



**ATTACHMENT A: VAPOR RECOVERY TESTS FOR PHASE I EVR SYSTEMS, PHASE II PRE-EVR SYSTEMS AND VACUUM ASSIST PHASE II EVR SYSTEMS LOCATED AT GASOLINE DISPENSING FACILITIES EQUIPPED WITH UNDERGROUND STORAGE TANKS REQUIRED TESTING**

	Vapor Recovery System <sup>1,2&amp;6</sup>	Pressure Decay <sup>3</sup>	A/L TP-201-5 (April, 1996) <sup>4</sup>	A/L Equivalent Test <sup>4</sup>	V/L Exhibit 5 <sup>5</sup>	V/L Equivalent Test <sup>5</sup>	Additional Required Test
<b>PHASE I</b>	Phil Tite (VR-101-X) OPW (VR-102-X) CNI (VR-104-X)	TP-201.3	N/A	N/A	N/A	N/A	Static Torque of Rotatable Phase I Adaptors (TP-201.1B) Pressure Integrity of the Drop Tube/Drain Valve (TP-201.1C/ TP-201.1D) Leak Rate and Cracking Pressure of P/V Relief Vent Valves (TP-201.1E)
<b>PHASE II</b>	Pre-EVR Balance Systems	TP-201.3	N/A	N/A	N/A	N/A	Compliance Determination of Liquid Removal Rate (TP-201.6C, Option 2) <sup>1</sup>
	Healy/Franklin System ORVR (G-70-191-XX)	TP-201.3	Yes	TriTester Version 2.96	N/A	N/A	Integrity of Vapor Valve (Exhibit 2) <sup>8</sup>
	Healy EVR System without ISD (VR-201-X)	TP-201.3	N/A	N/A	Yes	TriTester Version 2.01	Clean Air Separator Integrity Test (Exhibit 4) <sup>7</sup> Dispenser Vapor Line Integrity Test, Dispensing Vacuum Test and Audible Increase Test (B-3, B-4, B-5, B-6, of the Start-Up / New Installation/ Warranty/ Annual Testing Form located in the IOM manual) If applicable, Liquid Condensate Trap Compliance Test Procedure (Exhibit 9)
	Healy EVR System with ISD (VR-202-X)	TP-201.3	N/A	N/A	Yes	TriTester Version 2.01	Clean Air Separator Integrity Test (Exhibit 4) <sup>7</sup> Dispenser Vapor Line Integrity Test, Dispensing Vacuum Test and Audible Increase Test (B-3, B-4, B-5, B-6, of the Start-Up / New Installation/ Warranty/ Annual Testing Form located in the IOM manual) Operability Test (Exhibit 9/Exhibit 10) <sup>9</sup> If applicable, Liquid Condensate Trap Compliance Test Procedure (Exhibit 11)



## ATTACHMENT A – INSTRUCTIONS AND REQUIREMENTS

X and XX represent most recent California Air Resources Board (CARB) certification of the applicable vapor recovery system.

<sup>1</sup>Unless otherwise specified by a District's representative, the tests for the Vapor Recovery Systems specified shall be conducted in the following order:

<b>ORVR Healy (G-70-191-XX)</b>	<b><u>Phase II Exempt OR Pre-EVR Balance Systems</u></b>	<b><u>EVR Healy (VR-201-X/VR-202-X)</u></b>
TP-201.1E	TP-201.1E	Exhibit 4 of VR-201-X/VR-202-X
TP-201.1B	TP-201.1B	TP-201.1E
TP-201.1C or TP-201.1D	TP-201.1C or TP-201.1D	TP-201.1B
TP-96-1 or TP-201.3	TP-96-1 or TP-201.3	TP-201.1C or TP-201.1D
TP-201.5, Version 1996 Exhibit 2 of G-70-191-XX	TP-201.6C option 2, if applicable	<sup>9</sup> Exhibit 9 OR Exhibit 10 of VR-202-X (pressure sensor operability only)
		TP-96-1 and Exhibit 8 of VR-201-X/VR-202-X OR TP-201.3 and Exhibit 8 of VR-201-X/VR-202-X
		Exhibit 9 of VR-201-X/Exhibit 11 of VR-202-X, as applicable
		B-3, B-4, B-5, B-6 of IOM manual for VR-201-X/VR-202-X
		Exhibit 5 of VR-201-X/VR-202-X
		Exhibit 9 OR Exhibit 10 of VR-202-X

<sup>2</sup>Test results shall be submitted on current District approved test forms located at <http://www.sdapcd.org> and maintained onsite.

<sup>3</sup>When conducting pressure decay testing, the following requirements shall be met:

a. The CARB Test Procedure TP-201.3 (most recent version) shall be conducted between sundown and a half hour after sunrise to minimize interface from solar effects and barometric pressure changes. The San Diego Air Pollution Control District's TP-96-1 (most recent version) leak detection procedure may be used in lieu of TP-201.3. TP-96-1 can be conducted at any time except when daytime temperatures exceed 100 °F, and there is direct sunlight on exposed metal vent pipe(s) and metal manhole cover(s) that are in contact with vapor space of the storage tanks. The District will also accept the results of leak tests based on soap solution, helium detection or vacuums provided that procedures have prior written District approval. Election of any test method (including optional tests) requires compliance with the performance standard for the test method.<sup>4</sup>If nitrogen is introduced through the vapor adaptor, the vapor coupler test assembly shall be leak checked in accordance with TP 201.3 (sections 5.5, 6.7-6.7.2) prior to conducting the TP 96-1 test.

b. If nitrogen is introduced through the vapor adaptor, the vapor coupler test assembly shall be leak checked in accordance with TP 201.3 (sections 5.5, 6.7-6.7.2) prior to conducting the TP 96-1 test.

c. The nitrogen introduction rate for the TP 96-1 test shall be between 1-5 cubic feet per minute (cfm).

d. There shall be no vapor to liquid (V/L) (Exb.5/TP 201.5 or equivalent) testing conducted within the twenty-four (24) hour period immediately prior to this test.

e. The submersible fuel pumps shall be turned off prior to conducting TP 96-1 testing.

f. If the equipment is identified as BACT in the equipment description, only TP-96-1 will be accepted by the District.

g. All P/V valves, have been removed and vent risers capped prior to conducting TP-96-1 and re-install the valves after the test has been completed.

<sup>4</sup>A CARB certified Healy A/L adapter for 900 nozzles (Healy Part #8034-1) must be used in order to obtain accurate results (E.O. G-70-191-AA, Exhibit 2, Figure 2C-1 and E.O. VR-201-X or VR-202-X, Exhibit 5, Figure 1)

<sup>5</sup>A CARB certified Healy V/L adapter for 900 nozzles (Healy Part #8034-1) must be used in order to obtain accurate results (E.O. VR-201-X or VR-202-X, Exhibit 5, Figure 1).

<sup>6</sup>Upon any identical dispenser replacement, as defined in District Rule 11, the permittee shall successfully conduct the following performance tests for the new dispenser(s), within 60 days of any dispenser replacement. Any replacement that does not meet the identical definition per District Rule 11 will require an application for an Authority to Construct.

a. Dispenser Vapor Line Integrity Test, Dispensing Vacuum Test, and Audible Increase Test per B-3, B-4, B-5 and B-6, respectively, of the Start-Up / New Installation/ Warranty/ Annual Testing Form located in the ARB IOM Manual for VR-201-X and VR-202-X.

b. A Vapor-to-Liquid Ratio (V/L) per Exhibit 5 of ARB E.O. VR-201-X or VR-202-X or an equivalent ARB approved test method.

c. An ISD Vapor Flow Meter Operability Test and, if applicable, an ISD Vapor Pressure Sensor Ambient Reference Test per Exhibit 9 or Exhibit 10 of ARB E.O. VR-201-X or VR-202-X.

The permittee shall promptly record all information relating to the dispenser replacement and performance testing on Attachment I, "Inspection, Maintenance and Repair Log," or an equivalent form. All test results and maintenance logs shall be maintained onsite for three (3) years from the test date and made available to the District upon request.

<sup>7</sup>If the station pressure is -2.00" wc or more negative, a vacuum test must be performed followed by a pressure test. If the pressure is less negative than -2.00" wc, a pressure test must be performed. Anytime a vacuum test is conducted a subsequent pressure test shall **also** be conducted immediately after the vacuum test.

<sup>8</sup>The CARB Test Procedure TP-201.6C, Option 2 is applicable to hose configurations per Exhibits 8c, 9c, 10 and 11 of CARB EO G-70-52-AM

<sup>9</sup>While testing per Exhibits 9 or 10 of VR-202-X (pressure sensor portion) the vapor space of the gasoline dispensing facility shall be pressurized to 2.0" WC. This can be completed in conjunction with the pressure decay test.



**ATTACHMENT A-1  
INSTRUCTIONS AND REQUIREMENTS  
FOR RESPONDING TO ISD ALARMS**

Displayed Message		ISD Monitoring Category	Veeder-Root Indicator Light	Cause	Troubleshooting Tests/Inspections <sup>A&amp;C</sup>
Veeder-Root	INCON				
ISD VAPOR LEAKAGE WARN	Weekly Ullage Pressure Leak Test (Warning)	Containment	Yellow	7-Day Vapor Leakage Detection test warning	Exhibit 4, TP-201.1E, TP-201.1C or TP-201.1D, TP-96-1, B-3 Dispenser Vapor Line Integrity Test (IOM), Exhibit 7, Exhibit 9 or Exhibit 10 as applicable (pressure sensor only),
ISD VAPOR LEAKAGE FAIL	Weekly Ullage Pressure Leak Test (Failure)	Containment	Red	7-Day Vapor Leakage Detection test - 8th consecutive failure	
ISD GROSS PRESSURE WARN	Weekly Ullage Pressure (Warning)	Containment	Yellow	7-Day Gross Over Pressure test warning	Check the CAS ball valve positions and the ball valve near the ISD pressure sensor, Exhibit 4, TP-201.1 E, TP 96-1, B-3 Dispenser Vapor Line Integrity Test (IOM), Exhibit 5, Flow Rate Verification (Section 1.2.3 (IOM), Visually inspect hanging hardware <sup>B</sup> , Exhibit 7, Exhibit 9 or Exhibit 10 as applicable (pressure sensor only)
ISD GROSS PRESSURE FAIL	Weekly Ullage Pressure (Failure)	Containment	Red	7-Day Gross Over Pressure test -8th consecutive failure	
ISD DEGRD PRESSURE WARN	Monthly Ullage Pressure (Warning)	Containment	Yellow	30-Day Degradation Over-Pressure test warning	
ISD DEGRD PRESSURE FAIL	Monthly Ullage Pressure (Failure)	Containment	Red	30-Day Degradation Over-Pressure test - 30th consecutive failure	
Hnn: GROSS COLLECT WARN	Daily Vapor Collection (Warning)	Collection	Yellow	1-Day Gross A/L Test warning	B 3/4/5/6 Dispenser Vapor Line Integrity Test (IOM), Visually inspect hanging hardware <sup>B</sup> , Exhibit 5, Exhibit 7, Exhibit 9 or Exhibit 10 as applicable (vapor flow meter only) INCON Only: look through the flow meter site glass to see if air is flowing
Hnn: GROSS COLLECT FAIL	Daily Vapor Collection (Failure)	Collection	Red	1-Day Gross A/L Test failure - 2nd consecutive failure	
Hnn: DEGRD COLLECT WARN	Weekly Vapor Collection (Warning)	Collection	Yellow	7-Day Degradation A/L Test warning	
Hnn: DEGRD COLLECT FAIL	Weekly Vapor Collection (Failure)	Collection	Red	7-Day Degradation A/L Test - consecutive failure	

<sup>A</sup>Troubleshooting Tests and Inspections also include, but are not limited to, the lists referenced in the Veeder-Root ISD Troubleshooting Manual P/N 577013-819 located at [http://www.veeder.com/page/isd\\_manuals](http://www.veeder.com/page/isd_manuals) and the Vapor Recovery Monitoring Troubleshooting and Diagnostics Guide located at [http://www.franklinfueling.com/service/pdfs/dis/405274001\\_healyevr\\_troubleshootingguide.pdf](http://www.franklinfueling.com/service/pdfs/dis/405274001_healyevr_troubleshootingguide.pdf).

<sup>B</sup>Visually inspect hanging hardware at the affected dispenser(s) including: A) Replacing any damaged or worn face seals, B) Repair or replace any misaligned face seals, C) Replace any damaged or torn boots, D) Tighten any loose boot clamps, E) Replace any damaged or loose spouts.

<sup>C</sup>The permittee and/or designated contractor shall not clear alarm conditions upon any ISD alarm unless, at minimum, the applicable troubleshooting tests and inspections listed above have been successfully conducted in order to verify the cause of the ISD alarm and recorded in Attachment I, the maintenance and repair log. Other tests and/or inspections may be performed in lieu of those cited below provided the same ISD alarm does not occur within the next consecutive assessment period after resetting the alarm. All test results/ inspection documents shall be maintained onsite for three (3) years from test/inspection date and made available to the District upon request.