

# FAQs from the NWGLDE

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

## Questions about Sensors, Part I

*As the new secondary-containment requirements come into effect across the country, electronic interstitial monitoring will soon become the norm instead of the exception. Since electronic interstitial monitoring usually involves some type of sensor, in the next two issues of FAQs from the National Work Group on Leak Detection Evaluations (NWGLDE), the work group will answer questions concerning sensors listed on the NWGLDE website at [nwgldc.org](http://nwgldc.org). (Please Note: the views expressed in this column represent those of the work group and not necessarily those of any implementing agency.)*

**Q.** How can I find interstitial sensors on the NWGLDE website?

**A.** To find all the listings of interstitial sensors that perform a similar function, refer to the "Test Method Index." This index can be found by clicking on "Testing Methods" on the left side of the NWGLDE home page. Once the "Test Method Index" appears, all NWGLDE leak-detection test-method categories will appear. These categories are based on evaluations using different standard protocols that can be found by clicking on "Protocols" at the bottom of the NWGLDE home page. The NWGLDE leak-detection test methods categories that contain interstitial sensors are:

- Interstitial Detector (Liquid-Phase)
- Continuous Interstitial Monitoring Method (Liquid-Filled)
- Continuous Interstitial Line-Monitoring Method (Pressure/Vacuum)
- Continuous Interstitial Tank-System-Monitoring Method (Pressure/Vacuum)

Once the category of interest is located, click on the "Testing Methods" link to bring up a list of all the sensors that fall within that category. To bring up each sensor listing, click on the "Equipment Name" link adjacent to the vendor's name. This is a good procedure for tank owners or installers to use when they need to look at a group of sensors that can be considered for use with a particular application. However, finding the right sensor can be somewhat confusing because these categories contain sensors with many different operating principles, and some sensors may be listed under more than one category.

A better way to locate a listing for a particular sensor found during an inspection is to enter the model name and/or model number in the search engine form at the top right corner of any NWGLDE website page and click on "go." This will open a "Search Results" page with links to any relevant information based on the search criteria.

**Q.** Why are some sensors listed with consoles, some listed without consoles, while others appear to be listed as part of a complete system?

**A.** How the sensor is listed is dependent on how it was evaluated. Sensors identified in the "Interstitial Detector (Liquid-Phase)" category have been evaluated either matched with a console or as a "stand-alone" (a sensor without a specific console identified). Those that were evaluated with a console have the console model number under the manufacturer's name on the NWGLDE listing. Sensors included in the "Continuous Interstitial Monitoring Method (Liquid-Filled)," "Continuous Interstitial Line-Monitoring Method (Pressure/Vacuum)," and "Continuous Interstitial Tank-System-Monitoring Method (Pressure/Vacuum)" categories have been evaluated as part of a complete interstitial leak-detection system.

Like sensors evaluated with a console, sensors evaluated as part of a complete leak-detection system are evaluated using a particular console that was validated by an evaluation meant to receive and display the signal produced by a particular sensor. Such system evaluations specify a particular sensor or sensors that will work with the system console. The design of some of these sensors, whether they are stand-alone or evaluated while paired with a console, may allow them to work with consoles or systems other than those that were used during the evaluation. For example, a sensor that acts like a single-pole, single-throw (SPST) switch (e.g., like an ordinary home or office light switch) may have been evaluated with a specific console but in reality will work as designed with a variety of consoles.

NWGLDE listings occasionally include information from the evaluation report stating that (with regard to the console or system) it is allowable to use other applicable sensors that appear on the NWGLDE List. However, before using or accepting the use of a sensor not specifically evaluated with a console or interstitial monitoring system, the sensor manufacturer should be contacted to make sure the sensor is compatible for use with the proposed console or system.

**Q.** Are sensors and probes the same?

**A.** No. Sensors and probes are distinguished by their specificity of function and location in the UST system. Sensors broadly monitor areas outside the primary tank for the presence or absence of product and/or water; gross changes in the level of a monitor-

ing fluid; or significant changes in the pressure or vacuum in an interstitial space. In contrast, probes measure very small changes in the level of product inside the primary tank.

**Q. How do the different interstitial monitoring methods shown on the NWGLDE List work?**

**A.** Interstitial Detector (Liquid-Phase) sensors are used to continuously monitor normally dry-tank or piping interstices, sumps, and under-dispenser containment areas for product and/or liquids that should not be in there. Depending on the type of sensor, this method may or may not indicate whether the leak is from the primary or secondary wall. In rare circumstances, when there is a breach in the primary and secondary wall of the system, product leaking from the inner wall could leak out of the secondary wall without activating a sensor.

Sensors used with the "Continuous Interstitial Monitoring Method (Liquid-Filled)" method continuously monitor a liquid-filled tank or piping interstice for a rise or fall of the liquid. This rise or fall indicates a problem in either the inner or outer wall of the interstitial space.

The "Continuous Interstitial Line-Monitoring Method (Pressure/Vacuum)" and "Continuous

Interstitial Tank-System-Monitoring Method (Pressure/Vacuum)" systems continuously maintain a pressure or vacuum in the interstitial spaces of piping and tanks and use sensors to detect a decay of the pressure or vacuum in the interstitial areas. These systems have a distinct advantage over other interstitial-monitoring systems, because they monitor the integrity of both the primary and the secondary walls of a secondary-containment system at the same time. ■

**About the NWGLDE**

The NWGLDE is an independent work group comprising ten members, including nine 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, please contact NWGLDE at [questions@nwglde.org](mailto: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 USEPA 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 USEPA standard test procedures.
- Make the results of such reviews available to interested parties.

## USEPA Issues Guide for Developing a Third-Party UST Inspection Program

USEPA has provided state and regional UST programs with an electronic version of its new publication, *Developing a Third-Party Underground Storage Tank Inspection Program: A Guide to Assist States* (EPA-510-K-08-001, September 2008). The guide provides states with information on how to develop a third-party inspection program or enhance an existing one. It summarizes USEPA's inspection grant guidelines and outlines steps states should follow in developing a third-party inspection program. It also includes examples of existing state programs. To access the guide, go to <http://www.epa.gov/oust/pubs/thirdpartyinspection.htm>. ■



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