

# Technical Service Notification

## Troubleshooting Continuous Statistical Leak Detection (CSLD) Rate Increase Warning

### ► Overview

CSLD is a type of tank testing that runs in the background while a station is open. CSLD monitors idle time and calculates an accurate leak detection rate. When the console sees the product level increasing during idle periods, the console will display a CSLD Rate Increase Warning. For more information on CSLD, please refer to the [TLS-450PLUS Troubleshooting Guide \(577014-075\)](#).

### ► Troubleshooting Tips

#### Programming

- Confirm the tank's thermal coefficient is correct. An incorrect thermal coefficient can cause the console to see inaccurate fuel volumes.
- Confirm the tank's CSLD climate factor is set to Moderate. When set to Extreme, the displayed leak rate will be substantially increased.

#### Siphon

- Confirm siphon programming. Incorrect programming will cause false increases and decreases.
- Check for loose or worn out siphon components, siphon check-valve and siphon fittings. If the siphon is clogged or not pulling proper vacuum, then during idle periods, fuel will leak from the siphon back into the tanks causing their volume to slowly increase.
- Check vacuum on the siphon cartridge or functional element.
- Run a static test on each tank to identify the cause – siphon or Submersible Turbine Pump (STP).  
*Instructions on the next page.*

#### STP

- Inspect the check valve and o-rings. Replace as necessary, refer to manufacturer specifications.
- Make sure the STP has an air eliminator tube (return line) installed.

#### Water

- Check for water level increases. If there is water in the tank, check the alarm history for water warnings and review delivery history for water increases.

#### Thermal Expansion (in the line)

- Check for thermal expansion in the line. When the product temperature in the tank is lower than the ground temperature, product in the line will expand after dispensing. After pumping ceases, the line or pump check valve will maintain pressure in the line. As the ground warms the product in the line expands, building up its pressure. The increased pressure causes fuel to be pushed past the STP's pressure relief and into the tank.

**Note:** This typically happens during the warmer summer months, especially at sites where the lines are not buried deep (less than three feet).

## ► Troubleshooting Tips (continued)

### Mechanical Leak Detection

- ❑ Check the mechanical leak detector's vent line for fuel. A torn diaphragm on the mechanical leak detector can cause product to leak into the vent line and then drip back into the tank. If fuel is found in the vent line, replace the leak detector.

**Note:** A secondary symptom will be a loss of line pressure.

### Stage-II Vapor Recovery

- ❑ Check for bad nozzles and hoses leaking fuel into the return line.
- ❑ Plug the vapor recovery line and see if gas backs up behind the plug.

**Note:** If either scenario above occurs, then when no one is dispensing, fuel can leak or drip back into the tank.

### Static Test – Siphoned Tanks

- ❑ Break the physical siphon and give it 30 minutes to drain out.
- ❑ Remove the siphon manifold from the programming.

**Note:** This must be re-programmed after the completion of the static tests.

- ❑ Confirm the tank(s) are at least 1/3 full.
- ❑ Confirm the last delivery ended 8 hours prior to starting the static test.

**If both tanks pass the static test, then most likely this is a siphon issue.  
If the tank with the STP shows an increase, then this is a STP issue.**

## ► Further Information

- Contact Veeder-Root Technical Support at 1-800-323-1799 for additional help or questions.
- Learn more about CSLD and other features on our [TLS-450PLUS Feature Enhancements](#) webpage.