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

More Questions about Throughput!

In this LUSTLine *FAQs from the National Work Group on Leak Detection Evaluations (NWGLDE), we respond to questions asked at the recent UST Compliance and Prevention Workshop in Denver regarding throughput limits on leak-detection equipment in general and line-leak detector (LLD) protocol throughput limitations. It may help to look back at the* LUSTLine *#51, December 2005, FAQ "CITLDS and Throughput" to better understand the following discussion regarding throughput. Please note: the views expressed in this column represent those of the work group and not necessarily those of any implementing agency.*

Q. *Why do some listings have throughput limits while others do not?*

A. The *LUSTLine* article referred to above explains that the throughput limit requirement in the CITLDS protocol was established because the use of the CITLDS method at busy 24-hour-operation facilities lacks the "quiet time" necessary to obtain enough leak test data to perform a valid test. This is not a problem with external leak-detection methods because they look for leaks outside the tank or in the interstitial space between the inner and outer wall of a double-walled tank. This is also not a problem with most internal methods because they require the tank to be shut down (no filling and/or dispensing) for certain time periods prior to beginning the test and during the test. This shutdown period creates the "quiet time" necessary to allow the tank to become static prior to the test, and remain static during the test without throughput limits.

Currently, the Statistical Inventory Reconciliation (SIR) internal methods of leak detection that are certified to meet the USEPA protocol have similar problems to the CITLDS method. These methods need enough "quiet time" to obtain sufficiently accurate tank-level readings to conclusively find a leak. Again, the busy facilities that operate 24/7 are the concern. They may dispense product on virtually a continuous basis, which creates turbulence in the tank. Also, these facilities receive frequent deliveries of product, which produces both turbulence from the delivery and instability after the delivery due to temperature variations between the delivered and existing product. Unfortunately, the current SIR protocol does not include a throughput limit like the CITLDS protocol. Because of this, the NWGLDE has included the throughputs from the data sets used during the third-party evaluation of the SIR methods. The NWGLDE provides this information for state agencies that may want to consider using this monthly throughput as a throughput limit.

Q. *Why doesn't the NWGLDE put a throughput limit on systems using LLDs? [This question pertains to the problem of achieving workable leak detection at high throughput facilities where submersible pumps operate for extended periods without an interruption that would allow time for LLD operation.]*

A. The quick answer to this question is that the USEPA protocol used to evaluate LLDs does not require the establishment of a throughput limit. But does this protocol really need a throughput limit? The CITLDS test protocol requires a monthly throughput limit in an attempt to create enough "quiet time" to allow conventional CITLDS equipment (not WRA PetroNetwork) to run a valid monthly test. A throughput limit on LLDs would not necessarily create frequent enough pump shutdowns to allow them to detect a 3.0 gph leak within a reasonable time frame. Instead, the NWGLDE believes that the necessary pump shutdowns could be more effectively achieved by a state agency making a rule change that stipulates a specific periodic owner-initiated pump shutdown sequence to initiate the LLD test. This would seem to be a better option than seeking a LLD protocol change to develop a statistical maximum monthly throughput that may or may not achieve the desired pump shutdown frequency needed for valid LLD tests.

Alternately, many states have chosen to augment the leak-detection capabilities of a LLD by also requiring double-walled piping with continuously monitored low-point sumps. The low-point sump sensor may also be tied into the submersible pump circuit to automatically shut off the submersible pump if a leak is detected. ∎

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*.