

California Air Resources Board
Phase II EVR System
Installer/Contractor Training Plan Guidelines
February 28, 2006

These guidelines were established for developing a plan to train contractors in the installation and testing of their Phase II enhanced vapor recovery (EVR) system as required in Section 11.5.2 of CP-201, Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities. Proper installation, inspection and maintenance of Phase II EVR systems is critical to reduce emissions, minimize troubleshooting for installers, minimize down time for station operators, limit re-inspections for district inspectors, and ensure ongoing compliance.

Section 1: Administrative Requirements

The manufacturer shall:

1. Identify the training format in the preliminary application submittal. The training should include, as identified in Section 2 below, a lecture, hands-on demonstration, system and component testing, and an examination.

Phase II Systems are comprised of numerous components, which may be manufactured and sold by multiple vendors. For example, a typical Phase II EVR System may include dispensers, nozzles, hoses, breakaways, ISD components, and a processor each provided by separate manufacturers. Given the complexity of Phase II EVR systems and amount of material to cover, a manufacturer should break up the training into separate modules. An example of such would be:

- ◆ Hanging Hardware Module
- ◆ Dispenser Module
- ◆ ISD Module
- ◆ Processor Module

2. Provide a schedule of courses, including location, time, duration, fees, and dates. Identify who will receive the schedule and how it will be made available. ARB staff shall be provided a schedule and notified in writing at least two weeks in advance of scheduled training.

Section 2: Course Requirements

At a minimum, the course work shall include the following topics (if applicable):

I. Lecture

- A) Background
 - 1. Overview of Phase II EVR system operation
 - 2. ARB Phase II EVR Executive Order
 - 3. ARB Approved IOM Manual
 - 4. Local Permits / Authority to Construct

- B) Pre-Installation
 - 1. Safety
 - 2. Checklist
 - 3. Installation requirements and specifications
 - 4. Standard tools
 - 5. System specific tools
 - 6. Proper use of pipe sealant, or other sealant
 - 7. Site preparation

- C) Installation Instructions
 - 1. Hanging Hardware
 - a) Principal of Operation
 - b) Nozzle
 - c) Hose
 - d) Breakaway
 - e) Whip Hose
 - f) Flow Limiter

 - 2. Dispenser
 - a) Principal of Operation
 - b) Electrical Requirements
 - c) Vapor Return Piping (Balance vs. Assist)
 - d) Underground Piping Requirements
 - e) Factory Installed vs. Field Retrofit Kits

 - 3. ISD System
 - a) Principal of Operation
 - b) Location Requirements for System Components
 - c) Electrical Requirements
 - d) Flow Meters (In line with Vapor Return)
 - e) Pressure Sensor
 - f) Control Panel
 - g) User Interface

 - 4. Pressure Vacuum Vent Valve

 - 5. Processor
 - a) Principal of Operation
 - b) Location Requirements

- c) Electrical Requirements
 - d) Control System
 - e) User Interface
 - f) Underground Piping Configuration
- D) Maintenance Instructions
 - 1. Checklist(s)
 - 2. Hanging Hardware
 - 3. Dispenser
 - 4. ISD System
 - 5. P/V Vent Valve(s)
 - 6. Processor
 - 7. Other(s)
 - E) Troubleshooting and Repair
 - 1. Checklist(s)
 - 2. Example "Maintenance Log" – recording maintenance, inspection, testing, repairs, and results

II. Hands-On Demonstration

- A) Hanging Hardware
- B) Dispenser
- C) ISD System
- D) Processor
- E) Other(s)

III. Compliance Testing

- A) Safety
- B) How to conduct the following ARB compliance test procedures (where applicable):
 - 1. TP-201.1E: Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves
 - 2. TP-201.3: Determination of 2 Inch WC Static Pressure Performance
 - 3. TP-201.4: Dynamic Back Pressure
 - 4. Vapor to Liquid (V/L) Volume Ratio
 - 5. TP-201.6: Determination of Liquid Removal of Phase II Vapor Recovery Systems of Dispensing Facilities
 - 6. Other tests specific to the Executive Order
- C) Testing Tools
 - 1. PV Valve Test Assembly
 - 2. Flow meters, rotameters, mass flow meters
 - 3. Roots Meters
 - 4. Portable Gasoline Tanks (V/L and Liquid Removal)
 - 5. Graduated Cylinders (Liquid Removal)

6. V/L Adaptors and Surrogate Spout
7. Dynamic Back Pressure Test Assembly
8. Digital manometers, magnahelic gauges
9. Calibration frequency and requirements
10. Special tools
11. Other(s)

D) Records

1. ISD Records
 - a) On demand printing of daily and monthly reports available from an integral ISD printer
 - b) Electronic Access via RS232 Port Download to PC
2. Processor Records
 - a) Run Time
3. On site maintenance, inspection, and testing logs

Section 3: Exam

The exam portion of the training course will be specific to each manufacturer. For example, the exam may consist of a written, multiple choice, or fill in the blank test and a “hands on” assembly. The manufacturer must also identify the pass/fail criteria.

Section 4: Certification

Upon successful completion of the course, the manufacturer shall provide each participant with written documentation such as a certificate of completion. The certificate shall identify the appropriate Executive Order number and revision, date of training, name of participant, and expiration date. A wallet card certificate is recommended to demonstrate an individual has been trained. Certificates shall be valid for a maximum of two years from the date of course completion unless otherwise specified by ARB.

In addition, each manufacturer shall maintain an updated list of those individuals who have completed the course and make such list available for public access. For example, such list could be posted on the manufacturer’s web site or the manufacturer could maintain a telephone call center. The manufacturer should review and update the list of certified individuals on a monthly basis. The manufacturer shall provide information in the installation and maintenance manual on where to access a list of certified individuals and where to get information on the manufacturer’s training program. The goal is to provide the GDF owner/operator or regulator with a means to verify an individual is certified and/or how to receive training.

Section 5: Re-Certification

As stated above, the certification will expire two years from the date of completion. After such time, an individual must be re-certified by the manufacturer.

The manufacturer must notify certified individuals in writing of any changes to the Executive Order, equipment, installation instructions, or any of the elements outlined in the training plan. Changes may require re-certification prior to the two year expiration date.

Section 6: Revisions to the Training Plan

Revisions to the Training Plan may be initiated by the manufacturer to improve the course outline or material presented or it may be required because of a modification to the Executive Order. Any revisions to the Training Plan must be approved by ARB in writing.