

CSLD Leak Test Failures Due To TANK EVAPORATIVE LOSSES

Evaporation in a UST can present itself as a leak when testing with CSLD. In the absence of a Stage-II Vapor Recovery System or with a high proportion of ORVR vehicles, when liquid fuel leaves the tank it is replaced by air. This causes fuel to evaporate to restore the equilibrium vapor pressure of the fuel. In higher throughput sites fuel is dispensed more quickly and evaporation rates can be high enough to give a false indication with CSLD unless an estimate of the evaporation rate based on the actual fuel RVP (Reid Vapor Pressure), temperature, sales, and delivery histories is properly taken into account.

To determine if the tank may be failing due to evaporation, contact Tech Support at 800-323-1799 and provide the commands listed in the TLS-450PLUS Troubleshooting Guide (577014-075) or TLS-3xx Troubleshooting Guide (576013-838), as applicable, via email to technicalsupport@veeder.com.

To prevent a leak test failure due to evaporation, the tank's venting system must be tight. An "Evaporation Check" includes inspecting the following devices to ensure they are sealed and in good proper working order:

- Fill riser caps
- Spill Bucket plungers
- Vapor recovery poppets
- Probe riser caps
- Tank vent caps
- Any other piece of equipment that can leak vapor

In the TLS console verify the following programming:

- Thermal coefficients
- Probe float sizes
- Tank charts and diameters
- Tanks tilts and probe offsets
- Climate factor must be EXTREME.
- If there is a siphon manifold, it must be programmed as siphon manifolded

If any problems are detected during the evaporation check they should be addressed and the rate table deleted.

If no problems are found, run a 2-hour static test to verify the tank is not leaking.

Once the static test has passed Compensation can be enabled and the Reid Vapor Table can be added to adjust for evaporation.

Call Veeder Root Technical Support at 800-323-1799 for help adding extra compensation for the evaporation problem.

CSLD RATE INCREASES

This section reviews troubleshooting methods to resolve CSLD Rate increase issues.

Check Programming

1. Verify Thermal Coefficient is correct – For Gasoline 0.00070 and for Diesel 0.00045.
2. Verify correct Float Size.
3. Verify each parameter in Tank Programming:
 - a. Tank chart
 - b. Diameter
 - c. Tank tilt
 - d. Probe offset

5. Verify if the tank is single, siphon manifolded, or line manifolded – If Siphon Manifolded refer to the section below.
6. Climate Factor setting – When trying to correct an Increase Rate Warning set to Moderate, changing it to Extreme will make the increase worse.

Note: If you find any of these common errors, delete the CSLD rate table after correcting the programming.

Other Factors

1. Water getting into the tank
 - a. Verify water reading in inventory.
 - b. Check recent delivery reports to see if water appeared after a delivery.
2. Siphon leaking back into tank
 - a. Check siphon fittings for tightness or visual damage and replace if necessary - Flared fittings are better than compression fittings.
 - b. Inspect siphon check valve and replace if necessary.
 - c. Check for air in the Siphon Line. Install a clear tube between the copper siphon tube and the STP and energize the STP:
 - i. The clear tube should eventually fill with liquid, indicating the siphon is functioning normally.
 - ii. If no liquid appears or bubbles are constantly being drawn through the tube, there is probably a leak in the system.
3. Pump leaking back into tank.
 - a. Repair/rebuild the STP by replacing the check valve, o-rings, and/or gaskets, making sure that the UMP is securely attached. Replace anything in the STP that can be the source of a leak.
4. Thermal Expansion can occur in product lines as well as siphon bars as product warms. If the product expands enough it can open the STP pressure relief valve and leak back into the tank resulting in an Increase Rate Warning.
 - a. Install a gauge in the line.
 - b. Monitor the pressure on the gauge.
 - c. An increase in pressure is an indication of thermal expansion.
 - d. In a siphon system, expansion will also return product to the tank.
5. Vapor Recovery bleeding fuel back into the tank (where vapor recovery is present)
 - a. Block the vapor recovery line and see if fuel builds up behind the blockage.

Contact Veeder Root Technical Support at 800-323-1799 for further assistance.

REFERENCE MANUALS

- 577014-075 TLS-450PLUS Troubleshooting Guide
576013-818 TLS-3xx Troubleshooting Guide

