

State of California  
AIR RESOURCES BOARD

Resolution 95-48

December 14, 1995

Agenda Item No.: 95-13-2

WHEREAS, sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (the Board or ARB) to adopt standards, rules and regulations and to do such acts as may be necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, sections 43018(a) and (b) of the Health and Safety Code direct the Board to endeavor to achieve the maximum degree of emission reduction possible from vehicular and other mobile sources in order to accomplish the attainment of the state ambient air quality standards at the earliest practicable date, and to take whatever actions are necessary, cost-effective, and technologically feasible in order to achieve, by December 31, 2000, specified reductions in the emissions of reactive organic gases, oxides of nitrogen, particulates, carbon monoxide, and toxic air contaminants from vehicular sources;

WHEREAS, section 43018(c) of the Health and Safety Code provides that in carrying out section 43018, the Board shall adopt standards and regulations which will result in the most cost-effective combination of control measures on all classes of motor vehicles and motor vehicle fuel, including but not limited to specification of vehicular fuel composition;

WHEREAS, Health and Safety Code section 43013 authorizes the Board to adopt and implement motor vehicle fuel specifications for the control of air contaminants and sources of air pollution which the Board has found to be necessary, cost-effective, and technologically feasible to carry out the purposes of Division 26 of the Health and Safety Code;

WHEREAS, following a hearing in November 1991, the Board adopted regulations for California reformulated gasoline (CaRFG), applicable beginning March 1, 1996; these regulations include a comprehensive set of specifications affecting eight different gasoline properties and are designed to ensure that commercial gasoline is a significantly cleaner-burning fuel;

WHEREAS, the CaRFG regulations require that, for each of the eight regulated properties, producers and importers meet either "flat" or, if available, "averaging" limits when their gasoline is supplied from the production or import facility, and require that gasoline at any point in the distribution system not exceed "cap" limits for the properties;

WHEREAS, the CaRFG standards include minimum and maximum oxygen content standards, and allow gasoline with less than the required minimum oxygen content to be shipped from a refinery as long as the gasoline meets all other CaRFG standards and the refiner takes appropriate measures to assure that the required minimum level of oxygen will be added before the gasoline is shipped from the final distribution facility;

WHEREAS, following a hearing in June 1994, the Board adopted several amendments to the CaRFG regulations, including adding a mechanism that provides gasoline producers and importers the option of using the "California Predictive Model" to establish alternative CaRFG specifications that could be met in lieu of the specifications set forth in the regulations, and extending the dates for compliance with the cap limits so that they apply starting April 15, 1996, to sales of gasoline from all facilities except for bulk plants, retail outlets, or bulk purchaser-consumer facilities, and apply throughout the distribution system starting June 1, 1996;

WHEREAS, over the last year the staff has consulted refiners and other interested parties to identify areas where amendments to the CaRFG regulations could be made to afford additional compliance flexibility and to correct oversights without changing the basic requirements, the emissions reduction benefits, and the enforceability of the regulations;

WHEREAS, as a result of these consultations and an ongoing review of the CaRFG program, the staff has proposed "housekeeping" amendments to the CaRFG regulations covering a number of different areas, including adding provisions--patterned after provisions in the federal reformulated gasoline regulations--that allow oxygenates to be added downstream from the refinery to a specially formulated "California reformulated gasoline blendstock for oxygen blending" ("CARBOB"), and specify that compliance of the CARBOB with the CaRFG flat or averaging refinery standards is to be determined after adding the specified type and amount of oxygenate;

WHEREAS, the California Environmental Quality Act and Board regulations require that an action not be adopted as proposed where it will have significant adverse environmental impacts if feasible alternatives or mitigation measures are available which would substantially reduce or avoid such impacts;

WHEREAS, the Board has considered the impact of the proposed amendments on the economy of the state;

WHEREAS, a public hearing and other administrative proceedings have been held in accordance with the provisions of Chapter 3.5 (commencing with section 11340), Part 1, Division 3, Title 2 of the Government Code; and

WHEREAS, the Board finds that:

The amendments approved herein regarding the downstream blending of oxygenates will make it more practical to use oxygenates such as ethanol that are typically added to gasoline downstream from the refinery, because the amendments allow refiners to take advantage of the contribution the oxygenates can make to meeting the CaRFG specifications for properties other than oxygen content;

The amendments approved herein pertaining to administration of the averaging provisions during the start-up of the CaRFG program will afford refiners with additional flexibility by assuring they have a 180-day offset period during the first three months of the program;

The amendments approved herein regarding the downstream blending of CaRFG with nonoxygenate blendstocks will help assure that all California gasoline meets the applicable refinery limits when it is first produced;

The other amendments approved herein, with the modifications set forth in Attachment B, will provide refiners with greater flexibility to efficiently manage refinery operations, and will help assure the CaRFG regulations are implemented in an effective and predictable manner;

Public and private entities that would be significantly impacted by the amendments approved herein have been consulted in their development;

While the CaRFG regulations approved herein are different from the reformulated gasoline regulations contained in the Federal Code of Regulations, the regulations approved herein are authorized by state law;

The CaRFG regulations, as revised by the amendments approved herein, remain technologically feasible; the amendments enhance the technological feasibility of the CaRFG regulations by providing additional compliance feasibility;

The amendments approved herein improve the cost-effectiveness of the CaRFG regulations, while leaving the CaRFG standards and basic requirements intact;

The amendments approved herein will not have any adverse impact on the economy of the state; and

The amendments approved herein will not result in any significant adverse environmental impacts.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the amendments to sections 2260, 2262.1, 2262.5, 2264, 2265, and 2272, and the adoption of sections 2263.7 and 2266.5, in Title 13, California Code of Regulations, as set forth in Attachment A hereto, with the modifications set forth in Attachment B hereto.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to make the approved amendments set forth in Attachment B, with such other conforming modifications as may be appropriate, available to the public for a supplemental written comment period of 15 days, and thereafter either to adopt the amendments with such additional modifications as may be appropriate in light of supplemental comments received, or to present the amendments to the Board for further consideration if warranted in light of supplemental written comments received.

I hereby certify that the above is a true and correct copy of Resolution 95-48, as adopted by the Air Resources Board.

  
Pat Hutchens, Board Secretary

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December 14, 1995

Identification of Attachments to the Resolution

**Attachment A:** Proposed amendments to sections 2260, 2261.1, 2262.5, 2264, 2265, and 2272, and the adoption of sections 2263.7 and 2266.5, in Title 13, California Code of Regulations, as set forth in Appendix A to the Staff Report.

**Attachment B:** Staff's Suggested Modifications Presented at the December 14, 1995 Hearing

Description of Staff's Suggested Modifications to the Original Proposal  
To Be Presented at the December 14, 1995 Hearing

**AMENDMENTS TO THE CaRFG REGULATIONS, INCLUDING AMENDMENTS  
REGARDING THE DOWNSTREAM BLENDING OF OXYGENATES**

The following proposed modifications are listed in the order they appear in the proposed regulation order. Most of the modifications are being suggested as a result of public comments received by the staff in response to the hearing notice and Staff Report.

**1. Definition of "oxygenate blending facility":** The modifications expand the kind of additives that can be added to gasoline or CARBOB at an oxygenate blending facility without making it a production facility or making the blender the "producer" of any portion of the resulting blend. (Title 13, California Code of Regulations, §§ 2260(a)(19.3) and (a)(26)(C).)

**2. Restrictions on adding oxygenates to California gasoline downstream from the refinery:** The originally proposed amendments deleted provisions allowing oxygenates to be added under certain circumstances to California gasoline produced by another entity, on the premise that CARBOB was the only product into which oxygenates should be blended downstream of the refinery. Some refiners have asked that the original approach be maintained, so as not to preclude a refiner from supplying a low- or no-oxygenate gasoline that could be marketed either in that form outside federal RFG areas, or with additional oxygenate added downstream to meet U.S. EPA requirements in federal RFG areas. The modified text would allow oxygenates to be added to downstream California gasoline as long as the gasoline has been reported as an alternative formulation under the predictive model or vehicle testing options, it has not been commingled with other gasoline, and the oxygen content of the gasoline meets the oxygen specification for the alternative formulation both before and after the additional oxygenate is added. (§ 2262.5(d); conforming modification to § 2266.5(a)(1).)

**3. Protocols on application of the "designated alternative limit" (DAL) requirements:** The modifications make clear that protocols may be used to specify how the offsetting requirements for DALs are applied to individual refiners as well as how the notification requirements are applied. The DAL protocol provisions in the CaRFG regulations were patterned after the DAL protocol provisions in the regulation limiting the aromatic hydrocarbon content of diesel fuel--section 2282. The diesel fuel regulation authorizes protocols addressing not only the DAL notification requirements, but also the requirement that within 90 days before or after the start of physical transfer of a final blend of diesel fuel with a "debit" DAL from the refinery, the refiner must complete physical transfer of sufficient quantities of diesel fuel with a "credit" DAL to offset the debit. (§ 2282(d)(5).) When the DAL language in the CaRFG regulations was drafted with separate subsections on offsetting each property subject to averaging, the reference in the protocol provision to the offsetting requirements was inadvertently omitted. As has previously been the case, in order to enter into a protocol the Executive Officer must determine

that application of the regulatory requirements under the protocol is not less stringent or enforceable than application of the express terms of the regulation. (§ 2264(a)(4).)

**4. Changing from one predictive model (PM) alternative formulation to another:** The originally proposed amendments create an exception from the requirement that a producer is not permitted to switch from one PM alternative formulation to another PM alternative formulation if there are outstanding deficits for any property being averaged. The exception applies where the only change is that a PM flat limit is changed to the equivalent PM averaging limit for one or more properties.

The suggested modifications would revise the proposed exception and add another limited exception. The revision to the originally proposed exception would explicitly provide that the refiner may change the PM flat limits for more than one property to PM averaging limits if there are no changes to the PM alternative specifications for the remaining properties and the new PM alternative formulation meets the predictive model criteria. The new exception allows the refiner to switch one PM averaging limit to a PM flat limit, if there are no outstanding debits for that averaging limit, there are no changes to the specifications for any other properties, and the revised PM alternative formulation meets the predictive model criteria. The staff has concluded that these narrowly crafted exceptions will not result in adverse emissions impacts. (§2265(c)(2).)

**5. Use of a representative oxygenate in determining whether CARBOB complies with the CaRFG standards.** In order to determine whether CARBOB supplied from a refinery meets the CaRFG standards, the appropriate volume and type of oxygenate is added to the CARBOB before its properties are analyzed. The original proposal includes a requirement that the oxygenate added be representative of the oxygenate the refiner reasonably expects will be subsequently added at the oxygenate blending facility. This requirement is needed because different batches of a given oxygenate such as ethanol or MTBE can vary in ways that can have a significant impact on the properties of the oxygenated gasoline blend. The modifications add an additional requirement that a refiner producing CARBOB must enter into a protocol setting forth how the representativeness of the oxygenate will be determined. This will help assure that the refiner's actions to determine representativeness are reasonable and appropriate. (§ 2266.5(a)(2).)

**6. Determining whether CARBOB complies with the CaRFG standards when more than one oxygenate is designated:** The originally proposed amendments provide that where the refiner has identified a range of amounts for the designated oxygenate, the smallest volume designated is to be used in determining the properties and volume of the CARBOB for purposes of compliance with the CaRFG standards. It is appropriate for the regulation to also specify how oxygenate will be added in determining compliance when more than one oxygenate has been specified, because some oxygenates require greater volumes than others to achieve a given weight percentage of oxygen. Thus a proposed modification provides that where the refiner has designated more than one oxygenate for the CARBOB, the properties and volume of the CARBOB will be determined by adding the oxygenate with the smallest designated volume. (§ 2266(a)(2)&(3).)

We expect that market mechanisms may result in the identification of one or more kinds of fungible CARBOBs whose designations allow for blending with more than one oxygenate. This is preferable to incorporating the federal approach of having refiners designate RBOB as "any oxygenate" or "ether only," with default blending assumptions for each designation. That element of the federal regulations does not fit easily into the California regulations because of structural differences between the two programs. The federal regulations make the oxygenate blender responsible for meeting the federal oxygen content standards, including making the choice between the "per-gallon" and averaging compliance options. The amount of oxygenate a refiner designates for its RBOB is relevant only for determining compliance with the federal RFG standards other than oxygen content, and the RBOB can be seen as a base product the oxygen blender uses in meeting the blender's own oxygen content standards. The federal program does not prohibit oxygenate blenders from adding more oxygenate than was specified by the refiner. The California regulations always place the onus on the refiner to identify the necessary oxygen content. Where a refiner uses the predictive model to identify an oxygen content range other than 1.8 - 2.2 wt.%, compliance with the range is integral to assuring that the fully blended gasoline reflects parameters that were modeled. Accordingly, the staff is not proposing modifications on designating CARBOB as "any oxygenate" or "ether only."

**7. Documentation when CARBOB is transferred:** The original proposal includes a requirement that persons transferring CARBOB provide the transferee with a document stating that the CARBOB does not comply with the CaRFG standards without the addition of oxygenate, and identifies the type and amount of oxygenate that must be added. A proposed modification allows pipeline operators to meet the requirement by using standardized product codes on pipeline tickets, where the code(s) specified for the CARBOB are identified in a manual that is distributed to transferees of the CARBOB and that sets forth all of the required information for the CARBOB. (§ 2266.5(d).)

**8. Restrictions on blending CARBOB with other products:** The originally proposed amendments prohibit blending CARBOB that has been shipped from a refinery with any other CARBOB, gasoline, blendstock or oxygenate with two exceptions--it can be blended with oxygenate of the type and amount specified by the refiner, and it can be combined with other CARBOB for which the same oxygenate type and amount was specified by the refiner. These provisions are essentially identical to the federal provisions in 40 C.F.R. § 80.78(a)(7). A refiner has commented that it is not practical to completely segregate products when there is a change in service of a gasoline storage tank--for instance a change from "wintertime" CARBOB designated for blending with ethanol to "summertime" gasoline oxygenated with MTBE. Even when the tank is pumped as low as possible, there typically is a residual "heel" of product in the tank. A proposed modification would allow protocols that identify circumstances in which CARBOB may lawfully be combined with California gasoline or with different CARBOB during a changeover in service of a storage tank for a legitimate business reason. We expect that such commingling would be permitted in the same sort of circumstances as are described in U.S. EPA's "Q&As". (§ 2266.5(f).)

**9. Downstream blending of California gasoline with nonoxygenate blendstocks:** Consistent with the federal RFG approach, the originally proposed amendments prohibit persons from blending nonoxygenate blendstocks into California gasoline that has already been shipped from the refinery, unless the person can demonstrate that the blendstocks meet all the CaRFG standards without regard to the properties of the gasoline into which the blendstocks are added. An exception is provided for adding deposit control additives, and protocols are authorized to allow transmix to be blended into CaRFG under certain circumstances.

We are proposing several modifications. First, the reference to deposit control additives would be deleted because they are not a blendstock covered by the basic prohibition (and are not mentioned in the corresponding federal regulation, 40 C.F.R. §80.78(a)(5).) Second, we are proposing that an exception be made for adding vapor recovery condensate into California gasoline; such condensate typically will meet or be close to the CaRFG standards and blending it into CaRFG is the most reasonable disposition of it. Third, we propose allowing protocols for transmix blending when alternatives are not "practical" instead of not "practicable." Finally, we propose an exception for adding nonoxygenate blendstock to California gasoline that exceeds one or more of the cap limits, where the person adding the blendstock obtains the prior approval of the Executive Officer based on a demonstration that the blending is a reasonable means of bringing the gasoline into compliance with the cap limits. This sort of remedial action will likely be needed when there is no readily available complying gasoline or blendstock that could be used to bring the off-spec gasoline into compliance. (§ 2266.5(i).)