

**State of California
Air Resources Board**

Executive Order VR-501-E

Relating to Certification of Vapor Recovery Systems

**Balance Phase II Enhanced Vapor Recovery (EVR) System
for Protected Aboveground Storage Tanks (AST)**

Whereas, the California Air Resources Board (CARB) has established, pursuant to California Health and Safety Code Sections 39600, 39601 and 41954, certification procedures for systems designed for the control of gasoline vapor emissions during motor vehicle fueling operations (Phase II EVR System) in its Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Aboveground Storage Tanks (CP-206) as last amended July 12, 2021, incorporated by reference in Title 17, California Code of Regulations, Section 94016;

Whereas, CARB 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, CP-206 provides that existing gasoline dispensing facilities (GDF) with ASTs with pre-EVR Phase II systems located in an area that is classified by the U.S. Environmental Protection Agency as being in nonattainment with the federal 8-hour ozone standard, and having an annual gasoline throughput of 480,000 gallons or less per year may continue to use a Phase II vapor recovery system that was certified by CARB under the Executive Orders listed in Table 2-2 of CP-206 until the end of that system's useful life;

Whereas, Hirt Combustion Engineers, Inc. (Hirt) requested and was granted certification of the Balance Phase II EVR System for Protected ASTs (Balance Phase II EVR System) pursuant to CP-206 on March 13, 2015, by Executive Order VR-501-A, and last amended on July 9, 2020, by Executive Order VR-501-D;

Whereas, CP-206 provides that the CARB Executive Officer shall issue an Executive Order renewing the certification if he or she determines that the Balance Phase II EVR System conforms to all applicable requirements of set forth in CP-206;

Whereas, Executive Order G-21-474 delegates to the Chief of the Monitoring and Laboratory Division the authority to renew the certification of Standling Loss Control, Phase I, and Phase II vapor recovery systems for gasoline dispensing facilities (GDF) using aboveground storage tanks; and

Whereas, I, Walter Ham, Chief of the Monitoring and Laboratory Division, find that the Balance Phase II EVR System conforms with all requirements set forth in CP-206, 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 dispensed when tested pursuant to TP 201.2, Efficiency and Emission Factor for Phase II Systems (July 26, 2012).

Now, therefore, it is hereby ordered that the Balance Phase II EVR System is certified to be at least 95 percent efficient and does not exceed 0.38 pounds of hydrocarbon per 1,000 gallons of gasoline dispensed in attended and/or self-service mode when used with an CARB-certified standing loss control system and Phase I EVR vapor recovery system for AST 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 the Balance Phase II EVR System; Exhibit 2 contains the system specifications; Exhibit 3 contains the manufacturing performance specifications and warranties; Exhibit 4 contains a test procedure for determination of static pressure performance of vapor recovery systems at GDFs with ASTs; 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 the Hirt VCS 100-2 VaporTek® Processor operability test procedure; and, Exhibit 9 is the Liquid Condensate Trap compliance test procedure.

It is further ordered that this Executive Order shall not be construed to require the above-mentioned GDFs to upgrade their existing system, unless their existing system is replaced, modified, or reaches the end of its useful life, as provided in CP-206. Existing gasoline dispensing facilities (GDF) with ASTs with pre-EVR Phase II systems installed and operated before the date this Executive Order is signed, located in an area that is classified by the U.S. Environmental Protection Agency as being in nonattainment with the federal 8-hour ozone standard, and having an annual gasoline throughput of 480,000 gallons or less per year may continue to use a Phase II vapor recovery system that was certified by CARB under the Executive Orders listed in Table 2-2 of CP-206 until the end of that system's useful life.

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, and the Division of Occupational Safety and Health of the Department of Industrial Relations are made conditions of this certification.

It is further ordered that each component manufacturer listed in Exhibit 1 shall provide a warranty for that manufacturer's vapor recovery component(s) listed in Exhibit 1 to the initial purchaser. The warranty shall automatically transfer to each subsequent purchaser within the warranty period. The warranty shall require continued compliance with all applicable performance standards and specifications and shall comply with all warranty requirements in Section 17.5 of CP-206. Manufacturers may specify that the warranty is contingent upon the use of trained installers. The manufacturer warranty tag, included with each component, shall be provided to the service station owner/operator at the time of installation.

It is further ordered that every certified component manufactured by EMCO, ContiTech USA, Inc., Hirt, and Vapor Systems Technologies (VST) shall meet the manufacturing performance specifications as provided in Exhibit 3.

It is further ordered that the certified Balance Phase II EVR System shall be installed, operated, and maintained in accordance with the CARB-approved Installation, Operation, and Maintenance Manual. Equipment shall be inspected weekly and annually per the procedures identified in the CARB-approved Installation, Operation, and Maintenance Manual. The inspection requirements shall also apply to systems certified by Executive Orders VR-501-A to D. A copy of the Executive Order and the CARB-approved Installation, Operation and Maintenance Manual shall be maintained at each GDF where a certified Balance Phase II EVR System 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 provided in the manufacturer's certification application or documents and certified hereby is prohibited and deemed inconsistent with this certification unless the alteration has been submitted in writing pursuant to the process for Executive Order amendments set forth in Section 19 of CP-206 and approved in writing by the Executive Officer or his or her delegate. Any sale, offer for sale, or installation of any system or component without CARB's approval as set forth above is subject to enforcement action.

It is further ordered that the following requirements are made a condition of certification. The owner or operator of the Balance Phase II EVR System shall conduct and pass the following tests no later than 60 days after startup and at least once in each twelve month period thereafter (or within a shorter time period if so specified by the District), using the following test procedures:

- 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, Determination of Static Pressure Performance of Vapor Recovery Systems at Gasoline Dispensing Facilities with Aboveground Storage Tanks;
- Exhibit 5, Liquid Removal Test Procedure;
- Exhibit 6, Required Items for Conducting TP-201.4;
- Exhibit 8, Hirt VCS 100-2 VaporTek® Processor Operability Test Procedure; and
- Exhibit 9, Liquid Condensate Trap Compliance Test Procedure (if a Liquid Condensate Trap is installed).

Districts may specify the sequence of the above tests. Notification of testing, and submittal of test results, shall be done in accordance with District requirements and pursuant to policies established by that District. Districts may require the use of alternate test form(s), provided they include the same minimum parameters identified in the datasheet(s) referenced in the test procedure(s). Alternative test procedures, including the most recent versions of the test procedures listed above, may be used if it is determined in writing by the CARB Executive Officer or his or her delegate that the alternative test procedure(s) yield equivalent results to the test procedures described above.

It is further ordered that the following requirements are made a condition of certification. The owner or operator of the Balance Phase II EVR System shall conduct, and pass the following test 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 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 CARB Executive Officer or his or her delegate, in writing, to yield equivalent results.

It is further ordered that, except as provided above, Districts at their discretion 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 the Balance Phase II EVR System shall be compatible with gasoline in common use in California at the time of certification. The Balance Phase II EVR System is not compatible with gasoline that has a methanol content greater than five percent or an ethanol content greater than ten percent. Any modifications to comply with future California gasoline requirements shall be submitted in writing pursuant to the process for Executive Order amendments set forth in Section 19 of CP-206 and approved in writing by the Executive Officer or his or her delegate.

It is further ordered that this Executive Order shall be valid for four years from the date this Executive Order is signed.

It is further ordered that Executive Order VR-501-D issued on July 9, 2020, is hereby superseded by this Executive Order. The Balance Phase II EVR Systems certified under Executive Order VR-501-A through D may remain in use at existing installations up to four years after the expiration date of this Executive Order when the certification is not renewed.

It is further ordered that this Executive Order shall apply to new installations or major modification of existing ASTs that are subject to District's vapor recovery regulations.

Executed at Sacramento, California, this 17th day of July 2023.

Walter Ham Digitally signed by Walter Ham
Date: 2023.07.17 11:55:00
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Walter Ham, Ph.D., Chief
Monitoring and Laboratory Division

Attachments

- Exhibit 1 Equipment List
- Exhibit 2 System Specifications
- Exhibit 3 Manufacturing Performance Specifications and Warranties
- Exhibit 4 Determination of Static Pressure Performance of Vapor Recovery Systems at Gasoline Dispensing Facilities with Aboveground Storage Tanks
- Exhibit 5 Liquid Removal Test Procedure
- Exhibit 6 Require Items for Conducting TP-201-4
- Exhibit 7 Nozzle Bag Test Procedure
- Exhibit 8 Hirt VCS 100-2 VaporTek® Processor with Indicator Panel Operability Test Procedures
- Exhibit 9 Liquid Condensate Trap Compliance Test Procedure