Updated Informative Digest

VAPOR RECOVERY CERTIFICATION AND TEST PROCEDURES

Sections Affected

This action amends sections 94010, 94011, 94153, 94155 and 94163, title 17, California Code of Regulations (CCR) and the documents incorporated by reference therein. This action adopts new sections 94164 and 94165, title 17, CCR, and the documents incorporated by reference therein.

Background

Health and Safety Code section 41954 requires the Air Resources Board (the "Board" or "ARB") 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 Health and Safety Code requires ARB to adopt test methods to determine compliance with ARB and district non-vehicular emissions standards. The certification and test procedures related to gasoline vapor recovery are referenced in sections 94000-94015 and 94101-94163, title 17, CCR.

Vapor recovery system configurations for gasoline dispensing facilities are certified by ARB as achieving a certain level of emissions control performance. During certification tests, specifications are established for various aspects of system operation related to emissions control that reflect the tested system's operation during emissions testing. Performance checks are conducted by air pollution control district staff to ensure that installed systems meet these emissions-related specifications and that systems operate in a manner consistent with the certified level of emissions control. Certification and test procedures adopted by the board govern both certification testing and subsequent performance checks by districts.

The amendments affect a multitude of stakeholders. These include the vapor recovery equipment manufacturers, gasoline marketers who purchase this equipment, contractors who install and maintain vapor recovery systems, and air pollution control districts who enforce vapor recovery rules. In addition, California certified systems are required by most other states and many countries.

Description of Regulatory Action

At its October 25, 2001, public hearing, the ARB approved the amendment of sections 94010, 94011, 94153, 94155 and 94163 of title 17, California Code of Regulations (CCR), which incorporate by reference the following vapor recovery certification and test procedures, including the definitions:

D-200	Definitions for Vapor Recovery Procedures
CP-201	Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities
TP-201.1D	Pressure Integrity of Drop Tube Overfill Protection Devices
TP-201.4	Dynamic Back Pressure
TP-201.6C	Compliance Determination of Liquid Removal Rate

The Board also approved the adoption of sections 94164 and 94165, title 17, CCR, which incorporate by reference the following new vapor recovery test procedures:

TP-201.1B	Static Torque of Rotatable Phase I Adaptors
TP-201.1C	Pressure Integrity of Drop Tube/Drain Valve Assembly

At the hearing the Board approved modifications to the regulations originally proposed in the Staff Report released on September 7, 2001, in response to continuing staff review and public comments received since the Staff Report was published. The modifications affect the text of title 17, CCR, section 94153 and certification and test procedures D-200, CP-201, TP-201.1B, and TP-201.1C. The methods as modified are summarized below.

D-200 Definition for Vapor Recovery Procedures (amended)

The amendments include defining the term “static torque of Phase I adaptors”, and clarifying the definitions for “major modification”, “vapor guard (mini-boot)”, “summer fuel”, and “winter fuel”.

As originally noticed, D-200 defined the term “major modification” as the addition, replacement, or removal of an underground storage tank, underground piping, vapor piping within a dispenser, or a dispenser at an existing installation. The replacement of a dispenser that was occasioned by end-user damage was not defined as a major modification. As modified, D-200 has clarified the term “major modification” to differentiate between the modifications that cause the Phase I system to have the same status as a new installation and those modifications that cause the Phase II system to have the same status as a new installation. The definition of “major modification” as noticed in the 30-day Notice of Public Availability of Modified Text contained a typographical error in the second to the last sentence in the paragraph describing Phase II major modifications. The typographical error has been corrected as a nonsubstantive modification.

As originally noticed, the term “overfill protection device” defined a device used to stop the

delivery of product to a storage tank to prevent over-filling and potential spillage. As modified, the term “overfill prevention device” has replaced the term “overfill protection device” while the definition remained unchanged. This amended term provides a more accurate description of the component and is consistent with the term referenced in Underground Tank Regulations (enforced by the State Water Resources Control Board) used to describe the same device.

CP-201 Certification Procedures for Vapor Recovery Systems at Gasoline Dispensing Facilities (amended)

The amendments include establishing a static torque performance specification of 108 pound-inch (9 pound-foot) for Phase I vapor and product adaptors as determined by proposed TP-201.1B Static Torque of Rotatable Phase I Adaptors. Cam and groove specifications for vapor and product adaptors are established. Other changes include specifying proposed TP-201.1C (Pressure Integrity of Drop Tube/Drain Valve Assembly) and TP-201.1D (Pressure Integrity of Drop Tube Overfill Protection Devices) to determine leak rates of the spill container and drop tube with overfill protection devices when the drop tube is below the spill container. A methodology for calculating the average daily pressure of the underground storage tank is established. The exponent in Equation 3-1 has been corrected to be consistent with other provisions in CP-201.

As originally noticed, the term “overfill protection device” is used in table 3-1 and section 3.3 of CP-201 to describe the device used to prevent the overfilling of an underground storage tank. As modified, the term “overfill prevention device” has replaced the term “overfill protection device” for consistency with the State Water Resources Control Board’s underground storage tank (UST) regulations (title 23, CCR, section 2635).

As originally noticed, the term “containment box” is used in table 3-1 and section 3.6 of CP-201 to describe the five-gallon, bucket shaped, spill containers which surround the underground storage tank product and vapor adaptors. As modified, the term “spill container” has replaced the term “containment box” for consistency the State Water Resources Control Board’s UST regulations (title 23, CCR, section 2635).

As originally noticed, table 16-1 of CP-201 identified four components associated with Phase II vapor recovery systems as “system-specific.” The table did not identify any Phase I System components as “system-specific.” By contrast, table 16-2 identified several Phase I vapor recovery components as non-system-specific. Table 16-1 has been modified to include Phase I vapor recovery components identified as system specific because they are critical to the compatibility of system components: product and vapor adaptors, spill-container valves and configurations, and drop tube overfill prevention devices. The same Phase I system components have been removed from the modified table 16-2 listing of non-system-specific components.

As originally noticed, section 4.8.3 was proposed to clarify the certification requirement for

liquid retention testing by specifying not less than 10 refueling operations and four fill-ups (excluding top-off). Section 6.5.4 of TP-201.2E, Gasoline Liquid Retention in Nozzle and Hoses requires 10 tests (refuelings) for each nozzle. As modified, section 4.8.3 has been amended to be consistent with TP-201.2E by specifying not less than 10 refueling operations per nozzle.

TP-201.1B Static Torque of Rotatable Phase I Adaptors (new)

A new certification and compliance test procedure has been adopted to verify compliance with maximum 108-pound-inch static torque standard, and the 360 degree rotation requirement for product and vapor adaptors used at gasoline dispensing facilities.

As originally noticed, the cover page of TP-201.1B indicated that the procedure is a compliance test procedure. As the test procedure will be used in both certification and compliance testing, the modified cover page corrects the title to correctly reflect the test procedure's use.

As originally noticed Section 5.1.1 of TP-201.1B states the minimum accuracy of the torque wrench shall be 1.00 percent of full-scale range. As modified, the minimum accuracy has been changed to 3.00 percent.

As originally noticed, TP-201.1B failed to specify the minimum readability of the torque wrench. As modified, section 5.1.2 has been added, stating that the minimum readability of the torque wrench shall be 5.00 pound-inch increments.

As originally noticed, section 5.4 of TP-201.1B described a socket extension as a piece of equipment needed to conduct the torque test. As modified, section 5.4 has been renumbered to 5.3 and modified to include the socket wrench and extension as the tools to be used to verify the rotation of the adaptor. Other sections have also been renumbered.

As originally noticed, the proposed TP-201.1B stated it was to be used to certify product and vapor adaptors to, and determine compliance with, the static torque specification of 108 pound-inches and to verify that adaptors rotate 360 degrees. The proposed TP-201.1B inadvertently did not specify the procedure for determining rotation and did not specify the order of conducting the rotation and static torque tests. Section 7.3 has been added to include a procedure for verifying rotation. Section 7.5 has been added to instruct on how to take and record the torque measurement valves.

As originally noticed, the data sheet (Form 1) of TP-201.1B did not provide a means to indicate if the adapter passed the 360 degree rotation test. As modified, a 360-degree rotation field has been added to the data sheet (Form 1).

TP-201.1C Pressure Integrity of Drop Tube/Drain Valve Assembly (new)

A new certification and compliance test procedure for measuring the leak rate of drain valves to determine compliance with the certification performance specification of 0.17 cubic feet per hour at a pressure of two inches water column is adopted. This procedure will apply in instances where the drop tube is located below the drain valve.

As originally noticed, the cover page of TP-201.1C indicated that the procedure would be a compliance test procedure. As the test procedure will be used in both certification and compliance testing, the modified cover page corrects the title.

As originally noticed, section 7 of TP-201.1C stated that if the pressure did not reach 2.00 inches of water column within 90 seconds, the drop tube/drain valve assembly did not comply with the maximum allowable leak rate. In conducting the test procedure, staff found that it might take as long as 165 seconds to reach the 2.00 inches of water column. Therefore, the time to reach 2.00 inches of water column was modified from 90 seconds to 180 seconds.

TP-201.1D Pressure Integrity of Drop Tube Overfill Protection Devices (amended)

The certification and compliance test procedure has been amended to allow for measuring the leak rate of the drain valve in addition to the leak rate of the drop tube overfill protection device.

TP-201.4 Dynamic Back Pressure

The amendments modify an existing certification and compliance test procedure by adding four methodologies for configurations that are subject to the dynamic pressure standard but were not addressed before in the procedure.

TP-201.6C Compliance Determination of Liquid Removal Rate

The procedure is amended to provide two options for determining the liquid removal rate for liquid removal devices used on balance vapor recovery systems. The amendments are in response to suggestions from districts and testing contractors to reduce test related fugitive emissions and provide a less time consuming, labor intensive test procedure.

Title 17, CCR, Section 94153

Section 94153 implies that Test Procedure (TP)-201.4 (Dynamic Back Pressure) is applicable solely to aboveground tanks. Since the test procedure is used for both aboveground and underground tanks, section 94153 is modified to delete the implied limitation of the applicability of the test procedure.

Comparable Federal Regulation

There are no comparable federal regulations that certify gasoline vapor recovery systems for service stations. There are no comparable federal test methods to determine compliance with vapor recovery system requirements. ARB procedures applicable to such vapor recovery systems have an impact nationwide as ARB certifications and test procedures are recognized and used in other states.