

**Executive Order VR-202-A  
Healy Phase II EVR System  
Including In-Station (ISD) System**

**Exhibit 9  
ISD Operability Test Procedure**

The following procedures shall be used at field sites to determine the operability of the Veeder-Root ISD system to satisfy the requirements documented in VAPOR RECOVERY CERTIFICATION PROCEDURE, CP-201, CERTIFICATION PROCEDURE FOR VAPOR RECOVERY SYSTEMS AT GASOLINE DISPENSING FACILITIES. Testing the ISD equipment in accordance with this procedure will verify the equipment's operability for Vapor Containment Monitoring and Vapor Collection Monitoring.

Veeder-Root's TLS console ISD System Self-Test Monitoring algorithms are designed to verify proper selection, setup and operation of the TLS console modules and sensors and will not complete and report passing test results in the event of a failure of components used in the system. Completed ISD monitoring tests are evidence that:

- The system was properly powered for data collection
- All necessary ISD sensors were setup and connected
- All necessary ISD sensors were operating within specification
- All internal components including TLS console modules were properly setup and operating within specification

Veeder-Root recommends printing a copy of the ISD ALARM STATUS and ISD DAILY report (REF. Section 5, Operation of the ISD Install, Setup & Operation Manual) periodically to determine that compliance tests are being completed in accordance with local and state regulations.

A step-by-step worksheet for recording data from the following operability tests is provided at the end of this Exhibit.

## Vapor Pressure Sensor Ambient Reference Test

The following procedure shall be used at field sites to determine if the Vapor Pressure Sensor is reading properly in accordance with Veeder-Root ISD specifications.

1. Access the Vapor Pressure Sensor in the dispenser. Record which dispenser contains the pressure sensor and the pressure sensor serial number on the data form.
2. Remove the cap from the ambient reference port of the Vapor Pressure Sensor valve and open the valve to atmosphere by turning it 90 degrees so that the flow arrows point to both the Vapor Pressure Sensor sensing port and the ambient reference port (see Figure 4-1).
3. Start at the 'DIAG MODE' menu at the TLS Console front panel to enter the 'Calibrate SmartSensor' menu as shown in Figure 4-2 to view the non-calibrated pressure value.
4. Verify that the pressure value is between +0.2 and -0.2 inches water column (IWC). If the pressure value is not within this range, leave the valve in the position described in Step 2 above, replace the sensor per the ISD Pressure Sensor Installation Guide, and then retest starting at Step 3 above.
5. Replace the cap on the ambient reference port of the Vapor Pressure Sensor valve. Restore the Vapor Pressure Sensor valve by turning it 90 degrees so that the flow arrows point to both the Vapor Pressure Sensor sensing port and the UST vapor space sensing line (ref. Figure 4-1).
6. Press the <MODE> key to leave the 'Calibrate SmartSensor' menu. Note: Do not calibrate the sensor!

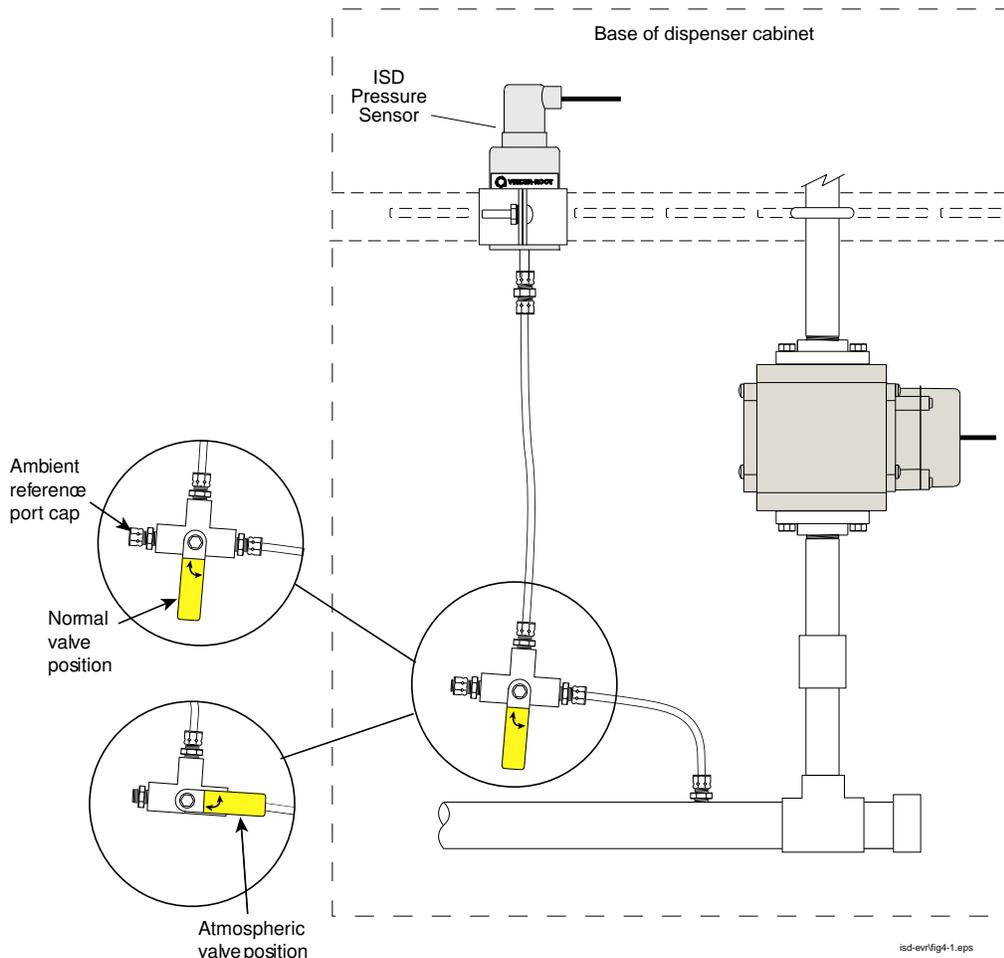


Figure 4- 1. Vapor pressure sensor valve position

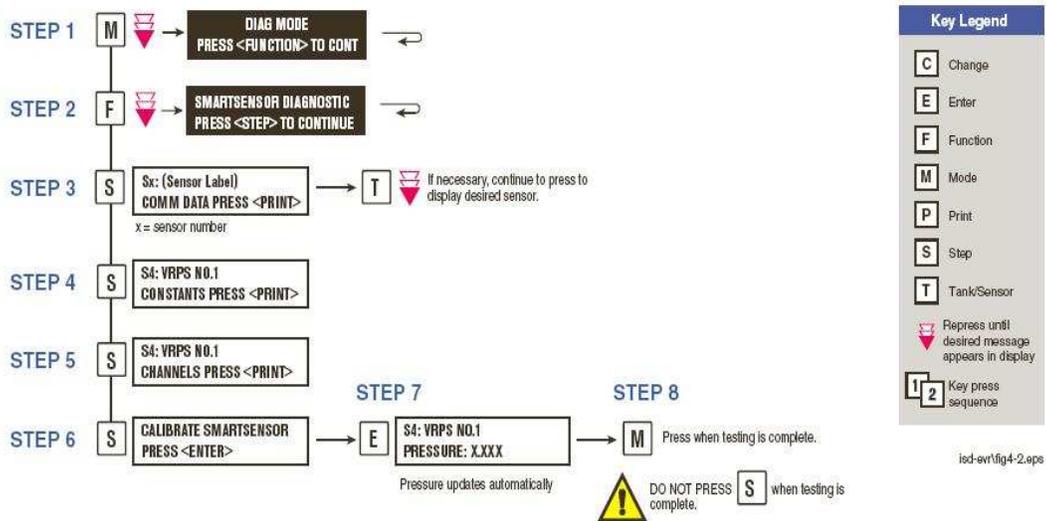


Figure 4- 2. Accessing Calibrate SmartSensor diagnostic menu

## Vapor Flow Meter Operability Test

1. Obtain an ISD Daily Report printout with current Gross A/L values from the TLS (see "Reports" on page 5-5 of the ISD Install, Setup & Operation Manual).
2. Select a dispenser and note the fueling point numbers on the data form. Obtain the vapor flow meter serial number (available from the EVR/ISD Setup Printout – see Figure 3-6 in the ISD Install, Setup & Operation Manual). Conduct a Healy EVR Phase II system V/L test per Exhibit 5 of VR-202-A with lowest grade fuel available on that dispenser.
3. Compare the ISD Daily Report Gross A/L value for that dispenser hose to the V/L result (subtract V/L value from A/L value and note difference on the form).

Pass: If the difference is between -0.15 and +0.15, then the ISD A/L value is within +/- 0.15 of the V/L value. Circle "Pass" to document that the ISD flow meter in that dispenser passes and repeat the procedure beginning at Step 2 for the next dispenser.

Continue: If the ISD A/L value is NOT within +/- 0.15 of the V/L value, then go to Step 4.

4. Run two more V/L tests per Exhibit 5 with lowest grade fuel on the same hose and average the two results with the first V/L result from Step 2.
5. Compare the ISD value for that hose to the average of the 3 V/L results (subtract V/L value from A/L value and note difference on the form).

Pass: If the ISD A/L value is within +/- 0.15 of the average of the 3 V/L results, the ISD flow meter in that dispenser passes the operability test. Go to the next dispenser and repeat the procedure beginning at Step 2.

Continue: If the ISD A/L value is NOT within +/- 0.15 of the average of the 3 V/L test results, then go to Step 6.

6. If a second fueling position is available on the dispenser, repeat the tests beginning at Step 2 for the second fueling position. If the second fueling position tests do not pass Steps 2 through 5, proceed to Step 7.
7. Replace the ISD flow meter and note the new vapor flow meter serial number on the form. Perform a Clear Test After Repair to reset tests for that dispenser, (see Section 7 of the ISD Install, Setup & Operation Manual, ISD/PMC Diagnostic Menus), at the TLS for both fueling positions on that dispenser.
8. After replacing the vapor flow meter, perform three V/L tests with lowest grade fuel on a hose at the dispenser and record the average of the results.

9. Obtain the next ISD reported Daily Gross A/L value for the hose during the following day or days and compare to the recorded average of 3 V/L results.

Pass: Circle Pass if the difference between the ISD A/L value is within +/- 0.15 of the average of the 3 V/L results from Step 8.

Fail: If the ISD A/L value is NOT within +/- 0.15 of the average of the 3 V/L test results, then repeat the entire vapor flow meter operability test until a passing result is obtained.

## **Site Shutdown Test**

This test must be performed by a certified Veeder-Root contractor.

1. Remove power from TLS console.
2. Confirm power to submersible pumps is off by verifying that gasoline dispensing has been disabled.
3. Restore power to TLS console.

# Operability Test Procedure Data Forms

Use these forms to check off and record the results from the ISD Operability Testing Procedure steps.

## Vapor Pressure Sensor Ambient Reference Test

DATE OF TEST _____	
SERVICE COMPANY NAME	SERVICE COMPANY'S TELEPHONE
SERVICE TECHNICIAN	VEEDER-ROOT TECH CERTIFICATION #
STATION NAME	DISTRICT PERMIT #
STATION ADDRESS	CITY STATE ZIP

STEP 1.	PRESSURE SENSOR LOCATION: DISPENSER FUELING POINT NUMBERS <b>FP</b> ____/ <b>FP</b> ____	PRESSURE SENSOR SERIAL NUMBER _____
STEP 2.	REFERENCE PORT CAP REMOVED? <span style="float: right;"><input type="checkbox"/></span> VALVE SET TO REFERENCE PORT (PER FIG. 4-1)? <span style="float: right;"><input type="checkbox"/></span>	
STEP 3.	NON-CALIBRATED SENSOR VALUE _____ INCHES OF WATER COLUMN (OBTAIN VALUE USING TLS CONSOLE KEYPAD SEQUENCE SHOWN IN FIG. 4-2, STEP 7)	
STEP 4.	PRESSURE BETWEEN +0.20 & -0.20 (Y/N)? <span style="float: right;"><input type="checkbox"/></span> IF NO: REPLACE PRESSURE SENSOR: NEW SENSOR SERIAL NUMBER _____ NEW SENSOR VALUE _____ INCHES OF WATER COLUMN NEW SENSOR PRESSURE BETWEEN +0.20 & -0.20 (Y/N)? <span style="float: right;"><input type="checkbox"/></span>	
STEP 5.	REFERENCE PORT CAP REPLACED? <span style="float: right;"><input type="checkbox"/></span> VALVE SET TO VAPOR SPACE PORT (PER FIG 4-1)? <span style="float: right;"><input type="checkbox"/></span>	
STEP 6.	MODE KEY PRESSED TO EXIT CALIBRATE SMARTSENSOR MENU? <span style="float: right;"><input type="checkbox"/></span>	

**Veeder-Root In-Station Diagnostics (ISD)  
Vapor Flow Meter Operability Test Procedure**

DATE OF TEST \_\_\_\_\_

SERVICE COMPANY NAME	SERVICE COMPANY'S TELEPHONE		
SERVICE TECHNICIAN	VEEDER-ROOT TECH CERTIFICATION #		
STATION NAME	DISTRICT PERMIT #		
STATION ADDRESS	CITY	STATE	ZIP

VAPOR FLOW METER SERIAL NUMBER _____
DISPENSER FUELING POINT NUMBERS      FP _____      FP _____

STEP 1.	ISD DAILY REPORT GROSS A/L VALUES		
STEP 2.	LOW GRADE FUEL HOSE *V/L RESULT #1 (ONE FP ONLY)		
STEP 3.	STEP 1. VALUE MINUS STEP 2. VALUE	DIFF.	DIFF.
	PASS IF DIFFERENCE IS WITHIN +/-0.15, IF LARGER DIFFERENCE, THEN CONTINUE TO STEP 4 (CIRCLE ONE)	PASS      CONTINUE TO STEP 4	PASS      CONTINUE TO STEP 4
STEP 4.	LOW GRADE FUEL HOSE V/L RESULT #2		
	LOW GRADE FUEL HOSE V/L RESULT #3		
	AVERAGE OF 3 V/L RESULTS	AVG.	AVG.
STEP 5.	STEP 1. VALUE MINUS STEP 4. AVG.	DIFF.	DIFF.
	PASS IF DIFFERENCE IS WITHIN +/-0.15, IF LARGER DIFFERENCE, THEN CONTINUE TO STEP 6 OR 7 (CIRCLE ONE)	PASS      CONTINUE TO STEP 6	PASS      CONTINUE TO STEP 7
STEP 6.	IF CONTINUE, REPEAT AT STEP 2. FOR 2 <sup>ND</sup> FP USING 2 <sup>ND</sup> FP COLUMN, ABOVE.		

**Veeder-Root In-Station Diagnostics (ISD)  
Vapor Flow Meter Operability Test Procedure**

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DATE OF TEST \_\_\_\_\_

<b>STEP 7.</b>	REPLACE FLOW METER <span style="float: right;"><input type="checkbox"/></span>
	NEW VAPOR FLOW METER SERIAL NUMBER _____
	PERFORMED "CLEAR TEST AFTER REPAIR" AT TLS FOR BOTH FP'S? <span style="float: right;"><input type="checkbox"/></span>

	DISPENSER FUELING POINT NUMBERS	FP _____	FP _____
<b>STEP 8.</b>	LOW GRADE FUEL HOSE V/L RESULT #1 (ONE FP ONLY)		
	LOW GRADE FUEL HOSE V/L RESULT #2		
	LOW GRADE FUEL HOSE V/L RESULT #3		
	AVERAGE OF 3 V/L RESULTS	AVG.	AVG.

**IMPORTANT:**  
WAIT FOR NEXT ISD DAILY REPORT GROSS A/L RESULTS FOR NEW METER (AT LEAST ONE DAY).

SERVICE TECHNICIAN \_\_\_\_\_ DATE OF TEST \_\_\_\_\_

	DISPENSER FUELING POINT NUMBER	FP _____
<b>STEP 9.</b>	ISD DAILY REPORT GROSS A/L VALUE	
	STEP 9. VALUE MINUS STEP 8. AVG.	DIFF.
	PASS IF DIFFERENCE IS WITHIN +/-0.15, OTHERWISE FAIL (CIRCLE ONE)	PASS      FAIL

**\*Measure V/L using test procedure in Exhibit 5 of VR-202-A.**

**Veeder-Root In-Station Diagnostics (ISD)  
Site Shutdown Test**

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DATE OF TEST \_\_\_\_\_

SERVICE COMPANY NAME	SERVICE COMPANY'S TELEPHONE
SERVICE TECHNICIAN	VEEDER-ROOT TECH CERTIFICATION #
STATION NAME	DISTRICT PERMIT #
STATION ADDRESS	CITY STATE ZIP

STEP 1.	POWER REMOVED FROM TLS CONSOLE?	<input type="checkbox"/>
STEP 2.	POWER TO SUBMERSIBLE PUMPS REMOVED BY TLS? (VERIFY GASOLINE FUELING DISABLED)	<input type="checkbox"/>
STEP 3.	POWER RESTORED TO TLS CONSOLE?	<input type="checkbox"/>

<b>COMMENTS (INCLUDE DESCRIPTION OF REPAIRS MADE)</b>
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