



METHODS OF LEAK DETECTION

TANKS

(Use any one of the following seven methods.)

1. Daily Inventory Control and Tank Tightness Testing (DIC) – (available **only** on new tank installations)

- Requires daily stick readings, which are then compared to records of sales and deliveries. You must reconcile the stick readings and inventory records at least once each month.
- Must be done in such a way as to detect releases as small as 1% of metered sales plus 130 gallons.
- A passing precision test of the UST system must be provided:
 - at the time of new tank installation
 - 5 years after installation
 - 10 years after installation

The tightness test must be able to detect a leak of .1 gallon per hour and be performed by a licensed Iowa UST tester.

NOTE: See #3 below for alternative to tightness test, Statistical Inventory Reconciliation (SIR).

- Send only one recent month of records.
- Can only be used for 10 years from time of tank installation.

2. Automatic Tank Gauging (ATG)

- Send a recent passing test report from your ATG for each tank. Depending on the brand of ATG, this report could be called: leak test report, leak monitor report, last successful TLM leak test, CSLD test results, or data history.
- Each leak test report must indicate "pass" and show a leak rate of .1 gph or .2 gph. Most leak test reports will show the "begin gross" or "net gross" which is the product level (gallons) at the time of the test. Some ATG systems provide an inventory report which shows the amount of product on a certain date. Other ATG systems will give the percentage (%) of product or inches, rather than the number of gallons. If your ATG test report shows only the inches of product at time of test, it may be necessary to also provide an inventory report if the size of the tank cannot be determined. It is important to make sure that the inventory information is dated at the same time as the leak test (or within 24 hours). A leak "summary" is different from a leak "test" and is not acceptable.

3. Statistical Inventory Reconciliation (SIR)

- Submit at least one recent monthly report from your SIR vendor. Always send the complete SIR detail report which indicates pass/fail/inconclusive.

- Inventory records must be submitted to your SIR vendor at the end of every month for processing.

NOTE: SIR may be used as a monthly monitoring tool, or as a tank tightness test. If you use an EPA-approved method to do your SIR, you do not need a precision tightness test done on your tank(s). But, if you use SIR only as an annual tightness test, you must also send us one month of your daily inventory reports.

4. Manual Tank Gauging (MTG)

- Send one recent month of weekly reconciled readings.
- If tank is more than 1,000 gallons, must also submit tank tightness test performed within the last 12 months.

NOTE: This method may only be used if your tank is 2,000 gallons or smaller. It is often used for small waste oil or kerosene tanks. The tank must be idle (unused) for a certain period of time.

5. Vapor Monitoring (VP)

- Send last 12 months of records.
- Send "as-built" drawings for each well and the initial conditions of each well.
- Regulations specify requirements for placement, backfill, etc.
- Provide description of sampling instrument and sampling procedures.
- See PMMIC form on our website:

6. Groundwater Monitoring (GW)

- Send last 12 months of records.
- May only be used if groundwater is within 20 feet of surface, and soil is gravel, coarse to medium sand, coarse silt, or similar type.
- Requires a site assessment by qualified person to determine the number and placement of wells, or must send "as-built" drawings.
- Monitoring device must be able to detect 1/8 inch of free product on top of the groundwater in the well(s).
- See PMMIC form on our website:

7. Interstitial Monitoring (IM)

- Send 12 months of records. Can be manual log or printout. See PMMIC form on our website:
- Appropriate to use with double-walled systems or systems with secondary barrier.
- Sensors must remain at lowest point in containment (if applicable).
- Secondary barrier must remain dry at all times.

PIPING

1. Pressurized Piping

You must have an automatic line leak detector which must:

- be able to detect a leak of 3 gallons/hour at 10 psi line pressure within 1 hour, and
- either restrict or shut off flows when it detects a leak, or must alert you with an alarm.

You must send:

- documentation that the line leak detector has been checked during the last year to make sure it is working. Mechanical line leak detectors must be certified by either an Iowa licensed installer/tester or an individual that has been certified in a training protocol approved by PMMIC. Electronic LLDs need either monthly log or the printout from your ATG showing passing 3.0 gph test.

Also, you must send:

- results from a line tightness test done @ 0.1 gph (precision test) within the last year by a licensed Iowa UST tester, or
- appropriate records from vapor monitoring, groundwater monitoring, interstitial monitoring of the piping, or
- one recent monthly SIR report.

2. Safe Suction Piping

- No additional requirement is needed for line leak detection.

3. Un-Safe Suction Piping

You must have either:

- results from a line tightness test within the last 3 years performed by a licensed Iowa UST tester, or
- appropriate records from vapor monitoring, groundwater monitoring, interstitial monitoring of the piping, or
- one recent monthly SIR report.

If you should have questions on any type of leak detection or what type of records will be needed, please contact our office at 1-800-942-1000.