Constructed Tanks on the NWGLDE Website

In this LUSTLine FAQs from the National Work Group on Leak Detection Evaluations (NWGLDE) we discuss revisions to “Large-Diameter Piping” leak detection methods in response to new release detection requirements for airport hydrant fuel distribution systems and field-constructed tanks. Note: The views expressed in this column represent those of the work group and not necessarily those of any implementing agency.

Q. The 40 CFR Part 280 2015 revised rule specifies a testing deadline and maximum leak detection rates for semiannual and annual line tightness testing for underground piping associated with airport hydrant fuel distribution systems and field-constructed tanks based on tank size and piping test section volume. Where can I find the appropriate test methods on the NWGLDE website?

A. In addition to Line Tightness Test Method listings, NWGLDE also lists “Large-Diameter Line Leak Detection Methods.” Because of the large volume of the piping for airport hydrant distribution systems and field-constructed tanks, methods listed under Line Tightness Test Methods are not capable of meeting the regulatory requirements of detecting 0.1 gph with a 95%/5% probability of detection/false alarm. However, methods under “Large-Diameter Line Leak Detection include large-volume or bulk monitoring methods that were designed specifically for these newly regulated applications. These methods were listed with a test threshold that the manufacturer chose to have evaluated. With USEPA’s new rule revision, NWGLDE is renaming the “Large-Diameter Line Leak Detection Method” the “Line Leak Detection Method for Airport Hydrant and Field Constructed Systems.”

Piping system capacity, not diameter, is the limiting parameter of these test methods, hence, this category will contain listings for methods that can’t necessarily detect leaks as small as 0.1 gph in larger piping test section volumes, but that could otherwise meet the maximum leak detection rates as specified in 40 CFR 280 for underground piping systems sized larger than 50,000 gallons and associated with airport hydrant systems and field-constructed tanks.

Also, realizing that 40 CFR 280 expresses maximum leak detection rates in gallons per hour (gph) and that many existing test method listings for large-volume piping express rates only as a percentage (%) of volume, NWGLDE will be asking vendors to revise their existing listings to include the gallon per hour equivalent. It can then be determined by looking at the listings whether or not these methods will meet at least one of the two testing options allowed under USEPA regulations, annual or semi-annual testing each with

target leak rates based on testing frequency and the volume of the line being tested.

For example, a method that is currently listed to meet a leak rate of 0.002% of line volume in gallons per hour must meet a leak threshold of 0.001% of line volume to pass the tightness test. These thresholds are calculated as percent of line volume. To correlate this with the new USEPA rules, for a 50,000-gallon line volume, this method is certified to meet a 1.0 gallon/hour leak rate, so long as the actual system passes the 0.5 gallon/hour leak rate threshold. USEPA’s new rule is broken into different thresholds based on line volume and frequency of testing. A 50,000-gallon line can be tested twice a year to 1.0 gallon/hour or once a year to a certified 0.5 gallon/hour leak rate.

In conclusion, the method described in this example can be used to meet the semiannual testing, requirement for a 50,000 gallon line volume, but is not certified to test to the 0.5 gallon per hour leak rate required for just annual testing of this 50,000 gallon line volume.

Compliance dates for the new UST rule requirements may vary by state. For details on the USEPA rule, visit their webpage: <https://www.epa.gov/ust/revising-underground-storage-tank-regulations-revisions-existing-requirements-and-new>. ■

About the NWGLDE

The NWGLDE is an independent work group comprising 11 members, including 10 state and 1 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, please 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;
- Ensure that the leak detection system meets USEPA and/or other applicable regulatory performance standards, if applicable;
- 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 EPA standard test procedures; and
- Make the results of such reviews available to interested parties.