

## Updated Informative Digest

### ENHANCED VAPOR RECOVERY TECHNOLOGY REVIEW

**Sections Affected:** This action amends sections 94010, 94011, 94163, 94164, and 94165, title 17, California Code of Regulations (CCR) and the documents incorporated by reference therein. This action adopts new sections 94166 and 94167, title 17, CCR, and the documents incorporated by reference therein.

**Background:** Health and Safety Code (H&SC) section 41954 requires the Board to adopt procedures for certifying systems designed to control gasoline vapor emissions during gasoline marketing operations, including storage and transfer operations. Section 39607(d) of the H&SC requires ARB to adopt test methods to determine compliance with ARB and district non-vehicular emissions standards. The adopted test procedures related to gasoline vapor recovery are referenced in sections 94000-94015 and 94100 et seq., title 17, CCR.

In March of 2000, the Air Resources Board approved the Enhanced Vapor Recovery (EVR) regulation amendments. The EVR regulations established new standards for vapor recovery systems to reduce emissions during storage and transfer of gasoline at gasoline dispensing facilities (service stations). Because several of the EVR standards were viewed to be technology-forcing, the Board directed staff to conduct a technology review for standards with future effective dates. The EVR Technology Review report found that only one of the EVR standards (post-refueling drops) is not technologically feasible at this time and this “dripless nozzle” standard has been amended to reflect the best available nozzle technology, which constitutes a significant improvement over existing nozzles.

Portions of the EVR program are being implemented now. During the certification process, staff identified areas to improve the certification and test procedures. Modifications to the certification procedure and several of the test procedures have been made to clarify the procedures and allow more options for EVR systems.

**Description of Regulatory Action:** At a public hearing held on December 12, 2002, the ARB considered and adopted the amendments proposed by staff, which included modifications from the proposal as originally noticed. The modified amendments were made available for comment for a period beginning May 9, 2003 and ending May 27, 2003. Based on comments received, additional changes were made which were made available for comment for a period beginning July 17, 2003 and ending August 1, 2003.

This action amends ten certification and test procedures and adopts five new test procedures. The proposed new and revised procedures are summarized below:

Method D-200	Definitions for Vapor Recovery Procedures
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Amendments include defining the terms “aboveground storage tank,” “in station diagnostics,” and “rigid piping.” Clarifications are proposed for the definitions of “effective date,” “major modification,” “operative date,” “phase II system,” “processor,” and “underground storage tank.” The amendments provide an exemption from the definition of “major modification” for Phase II system upgrades for ORVR compatibility or to install under-dispenser containment and cross-reference a requirement in CP-201 to distinguish it from major modifications. Amendments were made to the definitions of “multi-product dispenser,” and “uni-hose dispenser.” “NPT” was added to the list of acronyms.

Method CP-201                      Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities

CP-201 describes the procedure for evaluating and certifying vapor recovery systems used at service stations. CP-201 contains the system performance standards and specifications and references the test procedures or “TPs” used to determine compliance with the certification standards and specifications. The amendments include both revisions to the certification standards and specifications and to the certification process itself.

The dripless nozzle standard is the only standard deemed not feasible at this time by the EVR Technology Review. Data submitted by nozzle manufacturers show that three drips per refueling is achievable with new nozzle designs. The dripless nozzle standard has been changed from “one” to “three” drops. Minor changes to the Phase II emission factor, processor hydrocarbon rate, spill container, Phase I delivery elbow and daily high pressure requirements are made to clarify intent.

The adopted regulations provide an exemption from in-station diagnostics (ISD) for low throughput service stations. The exemption throughput has been changed from 160,000 gal/year to 600,000 gal/year to include all the stations in the GDF1 and GDF2 model categories. An additional exemption from all EVR requirements (except ORVR compatibility) has been added for existing stations in districts that are in attainment with the state ozone standard.

The effective and operative dates of Phase II standards, ISD, and nozzle criteria for the liquid retention, spitting and spillage standards are revised from April 2001 to April 2004 to align the implementation with the “dripless nozzle” standard. Effective and operative date for ISD for GDFs with throughput between 600,000 and 1.8 million gal/year is revised to April 2005.

CP-201 amendments regarding the certification process include clarification of the innovative system certification option, minimum throughput requirements for test sites with multihose dispensers, classification of dispenser piping as non-system-specific, clarification of system-specific and non-system specific components, inclusion of spillage results in the application and clarification of the grounds for termination of certification tests.

A provision has been added to allow installation of systems with terminated certifications when certified systems meeting all the operative EVR standards are not commercially available.

The in-station diagnostics (ISD) requirements currently specified in Appendix 1 of CP-201 are now incorporated into section 10 of CP-201. Amendments to the ISD certification process include a provision to certify ISD systems by system-type. Other changes to ISD include modification of the air-to-liquid (A/L) ratio assessment criteria, pressure integrity failure criteria and tampering protection language.

Other minor changes have been made in CP-201 to correct test procedure references and improve clarity.

Method TP-201.1            Volumetric Efficiency for Phase I Systems

TP-201.1 is used to determine the efficiency of Phase I systems by comparing the volume of vapors emitted to the volume of vapors recovered by the cargo tank. Modifications to TP-201.1 to provide an option to use a volume meter to measure, rather than estimate, the volume of vapors recovered by the cargo tank. Additional changes to TP-201.1 provide more detailed equipment specifications, add pre-test requirements for a leak-decay test of the facility storage tank, correct an error in equation 9.2, and clarify the test procedure.

Method TP-201.1B        Static Torque of Rotatable Phase I Adaptors

TP-201.1B describes how to determine if a rotatable Phase I adaptor complies with the static torque performance standard. Changes have been made to clarify the purpose and principle of the test procedure, the torque wrench requirement, and how to conduct the torque measurements.

Method TP-201.1C        Leak Rate of Drop Tube/Drain Valve Assembly

TP-201.1C measures the leak rate of the drop tube/drain valve assembly associated with Phase I equipment. The name of the method has been modified to reflect the scope of the test. Within the method, changes have been made to clarify the purpose and principle of the test procedure, add equipment specifications, include calibration criteria, clarify the steps involved in leak rate measurement and specification of post-test procedures.

Method TP-201.1D        Leak Rate of Drop Tube Overfill Prevention Device and Spill  
Container Drain Valves

TP-201.1D measures the leak rate of a drop tube overfill prevention device associated with Phase I equipment. The name of the method has been modified to reflect the scope of the test. Within the method, changes have been made to clarify the purpose and principle of the test procedure, add equipment specifications, include calibration criteria, clarify the steps involved in leak rate measurement and specification of post-test procedures.

Method TP-201.2            Efficiency and Emission Factor for Phase II Systems

Minor changes have been made to TP-201.2 to define terms in equation 12.7.

Method TP-201.2B        Flow and Pressure Measurement of Vapor Recovery Equipment

Modifications to clarify applicability and purpose of TP-201.2 have been made to sections 1 and 2 of the test procedure. Appendix 1 of TP-201.2, Determination of Pressure and Vacuum Performance Specifications for Pressure/Vacuum Vent Valve has been deleted. A new test procedure, TP-201.E, for pressure/vacuum vent valves has replaced Appendix 1 of TP-201.2.

Method TP-201.2D        Post Fueling Drips from Nozzles

The name of the method has been modified to reflect the scope of the test. The October 25, 2002 proposed TP-201.2D has been withdrawn and modifications to the adopted TP-201.2D have been made to clarify the testing procedure.

Method TP-201.2F        Pressure Related Fugitive Emissions

TP-201.2F is used to determine emissions of pressure-related fugitives during certification testing. Changes have been made to standardize fugitive emission calculation using empirical flow versus pressure equations. Minor amendments are made to provide more flexibility to the equipment manufacturer seeking certification.

Method TP-201.1E        Leak Rate and Cracking Pressure of Pressure-Vacuum Vent Valves

The name of the method has been modified to reflect the scope of the test. As discussed above, the new TP-201.1E, Leak Rate Measurement of Pressure-Vacuum Vent Valves, replaces Appendix 1 of TP-201.2B. This change is consistent with the practice of specifying TP-201.1X series test procedures for Phase I components. TP-201.1E is a bench test procedure for checking that P/V valves do not exceed the allowable leak rates specified in CP-201.

Method TP-201.2G        Bend Radius Determination for Underground Storage Tank Vapor Return Piping

New method TP-201.2G determines rigid piping as defined in D-200. TP-201.2G provides a simple test procedure for determining whether a 10-foot section of vapor piping meets the minimum bend-radius requirement in order to qualify as rigid piping.

Method TP-201.2I        Test Procedure for In-Station Diagnostic Systems

TP-201.2I is a new test procedure that specifies how ISD systems will be tested during certification to ensure ISD standards are met.

Method TP-201.2J      Pressure Drop Bench Testing of Vapor Recovery Components

New test procedure, TP-201.2J, determines component pressure drops as specified in section 5.2.2 of CP-201.

Method TP-201.7      Continuous Pressure Monitoring

A new test procedure, TP-201.7, will ensure pressure data at certification test sites is collected in a consistent manner and meets quality control standards.

### **Comparable Federal Regulations**

There are no comparable federal regulations that certify gasoline recovery systems for service stations; however, changes to ARB vapor recovery regulations have a national impact. ARB certification is required by most other states which mandate Phase I or Phase II vapor recovery at service stations.