

TITLES 13. CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE CALIFORNIA PHASE 2 REFORMULATED GASOLINE REGULATIONS, INCLUDING AMENDMENTS PROVIDING FOR THE USE OF A PREDICTIVE MODEL

The Air Resources Board (ARB or Board) will conduct a public hearing at the time and place noted below to consider amendments to the California Phase 2 reformulated gasoline (Phase 2 RFG) regulations, including amendments that would allow the sale of gasoline meeting alternative gasoline specifications identified through the application of a predictive model.

DATE: June 9, 1994

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 Board, which will commence at 9:30 a.m., June 9, 1994 and will continue at 8:30 a.m., June 10, 1994. This item may not be considered until June 10, 1994. Please consult the agenda for the meeting, which will be available at least 10 days before June 9, 1994, to determine the time when this item will be considered.

INFORMATIVE DIGEST OF PROPOSED ACTION

Sections Affected: Proposed amendments to sections 2260, 2261, 2262.2, 2262.3, 2262.4, 2262.5, 2262.6, 2262.7, 2264, and 2270, and adoption of sections 2264.2 and 2265, in Title 13, California Code of Regulations. Proposed adoption of the "California Procedures for Evaluating Alternative Specifications for Phase 2 Reformulated Gasoline Using the California Predictive Model," to be incorporated by reference in section 2265, Title 13, California Code of Regulations.

Background

The California Phase 2 RFG regulations were adopted by the Board following a hearing in November 1991. These regulations establish a comprehensive set of specifications for gasoline designed to achieve the maximum reductions in emissions of criteria pollutants and toxic air contaminants from gasoline-powered motor vehicles. California gasoline will in most cases have to meet the Phase 2 RFG specifications beginning March 1, 1996. The specifications apply to the sulfur, benzene, olefin, oxygen, and aromatic hydrocarbon contents, the 50 percent (T50) and 90 percent (T90) distillation temperatures, and the Reid vapor pressure (RVP).

The Phase 2 RFG standards include "cap" limits that apply to finished gasoline throughout the distribution system in California. The Phase 2 RFG standards also include generally more stringent limits that apply to gasoline when it is first supplied from a production facility (typically a refinery) or an import facility. Except in the case of RVP and oxygen content, the

regulations provide two compliance options for meeting the limits applicable to gasoline being supplied from a production or import facility. One option is to elect to have the gasoline subject to a "flat limit," which must be met by every gallon of gasoline leaving the production or import facility. The other option is to elect an "averaging limit." The averaging limits established in the regulations for each of the six properties are more stringent than the comparable flat limits. Under the averaging option, the producer may assign differing "designated alternative limits" (DALs) to different batches of gasoline being supplied from the production or import facility. Each batch of gasoline must meet the DAL for the batch. In addition, a producer or importer supplying a batch of gasoline with a DAL less stringent than the averaging limit must within 90 days before or after supply from the same facility sufficient quantities of gasoline subject to more stringent DALs to fully offset the exceedances of the averaging limit.

The Phase 2 RFG regulations also provide another approach producers can use to comply with the requirements applicable to gasoline being supplied from production facilities. Producers are allowed to seek certification of alternative gasoline formulations found to result in equivalent emissions reductions based on a motor vehicle emission testing program. A producer may elect to have gasoline sold from the production facility subject to the specifications of a certified alternative gasoline formulation instead of the flat or averaging limits in the regulations. These provisions apply to importers as well.

When it adopted the Phase 2 RFG regulations, the Board expressed its intent to provide a second way that a producer could demonstrate that a set of alternative specifications would reduce emissions at least as much as Phase 2 RFG. This would involve the use of a "predictive model," which would be based on the analysis of a large number of vehicle emission test programs. The Board directed the staff to develop such a predictive model and to propose regulatory amendments providing for its use. At the hearing announced by this notice, the Board will consider the adoption of amendments to incorporate the predictive model into the Phase 2 RFG regulations. The Board will also consider various other amendments intended to facilitate implementation of the Phase 2 RFG program.

The proposed amendments have been developed with considerable public participation. Since the November 1991 public hearing, the staff has conducted four public workshops to discuss possible amendments to the Phase 2 RFG regulations. The staff has worked closely with representatives of the Western States Petroleum Association (WSPA), particularly two WSPA subcommittees addressing the predictive model and implementation issues respectively. In addition, numerous individual meetings and telephone conversations have been conducted with industry representatives to discuss revisions to the regulations.

The proposed amendments are designed to provide additional flexibility to gasoline producers and importers without sacrificing either the emission benefits or the enforceability of the Phase 2 RFG regulations. This additional flexibility is expected to allow producers to make more gasoline at a lower cost, thereby lowering the expected cost to the consumers and minimizing the potential for disruptions in the supply of gasoline.

This regulatory proposal is an important part of the ARB's ongoing comprehensive efforts to ensure that there is a smooth transition from current conventional gasoline to Phase 2 RFG beginning in March 1996. These efforts include working with refiners to assure that they are ready to produce the new fuel on time and in sufficient quantities. The staff will continue to investigate ways to provide additional flexibility to the regulated public and will return to the Board if necessary to propose additional amendments.

Proposed Amendments Relating to the California Predictive Model

The proposed amendments will allow gasoline producers the option to use the California predictive model to assign specifications to an alternative gasoline formulation. This alternative gasoline formulation could then be used in lieu of meeting either the flat or averaging limits applicable to gasoline being supplied from production and import facilities.

Under the proposal, the Board would adopt the "California Procedures for Evaluating Alternative Specifications for Phase 2 Reformulated Gasoline Using the California Predictive Model," which would be incorporated by reference in section 2265, Title 13, California Code of Regulations. These procedures define the California predictive model and specify how producers may use the model to evaluate alternative gasoline specifications.

The proposed California predictive model is comprised of three equations by which the vehicular emissions that will result from the use of a candidate set of alternative specifications are compared to emissions resulting from the use of Phase 2 RFG. One equation determines the change in exhaust emissions of hydrocarbons; the second determines the change in exhaust emissions of oxides of nitrogen; and the third determines the change in the combined exhaust emissions of four toxic air contaminants. The four toxic air contaminants included are benzene, 1,3-butadiene, acetaldehyde, and formaldehyde. The percent change in emissions between the alternative specifications and the Phase 2 RFG specifications are then compared. A candidate set of alternative specifications is acceptable if the predicted emissions increase under the three equations for hydrocarbons, oxides of nitrogen, and toxic air contaminants are each equal to or less than 0.04 percent.

The staff has developed the proposed California predictive model based on an analysis of vehicle emissions tests for two different classes of motor vehicles. The first class represents model year 1981 through 1985 motor vehicles and the second class represents model year 1986 through 1995 motor vehicles. Each class is comprised of vehicles with similar exhaust emission control technologies. These data generally represent the best data available for predicting the emissions impact that an alternative gasoline formulation will have when used in gasoline-powered low-emission vehicles and future motor vehicle fleets in California.

Each of the three equations in the California predictive model considers the effects from the two motor vehicle classes. The effects are combined using a technique to "weight" the impact that changes in fuel properties may have on each vehicle class. For hydrocarbons and oxides of nitrogen, the predicted emissions for the two vehicle classes are weighted by the average

contribution each vehicle class is expected to make to the total on-road emissions for light-duty vehicles in the years 1996, 2000, and 2005. For the toxic air contaminants equation, the predicted emissions are weighted by the average contribution each vehicle class is expected to make to the total on-road vehicle miles traveled for light-duty vehicles in the years 1996, 2000 and 2005. The predicted emissions for each toxic air contaminant are further weighted by the potential of the toxic air contaminant to cause cancer relative to 1,3-butadiene.

In order to evaluate a candidate set of alternative specifications under the predictive model, a producer will identify specifications for each of the eight properties subject to the Phase 2 RFG regulations. Each of the eight specifications must meet the cap limit applicable to the property. For each fuel property other than RVP and oxygen content, a producer may choose between a specification to be applied as a flat limit, and a specification to be applied as an averaging limit. Where the producer chooses the averaging compliance option for a given property, the predictive model compares the candidate alternative specifications against Phase 2 RFG reference specifications containing the averaging limit for that property.

A producer wishing to make a batch of gasoline subject to alternative specifications evaluated under the predictive model would notify the Executive Officer of the alternative specifications, the percent change in emissions under the model for emissions of hydrocarbons, oxides of nitrogen, and potency-weighted toxic air contaminants. The producer would also provide the identity, location, and estimated volume of the batch. The notification would be subject to the same time requirements as apply to notification of DALs.

Under the proposal, a producer would have to offset any outstanding designated alternative limit debits before using the predictive model to sell an alternative gasoline formulation. Once a producer starts supplying from its production facility gasoline subject to alternative specifications evaluated under the predictive model, the producer would have to offset any averaging debits before switching to another compliance option.

The provisions regarding the predictive model would apply to importers of gasoline as well as to producers.

Other proposed amendments

Implementation dates. Under the Phase 2 RFG regulations, all producers and importers (other than qualifying small refiners) must meet the standards applicable to gasoline supplied from a production or import facility starting March 1, 1996. Gasoline anywhere in the distribution system is subject to the cap limits as of April 1, 1996. To minimize potential disruptions in fuel supplies, the staff is proposing that the cap limits apply starting April 15, 1996 everywhere in the distribution system except to the fueling of motor vehicles at service stations and other fueling facilities, and apply to all fueling facilities as of June 1, 1996. There would be an exception from the April 15, 1996 compliance date for deliveries of gasoline from bulk plants to service stations and bulk purchaser-consumers. In addition, under the proposal it would not be illegal to dispense noncomplying gasoline into a motor vehicle after June 1, 1996 if it was shown that the noncompliance was

due to gasoline delivered prior to April 15, 1996 (or from a bulk plant prior to June 1, 1996). The staff is not proposing any changes to the March 1, 1996 implementation date for production and import facilities.

Election of compliance option; reporting requirements. The Phase 2 RFG regulations currently require producers and importers to elect whether they will be using the flat limit or averaging limit compliance option on an annual basis. The elections apply for a minimum of one calendar year. Producers must make an initial election by November 1, 1995 for calendar year 1996. Each subsequent annual election must be made by October 1 of the preceding year. The staff is proposing deletion of these requirements. Instead, a producer or importer changing the applicable compliance option for a property would only have to meet the notice requirements that apply to the assignment of a DAL, described in the following paragraph. A producer would not be permitted to switch from the compliance option for a property if there are any outstanding debits for that property. In addition, a producer switching from an averaging limit for a property to another compliance option would not be permitted to carry over any credits for that property.

For each final blend of fuel receiving a DAL, the Phase 2 RFG regulations require the producer to notify the Executive Officer of the volume, the DAL, the blend identity, and the location of each final blend. This notification must be received by the Executive Officer before the physical transfer of the gasoline from the production facility, and in no case less than 12 hours before the producer either completes physical transfer or commingles the final blend. The staff is proposing an amendment which would allow the producer to initially report an estimated volume, with notification of the revised volume within 48 hours after transfer of the gasoline is completed.

Other. The staff also proposes amendments regarding gasoline imports. Where gasoline is produced in California, and the producer reasonably should know that the gasoline will be offered for sale at an out-of-state facility as gasoline produced in California and suitable for sale as a motor vehicle fuel in California, the gasoline would not be treated as imported gasoline. Instead, the California refiner would be responsible for complying with the producer limits when the gasoline is initially shipped from the California production facility. Other additional minor proposed amendments include refinements to the requirements for sampling and testing of gasoline subject to one or more DALs, and adding an additional significant digit (to a tenth of a percent) for all references to aromatic hydrocarbon content standards.

Comparable Federal Regulations

The 1990 amendments to the federal Clean Air Act (FCAA) require the United States Environmental Protection Agency (USEPA) to adopt regulations regarding reformulated gasoline. (FCAA § 211(k).) These regulations have been adopted as 40 C.F.R. §§ 80.40 to 80.82. In California, the regulations apply in Los Angeles, Orange, Ventura and San Diego counties, and in parts of Riverside and San Bernardino counties, starting on December 1, 1994 at all locations other than retail outlets and wholesale purchaser-consumer facilities, and on and after January 1, 1995 at all locations.

The FCAA provides that the federal regulations must require no NOx increase, a minimum 2.0 percent by weight oxygen content (with certain exceptions), a

maximum 1.0 percent by volume benzene content, and limits on heavy metals. The federal regulations must also specify performance standards for hydrocarbons in the high ozone period and toxic compounds year-round in two phases--the first starting in 1995 and the second starting in 2000.

The USEPA regulations identify "per-gallon" and optional averaged standards that may be met under a "simple model" through 1997. The regulations also identify a "complex model" which is optional until January 1, 1998, and is mandatory thereafter. The USEPA complex model differs from the proposed California predictive model in several respects, including its use of emissions data only representative of 1990 model year vehicle technology, simpler statistical approach, and pre-exclusion of terms.

While the federal substantive requirements will apply in the covered areas of southern California, the ARB has worked with USEPA and gasoline producers to avoid unnecessary duplication of the enforcement requirements. In 40 C.F.R. § 80.81, the USEPA has exempted California producers from many of the federal enforcement requirements from March 1, 1996 to January 1, 2000, as long as certain criteria are met. In the case of two parts of the federal program, California producers are exempt before March 1996 as well. While in some instances the federal test procedures differ from the ARB's, 40 C.F.R. §80.81(h) allows producers of California gasoline to use the California sampling and test methodologies in lieu of the applicable federal methodology.

AVAILABILITY OF DOCUMENTS AND CONTACT PERSON

The Board staff has prepared a Staff Report which includes the initial statement of reasons for the proposed action and a summary of the environmental impacts of the proposal. Copies of the Staff Report may be obtained from the Board's Public Information Office, 2020 L Street, Sacramento, California 95814, (916) 322-2990, at least 45 days prior to the scheduled hearing. The Staff Report contains the full text of the proposed amendments. The staff has 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 immediately below.

Further inquiries regarding this matter should be directed to Dan Donohoue, Manager, Technical Analysis Section, Stationary Source Division, at (916) 322-8277.

COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED

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

The Executive Officer has determined that the proposed regulatory action will not 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 preparing the regulatory proposal, the staff has considered the potential economic impacts on California business enterprises and individuals. The Executive Officer has determined that the proposed regulatory action will not have an adverse economic impact on businesses, including the ability of California businesses to compete with businesses in other states, or on directly affected private persons. The economic impacts are expected to be beneficial. The additional flexibility that would be provided to producers should result in a reduction of the operating costs of complying with the Phase 2 RFG regulations. The proposed amendments should also allow producers to maximize production capabilities and respond to fluctuations in supply. Consequently, the proposed amendments may help avoid disruptions in the supply of gasoline and thus avoid price increases due to any real or perceived shortages. These effects, in turn, should lower the expected costs to the consumers.

In accordance with Government Code section 11346.54, the Executive Officer has determined that the proposed regulatory action will not affect the creation or elimination of jobs within the State of California, the creation of new businesses or the elimination of existing businesses within California, or the expansion of businesses currently doing business within California. An assessment of the economic impacts of the proposed regulatory action can be found in the Staff Report.

Before taking final action on the proposed regulatory action, the Board 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 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 Board, written submissions must be addressed to and received by the Board Secretary, Air Resources Board, P.O. Box 2815, Sacramento, CA 95812, or 2020 L Street, 5th Floor, Sacramento, CA 95814, no later than 12:00 noon, June 8, 1994 or received by the Board Secretary at the hearing.

The Board requests, but does not require, that 20 copies of any written statement be submitted and that all written statements be filed at least 10 days prior to the hearing. The Board encourages members of the public to bring any suggestions for modification of the proposed regulatory action to the attention of the staff in advance of the hearing.

STATUTORY AUTHORITY AND HEARING PROCEDURES

These proposed amendments to the Phase 2 RFG regulations are proposed under the authority granted to the Board in sections 39600, 39601, 43013, 43018, and 43101 of the Health and Safety Code and Western Oil and Gas Ass'n. v. Orange County Air Pollution Control District, 14 Cal. 3d 411, 121 Cal. Rptr. 249 (1975). The amendments are proposed to implement, interpret, and make specific sections 39000, 39001, 39002, 39003, 39010, 39500, 39515, 39516, 41511, 40000, 43016, 43018, and 43101, Health and Safety Code; and Western


Oil and Gas Ass'n. v. Orange County Air Pollution Control District, 14 Cal. 3d 411, 121 Cal. Rptr. 249 (1975).

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 Board may adopt the regulatory language as originally proposed, or with nonsubstantial or grammatical modifications. The Board 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. Such modifications may include, but are not limited to: (1) revising the predictive model approach or selecting an alternative model; (2) modifying the predictive model procedures; (3) adding or removing technology classes from the model; (4) revising the weighting factors; (5) incorporating wintertime provisions in the model; (6) revising rounding conventions; (7) adding a predictive model option for small refiners; (8) modifying the testing or reporting requirements in the regulations; (9) modifying the limits on the use of accumulated credits; (10) modifying the compliance schedule for downstream facilities and low-volume service stations; and (11) adding provisions to improve enforceability of the regulations. In this rulemaking, the Board will not be considering revisions to the numerical values for the flat, averaging, or cap limits in the Phase 2 RFG regulations, other than the proposed addition of a significant digit to references to aromatic hydrocarbon standards.

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

CALIFORNIA AIR RESOURCES BOARD


for James D. Boyd
Executive Officer

Date: April 12, 1994