June, 2021

The Voice

How to Check for Vapor Leaks after a Drive-Off on a Balance System with ISD

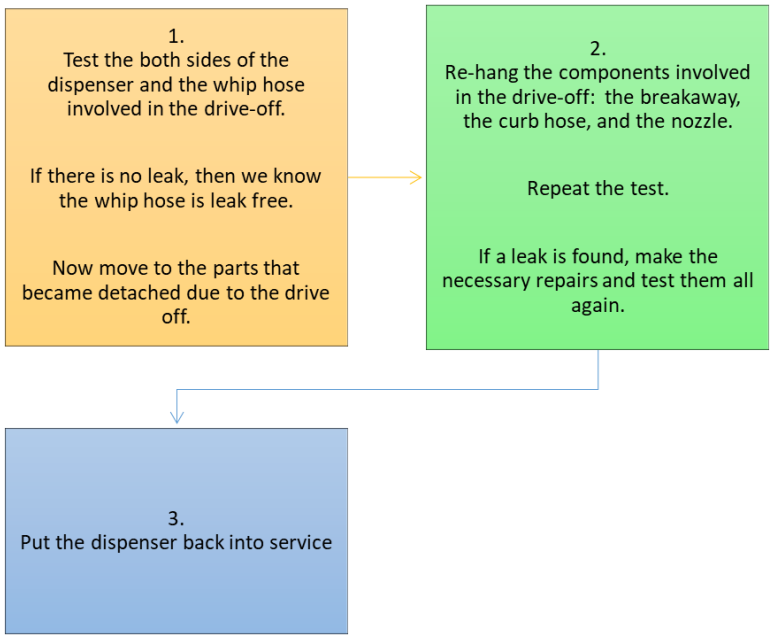
Doug Harty, Senior Applications Engineer { harty@vsthose.com }

Drive-offs are an unfortunate part of life for GDF's, with the potential for causing post-repair ISD alarms that can result in expensive service calls for the GDF.

It would be advantageous for an ASC to know how to use a laptop to test a dispenser for vapor leaks after a drive-off, so that applicable action can be taken to prevent ISD alarms and excess service calls.

There is a 2-step process to check for leaks:

1. Test the dispenser and components (that are still hanging on the dispenser after the drive off) for leaks.
2. Reattach the components that became detached as a result of the drive off, and test them for leaks.



VST Mission

To design and manufacture innovative products for retail refueling systems that are specifically engineered to protect the environment and consumers with safety and reliability.

VST Values

R: Respect Employees, Customers, Vendors, and Environment

O: Operational Excellence, Quality, Delivery, Safety & Cost

I: Innovative Passion, Unique, Industry Leader, and Committed to Excellence

VST Vision

VST strives to become the most trusted company in the global gasoline dispensing industry by manufacturing environmentally sustainable products and solutions that reduce harmful vapor emissions to create a future that protects the communities in which people live and work every day.

Tips & Tricks

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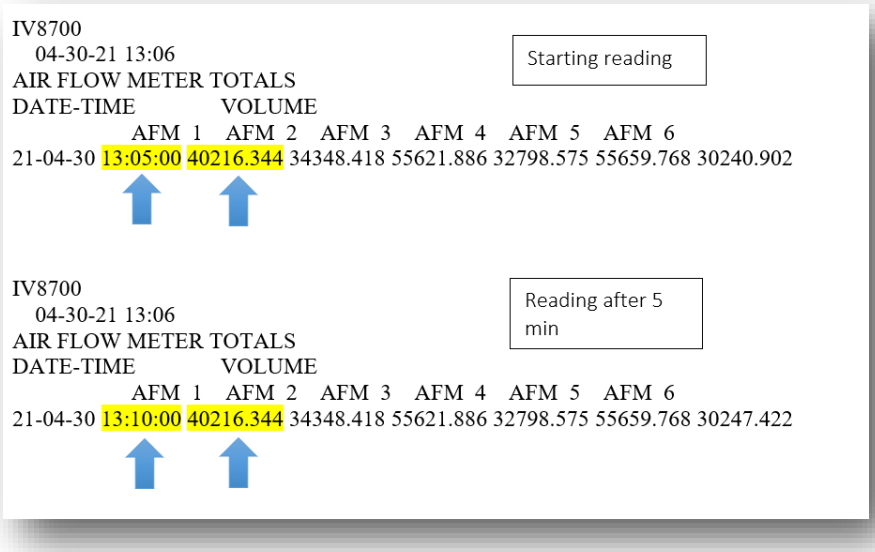
Begin the process by assessing any changes in dispenser flow values:

1.	Block off both sides of the dispenser where the drive off happened.
2.	Connect the laptop to the TLS-350 with a compatible serial cable.
3.	Send the IV8700 command to the TLS-350.
4.	Note the value of the Flow Meter being tested.
5.	Wait about 5 minutes, and then send the IV8700 command again.
6.	Look for any change in the values of dispenser flow for the meter being tested.

This graphic shows two IV8700 readings from the ISD in the TLS-350, AFM1 is the dispenser flowmeter being tested after a drive-off. Here you can see that both start and end values of AFM1 are identical. This means the whip hose that was involved in the drive off, and the opposite fueling positions (FP) are leak free. Now that we know the whip hose is leak free, we can move on and test to see if the curb hose and nozzle are also leak free.



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Striving Towards Sustainability

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The Process, continued…

7.	Repair any leaks, and repeat steps 1-6 until you do not observe any change on the flow meter.
8.	Reconnect breakaway, curb hose, and nozzle.
9.	Send the IV8700 command to the TLS-350.
10.	Note the value of the Flow Meter being tested. It changed during the breakaway reconnection.
11.	Wait about 5 minutes, and then send the IV8700 command again.
12.	Look for any change in the values of dispenser flow for the meter being tested.

This is showing two IV8700 readings from the ISD in the TLS-350, AFM1 is the dispenser flowmeter being tested after a drive-off. Here you can see that the start and end values of AFM1 are different.

This means the curb hose that was involved in the drive off is leaking, since the other components have already been tested: 5.496 gallons measured by the Flow Meter over 5 minutes.

IV8700
04-30-21 13:13
AIR FLOW METER TOTALS
DATE-TIME VOLUME
AFM 1 AFM 2 AFM 3 AFM 4 AFM 5 AFM 6
21-04-30 13:11:40 40216.627 34362.061 55621.886 32798.575 55658.634 30253.163

First reading

IV8700
04-30-21 13:13
AIR FLOW METER TOTALS
DATE-TIME VOLUME
AFM 1 AFM 2 AFM 3 AFM 4 AFM 5 AFM 6
21-04-30 13:16:40 40222.123 34362.061 55621.886 32798.575 55658.634 30263.262

Reading at 5 min
Leak observed

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The Process, continued…

13.	Repair any leaks, and repeat steps 9-12 until you do not observe any change on the Flow Meter. Check dispenser vapor piping, flow meter gaskets, and outlet castings if a leak persists.

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