

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER VR-204-H

Vapor Systems Technologies, Inc.
Phase II Enhanced Vapor Recovery (EVR) System
Including Veeder-Root In-Station Diagnostics (ISD) System

WHEREAS, the California Air Resources Board (ARB) has established, pursuant to California Health and Safety Code sections 25290.1.2, 39600, 39601 and 41954, certification procedures for systems designed for the control of gasoline vapor emissions during motor vehicle fueling operations (Phase II EVR vapor recovery systems) in its CP-201, ***Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities*** (Certification Procedure) as last amended May 25, 2006, incorporated by reference in title 17, California Code of Regulations, section 94011;

WHEREAS, ARB has established, pursuant to California Health and Safety Code sections 39600, 39601, 39607, and 41954, test procedures for determining the compliance of Phase II vapor recovery systems with emission standards;

WHEREAS, Vapor Systems Technologies, Inc. (VST) requested certification of the VST Phase II EVR System Including Veeder-Root ISD (VST Phase II EVR System Including ISD) pursuant to the Certification Procedure by Executive Order VR-204-A issued on April 1, 2008, and last modified on December 31, 2009, by Executive Order VR-204-G;

WHEREAS, Veeder-Root requested certification of a new ISD software version 1.03 to prohibit fueling at individual dispensers when ISD vapor collection alarm thresholds are met, to modify algorithms for monitoring vapor collection, and to switch the Veeder-Root Vapor Polisher from Manual mode to Automatic Mode (e.g. if inadvertently left in Manual mode after testing);

WHEREAS, ARB finds it beneficial to renumber some of the Executive Order Exhibits and IOM Sections for ease and consistency;

WHEREAS, the Certification Procedure provides that the ARB Executive Officer shall issue an Executive Order if he or she determines that the vapor recovery system conforms to all of the applicable requirements set forth in the Certification Procedure;

WHEREAS, G-01-032 delegates to the Chief of the Monitoring and Laboratory Division the authority to certify or approve modifications to certified Phase I and Phase II vapor recovery systems for gasoline dispensing facilities; and

WHEREAS, I, Alberto Ayala, Chief of the Monitoring and Laboratory Division, find that the VST Phase II EVR System Including Veeder-Root ISD software version 1.03 conforms with all requirements set forth in the Certification Procedure, including compatibility when fueling vehicles equipped with onboard refueling vapor recovery systems, and results in a vapor recovery system which is at least 95 percent efficient and shall not exceed 0.38 pounds of

hydrocarbons per 1,000 gallons of gasoline transferred when tested pursuant to TP-201.2, ***Efficiency and Emission Factor for Phase II Systems*** (October 8, 2003).

NOW, THEREFORE, IT IS HEREBY ORDERED that VST Phase II EVR System Including Veeder-Root ISD software version 1.03 is certified to be at least 95 percent efficient and does not exceed 0.38 pounds of hydrocarbon per 1,000 gallons of gasoline transferred in attended and/or self-service mode when used with an ARB-certified Phase I vapor recovery system and installed, operated, and maintained as specified herein and in the following exhibits. Exhibit 1 contains a list of the equipment certified for use with VST Phase II EVR System including Veeder-Root ISD. Exhibit 2 contains the performance standards, specifications, and typical installation drawings applicable to VST Phase II EVR System Including Veeder-Root ISD as installed in a gasoline dispensing facility (GDF). Exhibit 3 contains the manufacturing performance specifications and warranties. Exhibit 4 provides items required in conducting TP-201.3. Exhibit 5 is the liquid removal test procedure. Exhibit 6 provides items required in conducting TP-201.4. Exhibit 7 is the nozzle bag test procedure. Exhibit 8 is VST ECS hydrocarbon sensor verification test procedure. Exhibit 9 is the test procedure for determining VST ECS vapor processor activation pressure. Exhibit 10 is the VST ECS / Veeder-Root Vapor Polisher vapor pressure sensor verification test procedure. Exhibit 11 is the Veeder-Root vapor polisher operability test procedure. Exhibit 12 is the Veeder-Root vapor polisher hydrocarbon emissions verification test procedure. Exhibits 13 through 16 are reserved for future procedures and are intentionally left blank. Exhibit 17 is the Veeder-Root ISD vapor flow meter operability test procedure.

IT IS FURTHER ORDERED that compliance with the applicable certification requirements, rules and regulations of the Division of Measurement Standards of the Department of Food and Agriculture, the Office of the State Fire Marshal of the Department of Forestry and Fire Protection, the Division of Occupational Safety and Health of the Department of Industrial Relations, and the Division of Water Quality of the State Water Resources Control Board are made conditions of this certification.

IT IS FURTHER ORDERED that each component manufacturer listed in Exhibit 1 shall provide a warranty for the vapor recovery components to the initial purchaser. The warranty shall be passed on to each subsequent purchaser within the warranty period. The warranty shall include the ongoing compliance with all applicable performance standards and specifications and shall comply with all warranty requirements in Section 16.5 of the Certification Procedure. Manufacturers may specify that the warranty is contingent upon the use of trained installers.

IT IS FURTHER ORDERED that every certified component manufactured by VST, Goodyear, and Veeder-Root shall be performance tested by the manufacturer as provided in Exhibit 3.

IT IS FURTHER ORDERED that the certified VST Phase II EVR System Including Veeder-Root ISD shall be installed, operated, and maintained in accordance with the ***ARB Approved Installation, Operation, and Maintenance Manual***. Equipment shall be inspected daily, weekly, and annually per the procedures identified in the ***ARB Approved Installation, Operation, and Maintenance Manual***. These inspections shall also apply to

systems certified by Executive Orders VR-204-A to G. A copy of this Executive Order and the **ARB Approved Installation, Operation and Maintenance Manual** shall be maintained at each GDF where a certified VST Phase II EVR System Including Veeder-Root ISD is installed.

IT IS FURTHER ORDERED that equipment listed in Exhibit 1, unless exempted, shall be clearly identified by a permanent identification showing the manufacturer's name, model number, and serial number.

IT IS FURTHER ORDERED that any alteration in the equipment parts, design, installation, or operation of the system certified hereby is prohibited and deemed inconsistent with this certification, unless the alteration has been submitted in writing and approved in writing by the Executive Officer or Executive Officer delegate.

IT IS FURTHER ORDERED that the following requirements are made a condition of certification. The owner or operator of the VST Phase II EVR System Including Veeder-Root ISD shall conduct and pass the following tests no later than 60 days after startup and at least once in each twelve month period, using the following test procedures:

- TP-201.3, **Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities** (March 17, 1999);
- TP-201.4, **Dynamic Back Pressure** (July 3, 2002) in accordance with the condition listed in item 1 of the Vapor Collection section of Exhibit 2;
- Exhibit 4, **Required Items in Conducting TP-201.3**;
- Exhibit 5, **Liquid Removal Test Procedure**;
- Exhibit 6, **Required Items in Conducting TP-201.4**.
- Exhibit 8, **VST ECS Hydrocarbon Sensor Verification Test Procedure** (if a VST ECS membrane processor is installed);
- Exhibit 9, **Determination of VST ECS Processor Activation Pressure** (if a VST ECS membrane processor is installed);
- Exhibit 10, **VST ECS / Veeder-Root Vapor Polisher Vapor Pressure Sensor Verification Test Procedure** (if a VST ECS membrane processor or Veeder-Root Vapor Polisher is installed);
- Exhibit 11, **Veeder-Root Vapor Polisher Operability Test Procedure** (if a Veeder-Root Vapor Polisher is installed);
- Exhibit 12, **Veeder-Root Vapor Polisher Hydrocarbon Emissions Verification Test Procedure** (if a Veeder-Root Vapor Polisher is installed);
- Exhibits 13 through 16, Reserved for future procedures and are intentionally left blank; and
- Exhibit 17, **Veeder-Root ISD Vapor Flow Meter Operability Test Procedure**

Local districts at their option may specify the testing frequency and related sequencing of the above tests. Notification of testing, and submittal of test results, shall be done in accordance with local district requirements and pursuant to policies established by that district. Local districts may require the use of alternate test form(s), provided they include the same minimum parameters identified in the datasheet referenced in the test procedure(s). Alternative test procedures, including most recent versions of the test

procedures listed above, may be used if determined by ARB Executive Officer or Executive Officer delegate, in writing, to yield equivalent results.

IT IS FURTHER ORDERED that the following requirements are made a condition of certification. The owner or operator of the VST Phase II EVR System Including Veeder-Root ISD shall conduct, and pass, the following tests no later than 60 days after startup using the following test procedure: Exhibit 7, **Nozzle Bag Test Procedure**. Notification of testing, and submittal of test results, shall be done in accordance with local district requirements and pursuant to the policies established by that district. Alternative test procedures, including most recent versions of the test procedures listed above, may be used if determined by the ARB Executive Officer or Executive Officer delegate, in writing, to yield equivalent results.

IT IS FURTHER ORDERED that, except as provided above, local districts at their option will specify the testing, related sequencing, and testing frequency of the nozzle vapor valves. If the district requires the nozzle vapor valve be tested, the test shall be conducted in accordance with Exhibit 7, **Nozzle Bag Test Procedure**.

IT IS FURTHER ORDERED that VST Phase II EVR System Including Veeder-Root ISD shall be compatible with gasoline in common use in California at the time of certification. VST Phase II EVR System Including Veeder-Root ISD is not compatible with gasoline that has a methanol content greater than 5 percent or an ethanol content greater than 10 percent. Any modifications to comply with future California gasoline requirements shall be approved in writing by the Executive Officer or Executive Officer delegate.

IT IS FURTHER ORDERED that the certification of VST Phase II EVR System Including Veeder-Root ISD is valid through April 1, 2012.

IT IS FURTHER ORDERED that Executive Order VR-204-G issued on December 31, 2009, is hereby superseded by this Executive Order. VST Phase II EVR System Including Veeder-Root ISD certified under Executive Order VR-204-A through G may remain in use at existing installations up to four years after the expiration date of this Executive Order. This Executive Order shall apply to new installations or major modification of Phase II Systems with a throughput of more than 600,000 gallons per year. The installation of the Veeder-Root ISD System is not authorized on a GDF with a throughput of less than or equal to 600,000 gallons per year.

Executed at Sacramento, California, this 13 day of July 2010.



Alberto Ayala, Ph.D., M.S.E.
Chief, Monitoring and Laboratory Division

Attachments next page:

General Requirements

- Exhibit 1 Equipment List
 - Hanging Hardware
 - Processors
 - ISD
- Exhibit 2 System Specifications
 - Hanging Hardware
 - Processors
 - Pressure/Vacuum Vent Valves for Storage Tank Vents
 - Vapor Recovery Piping Configurations
 - Dispensers
 - In-Station Diagnostics (ISD)
 - Phase I Systems
 - Maintenance Records
 - Vapor Recovery Equipment Defects
 - Veeder-Root ISD System Specification
- Exhibit 3 Manufacturing Performance Specifications and Warranties
 - VST
 - Veeder-Root
 - Goodyear

General Compliance Procedures

- Exhibit 4 Required Items in Conducting TP-201.3
- Exhibit 5 Liquid Removal Test Procedure
- Exhibit 6 Required Items for Conducting TP-201.4
- Exhibit 7 Nozzle Bag Test Procedure

Processor Specific Compliance Procedures

- Exhibit 8 **VST ECS**; Hydrocarbon Sensor Verification Test Procedure
- Exhibit 9 **VST ECS**; Determination of Processor Activation Pressure
- Exhibit 10 **VST ECS / Veeder-Root Vapor Polisher**; Vapor Pressure Sensor Verification Test Procedure
- Exhibit 11 **Veeder-Root Vapor Polisher**; Operability Test Procedure
- Exhibit 12 **Veeder-Root Vapor Polisher**; Hydrocarbon Emissions Verification Test Procedure
- Exhibit 13 This Section left intentionally blank*
- Exhibit 14 This Section left intentionally blank*
- Exhibit 15 This Section left intentionally blank*
- Exhibit 16 This Section left intentionally blank*

ISD Specific Compliance Procedures

- Exhibit 17 **Veeder-Root**; ISD Vapor Flow Meter Operability Test Procedure