



Frequently Asked Questions of New Interstitial Liquid Leak Detection System

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Q: What is the interstitial liquid leak detection system?

A: A liquid is placed into the space between the two walls of an underground storage tank. All air must be displaced by the liquid for the system to work effectively. The liquid level is raised above the top of the tank into a liquid sensing reservoir, into which a pair of sensors is placed. The top sensor is normally dry and will activate an alarm if it detects liquid. The bottom sensor is normally immersed in the liquid. The bottom sensor will sound an alarm if the liquid level falls below the sensor. In each case, the alarm is indicative of an upset condition that requires investigation to determine if a breach has occurred.

Q: Do I need to build my tanks differently to accommodate the interstitial liquid leak detection system?

A: Yes, this technology requires near zero movement of the tank heads and shell during tank filling and emptying and during changes in groundwater levels during operations. To minimize such movement, the tank heads must be stiffened, which, at present, requires the use of dished heads.

Q: Is there any history with this technology?

A: European tank manufacturers have furnished double wall steel systems with liquid within the interstice for decades. European leak detection standards favor double wall tanks with continuous vacuum, pressure, or liquid interstitial systems. Non-metallic tank manufacturers furnish systems in North America with a brine system.

Q: Is a special liquid required?

A: Yes, the type of liquid used will build upon European experience to minimize corrosion and lower the temperature at which it freezes. Specifications for the technology will identify where the liquid can be obtained.

Q: Is the interstitial liquid leak detection system a Federal regulatory mandate?

A: No, not at this time; however some states, such as California, are mandating a “continuous” leak detection system incorporating a vacuum, pressure or hydrostatic liquid. Other states, such as North Carolina, favor continuous systems by mandating that the traditional liquid sensor placed in the bottom of an interstice be tested annually and that the tank interstice be tightness tested every three years. Furthermore, the federal EPA is developing new regulations that could provide similar favor to such continuous leak detection systems.

Q: Does the system require regulatory approval?

A: Each State has different requirements for leak detection. There is a regulatory group called the National Work Group for Leak Detection Evaluation, www.nwglde.org, which evaluates different types of leak detection techniques and equipment. The group has already evaluated sensors for this technology to operate with the leak detection liquid and has already been determined to meet minimum requirements. Sensors for this technology have been evaluated to operate with the leak detection liquid and to meet the minimum requirements established by regulations.

Q: Why should I sign up for this technology?

Several reasons come to mind. Current and anticipated regulatory mandates are leading justifications, as mentioned above, and another rationale is that the competition markets similar systems.

Frequently Asked Questions –
(NAME TO BE DETERMINED) Technology
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Q: What materials and technical information will Steel Tank Institute provide?

A: STI will develop specifications for tank construction and provide installation instructions, which are critical, because the installing contractor will put the liquid into the interstice in the field.

Q: What underground storage tanks systems can this technology be installed with?

A: The technology has been initially designed for the Permatank[®] system, with a steel primary tank and an outer FRP tank wall. However, the system can also be installed in STI-labeled double wall steel sti-P3[®], ACT-100[®], and ACT-100-U[®] systems. Further, the interstitial liquid leak detection system is being made available to STI Member who have signed a Master Trademark & License Agreement and who build other tank systems listed to UL 58 and UL 1746 standards.

Q: What new developments will further enhance this system?

A: Research will be conducted on flat head systems to determine if they can be made suitable for the new technology. Also, if the marketplace is so inclined, there may be a future need to make the system available on secondary contained aboveground storage tank systems.

Q: Will there be any per-tank registration fees associated with this technology?

A: Yes, there will be. The agreement STI has entered into with the inventor requires STI to pay a fee for each tank in which the system is installed. STI will develop and provide maintenance, installation and operational procedures, respond to ongoing leak detection monitoring questions, analyze regulatory issues and approvals and further develop the technology, as needed. The registration fees make it possible for STI/SPFA to provide these essential services going forward.

Q: What will STI charge for the Technology License Fee, and how will it collect the fees?

A: In addition to a \$3,500 Enrollment Fee, STI will sell a pre-numbered label that will be applied to any eligible tank using the new technology. The cost per label is \$50 per tank, and STI will sell the labels in packets of three. Licensees must specify Part No. 03-55 when placing label orders.

Q: Will STI track who is using this technology in its database?

A: Yes it will. The current tank inspection forms will be modified to include a box that will be checked if the new technology is being installed with the tank. The box will also have a space to fill in the number associated with the pre-printed label. This gives STI the ability to maintain control over the use of the labels and the collection of the required fees.

Q: Will this affect the tank manufacturers' warranties on the STI UST technology(ies)?

A: STI requires tank manufacturers to comply with STI's licensing requirement that a warranty be provided by the manufacturer upon the sti-P3[®], ACT-100[®], Permatank[®] and ACT-100-U[®] tanks. STICO provides this warranty and has assured STI that the interstitial liquid leak detection system will not have any impact on the current warranty policy offered by STICO Mutual.

Q: How long will the Technology Enrollment Fee remain at \$3,500?

A: We expect the \$3,500 enrollment fee to remain in effect the first year, and it will likely be increased in 2011.