

TITLE 17. CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE VAPOR RECOVERY CERTIFICATION AND TEST PROCEDURE REGULATIONS FOR ENHANCED VAPOR RECOVERY

The Air Resources Board (ARB or Board) will conduct a public hearing at the time and place noted below to consider adoption of amendments to the regulations for certification and testing of vapor recovery systems installed at gasoline dispensing facilities (service stations and similar facilities).

DATE: March 23, 2000

TIME: 9:30 a.m.

PLACE: Air Resources Board
Board Hearing Room, Lower Level
2020 L Street
Sacramento, California

This item will be considered at a two-day meeting of the ARB, which will commence at 9:30 a.m., March 23, 2000, and may continue at 8:30 a.m., March 24, 2000. This item may not be considered until March 24, 2000. Please consult the agenda for the meeting, which will be available at least 10 days before March 23, 2000, to determine the time when this item will be considered.

This facility is accessible to persons with disabilities. If accommodation is needed, please contact ARB's Clerk of the Board by March 9, 2000, at (916) 322-5594, or TDD (916) 324-9531, or (800) 700-8326 for TDD calls from outside the Sacramento area, to ensure accommodation.

INFORMATIVE DIGEST OF PROPOSED ACTION AND PLAIN ENGLISH POLICY STATEMENT OVERVIEW

Sections Affected: Proposed amendments to sections 60030, 94010, 94011, 94148, 94149 and 94154, title 17, California Code of Regulations (CCR) and the documents incorporated by reference therein. Proposed adoption of new section 94163, title 17, CCR, and the documents incorporated by reference therein. Proposed repeal of section 94151, title 17, CCR, and the document 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 Health and Safety Code 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 94101-94162, title 17, CCR.

Vapor recovery system configurations for gasoline dispensing facilities are certified by the state as achieving a certain level of emissions control performance. Field inspection data reveals that many installed vapor recovery systems are operating less efficiently than as certified. These amendments seek to improve the certification process as well as provide new monitoring requirements for in-use systems. This will address concerns raised by both air pollution control districts and gasoline marketers who purchase vapor recovery equipment.

Additional hydrocarbon emission reductions are needed to meet the 1994 Ozone State Implementation Plan for the South Coast Air Quality Management District (SIP). Staff have identified additional controls that staff believe are reasonable and necessary to achieve progress towards meeting ozone attainment standards statewide.

The proposed changes will increase the stringency of the emission standards, which will trigger re-evaluation and possibly recertification of all currently certified systems. New systems and installations will need to meet many of the new requirements by the proposed effective date of April 2001. As provided in state law, systems already installed at service stations may use their existing systems for up to four years after the proposed effective date. Vapor recovery systems are likely to require substantial upgrades.

The proposed changes will 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.

ARB staff proposes to revise nine certification and test procedures and to amend title 17, CCR, sections 94010, 94011, 94148, 94149 and 94154, which incorporate the procedures by reference. The amended procedures are:

Method D-200	Definitions for Certification Procedures and Test Procedures for Vapor Recovery Systems
Revised Title:	Definitions for Vapor Recovery Procedures
Method CP-201	Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities
Method TP-201.1	Determination of Efficiency of Phase I Vapor Recovery Systems of Dispensing Facilities without Assist Processors

Revised Title:	Volumetric Efficiency for Phase I Systems at Dispensing Facilities
Method TP-201.1A	Determination of Efficiency of Phase I Vapor Recovery Systems of Dispensing Facilities with Assist Processors
Revised Title:	Emission Factor for Phase I Systems at Dispensing Facilities
Method TP-201.2	Determination of Efficiency of Phase II Vapor Recovery Systems of Dispensing Facilities
Revised Title:	Emission Factor for Phase II Systems
Method TP-201.2A	Determination of Vehicle Matrix for Phase II Vapor Recovery Systems of Dispensing Facilities
Revised Title	Determination of Vehicle Matrix for Phase II Systems
Method TP-201.2B	Determination of Flow versus Pressure for Equipment in Phase II Vapor Recovery Systems of Dispensing Facilities
Revised Title:	Pressure Integrity of Vapor Recovery Equipment
Method TP-201.2C	Determination of Spillage of Phase II Vapor Recovery Systems of Dispensing Facilities
Revised Title:	Spillage from Phase II Systems
Method TP-201.5	Determination (by Volume Meter) of Air to Liquid Volume Ratio of Vapor Recovery Systems of Dispensing Facilities

ARB staff proposes to adopt five new test procedures and to amend section 94011 and to adopt section 94163, title 17, CCR, which incorporate the procedures by reference. The new test procedures are proposed to determine compliance with proposed new Enhanced Vapor Recovery standards. These proposed new methods include:

Method TP-201.2D	Post Fueling Drips from Nozzle Spouts
Method TP-201.2E	Gasoline Liquid Retention in Nozzles and Hoses
Method TP-201.2F	Pressure-Related Fugitive Emissions
Method TP-201.2H	Determination of Hazardous Air Pollutants from Vapor Recovery Processors

Method TP-201.2O Pressure Integrity of Drop Tube Overfill Protection Devices

Staff proposes to amend section 94011 and to repeal section 94151, title 17, CCR, to reflect that the test method incorporated by reference in the regulations is no longer used to test vapor recovery systems. The test method is:

Method TP-201.3A Determination of 5 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities

ARB staff proposes to amend title 17, CCR, section 60030 to provide procedures and time periods applicable to applications for certification of vapor recovery systems for gasoline dispensing facilities, as required by Government Code sections 15375 and 15376.

Description of the Proposed Regulatory Action

The proposed regulatory action would amend the existing vapor recovery regulations by modifying the requirements for certification of both Phase I and Phase II systems as well as imposing new requirements for monitoring of in-use systems. These requirements are outlined in the revisions to CP-201, Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities. The proposal also includes a new standard to reduce liquid leaks at the nozzle. The proposed revisions have been grouped into six Enhanced Vapor Recovery Modules which are described below:

Module 1: Phase I Vapor Recovery

Most of the Phase I equipment in current use was originally certified over 15 years ago and was found to meet 95% efficiency with an open vent pipe. Through recent tests, staff has learned that higher efficiencies are easily obtained through use of a pressure/vacuum valve on the vent. However, this efficiency can be eroded due to leaks in the Phase I fittings and drop tubes. Staff proposes to increase efficiency requirements as well as require more stringent leak requirements for Phase I components.

Proposed changes to Phase I certification consist of an increase in the efficiency requirement from 95% to 98%, a new specification for Phase I couplers to reduce leaks, new performance specifications for drain valves in spill containment boxes and other improved Phase I equipment specifications. The two test procedures for determination of Phase I efficiency, TP-201.1 and TP201.1A, are proposed to be updated to allow better measurement of vent emissions and other improvements. A new test procedure, TP-201.2O, Pressure Integrity of Drop Tube Overfill Protection Devices, is proposed to determine compliance with the new drop tube leak limits.

Module 2: Phase II Vapor Recovery

Recent field inspections conducted jointly by ARB and district staff have uncovered

many deficiencies in installed Phase II systems. ARB staff is working with the districts and equipment manufacturers to resolve these problems but it became clear that many reliability concerns could be addressed during the certification process. Staff has also identified new emission points for gasoline vapor emissions and proposed new standards to control these emissions. Staff has proposed extending the certification tests and expanding on the tests required during certification to thoroughly address durability and reliability issues.

Fugitive leaks from the underground storage tank are a concern with existing systems. Negative underground storage tank pressures would reduce fugitives. Staff has proposed pressure profiles that would limit underground storage tank pressures and assess leaks in the vapor space. Increased use of processors is expected to maintain desired underground storage tank pressures, but concerns have been raised regarding toxics in the exhaust of combustion processors. New limits for selected hazardous air pollutants are included in the proposal.

Another proposal to address system deficiencies is to limit the certification to four years with renewal contingent on successfully addressing any problems that have been documented during the four-year period. Currently, certifications have no expiration date.

Proposed changes to Phase II certification for all system types are as follows. Staff propose to replace the existing 90% minimum efficiency standard to an emission limit (0.38 lb/1000 gallons) equivalent to 95% efficiency when using a summer uncontrolled emission factor of 7.6 lbs/1000 gallons. Pressure-related fugitives would be added to transfer, vent and processor emissions in determining the emissions from each system. Positive underground storage tank vapor space pressure limits for all systems are established. A vent "sleeve" would be used to improve measurement of vent emissions. Measurement of selected toxic air pollutants would be required at the processor when a processor is part of the system. Maximum concentrations of selected toxic air contaminants would be specified. The certification operational test, which assesses the durability and reliability of the system, is proposed to be increased from a minimum of 90 days to a minimum of 180 days. Additional performance tests, such as static pressure integrity and air-to-liquid ratio tests, would be required during the operational test. The Phase II system will need to be compatible, that is, to cause no excess emissions, with Phase I operations.

Proposed changes in certification requirements for balance systems include new limits on nozzle operational parameters, such as the vapor valve leakrate and bellows insertion force. A pressure drop budget has been established with individual pressure drop limits for system components.

Proposed changes in assist system certification requirements include a maximum air-to-liquid ratio of 1.00, new nozzle vapor valve leakrates, a specification for nozzle pressure drop and that nozzles must possess a vapor guard.

Vapor recovery systems with processors would be required to have minimum and maximum vacuum levels set during the certification process. The maximum number of fueling points per vacuum device would be established. Emission standards for both criteria and toxic pollutants are proposed for processors, including determination of carbon monoxide, oxides of nitrogen, benzene, 1,3-butadiene and aldehydes. A maximum hydrocarbon rate to the processor will be established during certification testing to limit potential gasoline vapor emissions in the event of processor failure.

Additional proposed changes to the certification process include new warranty requirements to ensure performance requirements are met for the warranty period, a requirement to submit system and component pressure drop range information, and new specifications for P/V valves and dispensers designed to minimize leak sources. A major proposed change is to limit new certifications to four years, with renewal being allowed with no additional testing if no deficiencies are documented during the four-year certification. The current vapor recovery certifications have no expiration date.

Revisions to TP-201.2, Emission Factor for Phase II Systems, are proposed to facilitate the change from efficiency to emission factor, add in the vent sleeve measurement technique and make other improvements. TP-201.2A, Determination of Vehicle Matrix for Phase II System, is updated to reflect the change to a 200-car test. A new appendix is proposed for TP-201.2B, Pressure Integrity of Vapor Recovery Equipment, to determine compliance with pressure/vent valve limits. A new procedure, TP-201.2F, Pressure-Related Fugitive Emissions, is proposed to allow inclusion of fugitives in the emission factor calculation. A new procedure to measure hazardous air pollutants from processors is proposed as TP-201.2H, Determination of Hazardous Air Pollutants from Vapor Recovery Processors.

Module 3: Onboard Refueling Vapor Recovery (ORVR) Compatibility

Federal regulations require that vehicles be equipped with ORVR beginning with the 1998 model year. Tests have shown that fueling ORVR vehicles with currently certified Phase II vapor recovery systems can lead to excess emissions. The certification tests are proposed to include a demonstration that the system is compatible with ORVR vehicles. Compatibility would include a determination that the system can refuel ORVR vehicles and that refueling of ORVR vehicles does not cause the vapor recovery system emissions to exceed the 0.38 lbs/1000 gal standard. The certification applicant would submit an ORVR test procedure as part of the certification application that must include ORVR vehicle fleet penetrations up to 80%.

Module 4: Liquid Retention

A new standard is proposed to help eliminate evaporation from liquid gasoline in vapor recovery nozzles between refueling events. Gasoline retained on the atmospheric side of the vapor check valve, and/or in the nozzle's liquid path, is subject to potential evaporation and/or spillage. The proposed liquid retention limits would be decreased

over a three-year period with the final limit of liquid retention is 100 ml/1000 gallons dispensed. Staff believe the initial limit of 350 ml/1000 gal can already be met by some currently certified nozzles. A new test procedure, TP-201.2E, Gasoline Liquid Retention in Nozzles and Hoses, is proposed to determine compliance with the liquid retention limits.

Module 5: Spillage and Dripless Nozzles

Originally, the requirement for spillage during vapor recovery systems was limited to be no more than from conventional nozzles. As this is a significant source of gasoline vapor emissions, staff is seeking additional emission reductions from spillage. The allowable spillage limit for Phase II dispensing is proposed to be lowered from 0.42 lbs/1000 gallons to 0.24 lbs/1000 gallons. In addition, nozzles would be limited to one drip per fueling. Based on comments received from nozzle manufacturers, staff believe that these proposed limits will require a redesign of existing vapor recovery nozzles. This requirement would become effective three years after the EVR effective date. A technology review is proposed to take place two years after the EVR effective date to evaluate whether the spillage and dripless nozzle requirements are feasible. The spillage procedure, TP-201.2C, has been revised to streamline the testing procedure and include spillage, such as on vehicles, which is not counted in the current procedure. A new procedure, TP-201.2D, Post-Fueling Drips from Nozzle Spouts, is proposed to determine compliance with the new nozzle requirements.

Module 6: In-Station Diagnostics

Currently, inspections and tests are regularly conducted at service stations, but vapor recovery systems can have excess emissions between inspections as failures of the system are not easily detected by the station operators. New in-station diagnostic monitoring requirements are desired to allow continuous evaluation of vapor recovery system performance and to provide signals and alarms when failure modes are detected.

The proposal contains new requirements for in-station diagnostics to ensure installed systems are operating within certified parameters. All vapor recovery systems will be required to install dataloggers and record underground storage tank pressure to ensure pressure integrity of the underground storage tank. Additional monitoring will be required based on three system categories: balance, assist and innovative technology. The in-station diagnostics will be evaluated during the system certification tests. During certification, system failure modes that would lead to significant excess emissions will be identified. Audible and visual alarms will alert the station operator of a system malfunction; failure to correct the problem within the allotted timeframe will result in shutdown of dispensing. The certification orders would specify appropriate enforcement action for various failure modes, which is dependent upon potential emissions associated with each failure mode.

Some currently certified systems already have monitoring requirements specified in

their certification Executive Orders. Other proposed monitoring requirements would require sensor technology that is not yet fully developed. Thus, staff proposes that ISD requirements be phased in over a three-year period. A technology review is proposed to take place two years after the EVR effective date to evaluate whether ISD implementation remains on track.

Staff proposes updates to D-200, Definitions to Vapor Recovery Procedures to add in new terms relating to the new standards. Staff proposes repeal of TP-201.3A, Determination of 5 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities, as this method is no longer used in testing vapor recovery systems.

The proposed changes, if adopted, would become effective April 2001. The proposed regulatory action will achieve VOC emission reductions of about 25 tons per day statewide in 2010 after all the EVR standards are implemented. A four-year delay is due to the phase in of some of the EVR standards and existing law that provides that existing installed vapor recovery systems have four years to meet new 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.

AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSON

The ARB staff has prepared a Staff Report: Initial Statement of Reasons (ISOR) for the proposed regulatory action which includes a summary of the environmental and economic impacts of the proposal, and supporting technical documentation. Copies of the ISOR may be obtained from the ARB's Public Information Office, 2020 L Street, Sacramento, California 95814, (916) 322-2990, at least 45 days prior to the scheduled hearing (March 23, 2000). The ISOR contains the full text of the proposed amendments. The staff has also compiled a record which includes all information upon which the proposal is based. This material is available for inspection upon request to the contact person identified below.

The ARB has determined that it is not feasible to draft the regulations in plain non-controlling English due to the technical nature of the regulations; however, a plain English summary of the regulation is available from the agency contact person named in this notice, and is also contained in Section IV, Summary of the Proposed Amendments, of the ISOR for this regulatory action.

To obtain the ISOR in an alternative format, please contact the Air Resources Board Americans with Disabilities Act Coordinator at (916) 322-4505, TDD (916) 324-9531, or

(800) 700-8326 for TDD calls from outside the Sacramento Area. This notice, the ISOR, and all subsequent regulatory documents are being made available on the ARB Internet site for this rulemaking, <http://www.arb.ca.gov/regact/march2000evr/march2000evr.htm>. Further inquiries regarding this matter should be directed to Agency Contact Person Ms. Cindy Castronovo, Testing Section, Monitoring and Laboratory Division, at (916) 322-8957.

COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED

The determinations of the Board's Executive Officer concerning the cost or savings necessarily incurred in reasonable compliance with the proposed regulatory action are presented below.

The Executive Officer has determined that the proposed regulatory action will create costs or savings, as defined in Government Code section 11346.5(a)(6), to any state agency or in federal funding to the State, costs or mandate to any local agency or school district whether or not reimbursable by the State pursuant to Part 7 (commencing with section 17500), Division 4, Title 2 of the Government Code, or other nondiscretionary savings to local agencies.

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts on private persons and businesses. The Executive Officer has determined that the proposed regulatory action will not have a significant adverse economic impact on the ability of California businesses to compete with businesses in other states, or on directly-affected private persons. In accordance with Government Code section 11346.3, the Executive Officer has determined that the proposed amendments should not have impacts on the creation or elimination of jobs within the State of California, and should have minor impacts on the creation of new businesses and the elimination of existing businesses within the State of California, and minor impacts on the expansion of businesses currently doing business within the State of California. A detailed assessment of the economic impacts of the proposed amendments can be found in the ISOR.

As explained in the ISOR, it is likely that some individual businesses may be adversely affected by the proposed regulatory action. Therefore, the Executive Officer finds that the adoption of the proposed amendments may have a significant adverse impact on some businesses. The Executive Officer has considered proposed alternatives that would lessen any adverse economic impact on business and invites you to submit proposals. Submissions may include the following considerations:

- (i) The establishment of differing compliance or reporting requirements or timetables which take into account the resources available to businesses;
- (ii) Consolidation or simplification of compliance and reporting requirements for businesses;

- (iii) The use of performance standards rather than prescriptive standards; and
- (iv) Exemption or partial exemption from the regulatory requirements for businesses.

The Board's Executive Officer has also determined, pursuant to Government Code section 11346.5(a)(3)(B), that the regulation will affect small business.

Before taking final action on the proposed regulatory action, the ARB must determine that no alternative considered by the agency would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons or businesses than the proposed action.

SUBMITTAL OF COMMENTS

The public may present comments relating to this matter orally or in writing. To be considered by the ARB, written submissions must be addressed to and received by the Clerk of the Board, Air Resources Board, P.O. Box 2815, Sacramento, CA 95812, or 2020 L Street, 4th Floor, Sacramento, CA 95814, no later than 12:00 noon March 22, 2000, or received by the Clerk of the Board at the hearing.

The ARB requests, but does not require, that 30 copies of any written statement be submitted and that all written statements be filed at least 10 days prior to the hearing so that ARB staff and Board Members have time to fully consider each comment. The ARB encourages members of the public to bring any suggestions for modification of the proposed regulatory action to the attention of staff in advance of the hearing.

STATUTORY AUTHORITY AND REFERENCE

This regulatory action is proposed under the authority granted to the ARB in sections 39600, 39601, 39607, and 41954 of the Health and Safety Code. This action is proposed to implement, interpret, or make specific sections 39515, 39516, 39605, 39607, 40001, 41511, 41954, 41956.1, 41959, 41960 and 41960.2 of the Health and Safety Code; and sections 15375 and 15376 of the Government Code.

HEARING PROCEDURES

The public hearing will be conducted in accordance with the California Administrative Procedure Act, Title 2, Division 3, Part 1, Chapter 3.5 (commencing with section 11340) of the Government Code. Following the public hearing, the ARB may adopt the regulatory language as originally proposed or with nonsubstantial or grammatical modifications. The ARB may also adopt the proposed regulatory language with other modifications if the modifications are sufficiently related to the originally proposed text that the public was adequately placed on notice that the regulatory language as

modified could result from the proposed regulatory action. In the event that such modifications are made, the full regulatory text, with the modifications clearly indicated, will be made available to the public for written comment at least 15 days before it is adopted.

The public may request a copy of the modified regulatory text from the ARB's Public Information Office, 2020 L Street, Sacramento, California 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

MICHAEL P. KENNY
EXECUTIVE OFFICER

Date: January 25, 2000