



## **- Notice to UST Owners and Contractors -**

The Office of the State Fire Marshal (OSFM) has received clarification from the U.S. EPA regarding release detection methods specifically for pressurized piping at underground storage tank facilities. The clarification has the potential to require retrofitting of some existing UST pressurized piping systems with automatic line leak detectors. This includes systems using interstitial monitoring with a continuous sump alarm in lieu of an automatic line leak detector.

The release detection requirement found at 40 C.F.R. 280.41(b)(1) and Title 41 Illinois Administrative Code Section 175.640 requires pressurized piping to be equipped with an automatic line leak detector and require annual line tightness testing or monthly monitoring to be done

*According to 40 C.F.R. § 280.44 and Title 41 Illinois Administrative Code Section 175.640, an automatic line leak detector is a "method" which alerts the operator of the presence of a leak by restricting or shutting off the flow of a substance or by triggering an alarm.*

*The U.S. EPA performance standards under 40 C.F.R 280.40(a)(3) and the Illinois performance standards under Title 41 Illinois Administrative Code Section 175.610(a)(3), require that the automatic line leak detector must be able to detect a 3 gallon per hour (gph) leak at 10 pounds per square inch (psi) within 1 hour with a 0.95 probability of detection (Pd) and a 0.05 probability of false alarm (Pfa).*

*Under the federal and state rules, if an owner and/or operator wishes to use interstitial monitoring with sump sensors as an "automatic line leak detector method," then it must meet the above performance requirement for the entire system it is monitoring.*

U.S. EPA clarified:

*A system with interstitial monitoring with sump sensors would have a difficult time meeting the 3 gph at 10 psi, Pd of 0.95 and Pfa of 0.05 performance standards. Approval of an interstitial monitoring with sump sensors method would have to be done on a case by case basis because of the many variables that could affect the system's ability to detect a release. These variables can include where the sensor is placed in the sump, the size and shape of the sump, slope of piping, type of piping, etc. Therefore, it would take an expert evaluation performed by a Professional Engineer, at each given location to allow interstitial monitoring sump sensors as an acceptable release detection method. In addition, the sensors would have to be tested annually according to the manufacturer's requirements of operability.*

Prior to the clarification by the U.S. EPA, the use of interstitial monitoring with a continuous alarm sump sensor was an acceptable method of automatic line leak detection without also needing to have an actual line leak detection device installed.

**Therefore, all pressurized UST piping is required to be equipped with automatic line leak detection devices unless the above-described evaluation by a professional engineer confirms that interstitial monitoring sump sensors can be accepted as the release detection method.** Also note that even if a professional engineer approves the installation, the U.S. EPA rules require ongoing annual testing of the interstitial sensors. The U.S. EPA has confirmed that either mechanical or electronic line leak detectors are acceptable, as long as they are capable of complying with the leak rate detection parameters established by federal rules.

The OSFM does not intend to make immediate inspection visits to all Illinois UST installations to check for the presence of these line leak detectors. Storage Tank Safety Specialists of the OSFM will confirm compliance with the leak detection requirements during their regular inspection/audit visits to UST sites. **However, you should be aware that representatives of the U.S. EPA have been conducting spot-checks for the presence of automatic line leak detectors and citing Illinois UST owners for violations of rules (including the imposition of fines) if the line leak detectors (or an acceptable alternative as described above) are not provided.**

The clarification also is applicable to any newly proposed UST pressurized piping systems that are submitted for approval to the OSFM. You should also be aware that the installation of an automatic line leak detector, whether being retrofitted onto existing UST piping or being newly installed, requires prior permit approval by the OSFM's Division of Technical Services and the work must be conducted by a licensed OSFM UST contractor.

Specific questions concerning this notice can be directed to either the OSFM's Division of Petroleum and Chemical Safety (217-785-1020) or the Division of Technical Services (217- 524-7605).