

## TITLE 13. CALIFORNIA AIR RESOURCES BOARD

### NOTICE OF PUBLIC HEARING TO CONSIDER PROPOSED 2004 AMENDMENTS REFINING THE CALIFORNIA PHASE 3 REFORMULATED GASOLINE REGULATIONS

The Air Resources Board (ARB or Board) will conduct a public hearing at the time and place noted below to consider proposed 2004 amendments refining the California Phase 3 Reformulated Gasoline (CaRFG3) regulations. The proposed amendments include clarifications, corrections, and improvements in compliance flexibility and enforceability.

Date	November 18, 2004
Time	9:00 a.m.
Place	California Environmental Protection Agency Air Resources Board Central Valley Auditorium, Second Floor 1001 I Street Sacramento, CA 95814

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m. on Thursday, November 18, 2004, and may continue at 8:30 a.m. on Friday, November 19, 2004. This item may not be considered until Friday, November 19, 2004. Please consult the agenda for the meeting, which will be available at least 10 days before November 18, 2004, and posted on the ARB's website, to determine the day on which this item will be considered.

If you have a disability-related accommodation need, please go to <http://www.arb.ca.gov/html/ada/ada.htm> for assistance or contact the ADA Coordinator at (916) 323-4916. If you are a person who needs assistance in a language other than English, please contact the Bilingual Coordinator at (916) 324-5049. TTY/TDD/Speech-to-Speech users may dial 7-1-1 for the California Relay Service

### INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW

**Sections Affected:** Proposed amendments to sections 2260, 2262, 2262.4, 2262.5, 2262.6, 2262.9, 2263, 2265 (and the incorporated "California Procedures for Evaluating Alternative Specifications for Phase 3 Reformulated Gasoline Using the California Predictive Model"), and 2266.5 of title 13, California Code of Regulations (CCR).

## **Background:**

### **The Existing CaRFG3 Regulations**

The ARB administers the CaRFG3 regulations, which were adopted in June 2000 following a December 1999 Board hearing. As subsequently amended, the CaRFG3 regulations prohibit California gasoline produced with the oxygenate methyl tertiary-butyl ether (MTBE) or other specified oxygenates other than ethanol starting December 31, 2003. The regulations establish CaRFG3 standards applicable the same date for the following eight gasoline properties – sulfur, benzene, olefin, aromatic hydrocarbon, and oxygen contents, the 50 percent distillation temperature, (T50), the 90 percent distillation temperature, (T90), and summertime Reid vapor pressure (RVP). In addition, the regulations establish standards for denatured ethanol sold for use in California gasoline.

The CaRFG regulations allow refiners to use a “Predictive Model” to specify alternative formulations. The Predictive Model is a set of mathematical equations that relate emissions rates of exhaust hydrocarbons, oxides of nitrogen (NOx), and potency weighted toxics for four toxic air contaminants (benzene, 1,3-butadiene, formaldehyde, and acetaldehyde) to the values of the eight regulated gasoline properties. An alternative gasoline formulation is acceptable if emissions of hydrocarbons, NOx, and potency-weighted toxics resulting from this formulation are no greater than emissions from gasoline having the specifications set forth in the CaRFG3 standards. Currently, most of the gasoline sold in California complies with the CaRFG3 regulations through the use of the Predictive Model.

When gasoline is oxygenated with ethanol, certain characteristics of the resulting blend make it generally infeasible to be transported through pipeline systems. Because of this, ethanol is typically added to gasoline at the terminal or in the delivery truck. The CaRFG regulations allow a refiner to ship non-oxygenated gasoline from the refinery without complying with the CaRFG standards if it is specially formulated to be combined with oxygenate “downstream” from the refinery and the resulting blend will meet all of the CaRFG standards. This allows entities adding oxygen downstream from the refinery to take advantage of the contribution the oxygenate can make to complying with the CaRFG standards, particularly by diluting the concentration of compounds like benzene. The nonoxygenated blend is called “California reformulated gasoline blendstock for oxygenate blending,” or “CARBOB.”

### **The Proposed Amendments**

The staff is proposing a series of relatively minor amendments to the CaRFG3 regulations that would clarify current requirements, provide additional flexibility, correct errors, and generally improve enforceability of the regulations.

- Revising restrictions on blending CARBOB with other products downstream of the production or import facility. A CARBOB supplier would be allowed to enter into a

protocol with the ARB's Executive Officer permitting the blending of small amounts of transmix into CARBOB that is downstream from its production or import facility. Protocols covering the blending of small amounts of transmix into downstream gasoline are permitted under the existing regulations, subject to conditions that are identical to those proposed regarding transmix blending into CARBOB. A CARBOB supplier would also be permitted to blend limited amounts of California gasoline containing ethanol under specific conditions so long as the resulting CARBOB does not contain more than 0.1 percent by weight oxygen; the gasoline would have to meet the applicable cap limits for all other properties other than oxygen content. In addition, the Executive Officer would be allowed to develop protocols for the blending of California gasoline or other CARBOB into CARBOB for other situations.

- Changing the documentation requirements for denatured ethanol being supplied from one party to another. The amendments would give an importer of denatured ethanol an option to having to provide documentation identifying the name, location and operator of the facility or facilities at which the ethanol was produced and at which the denaturant was added to the ethanol. Under the option, the documentation would have to identify the date and time the ethanol was supplied and state that the supplier maintains a list of all the facilities at which the ethanol was produced and at which the denaturant was added to the ethanol.
- Eliminating a requirement that CARBOB importers sample and test each batch of imported CARBOB. A requirement that CARBOB producers sample and test each batch was eliminated in 2000, and staff believes a blanket requirement for importers of CARBOB is no longer necessary. Importers of either CARBOB or California gasoline would still have to sample and test for any properties for which an averaging compliance option is being used.
- Revising a provision designed to make gasoline produced in the Bay Area and received at a Southern California marine terminal in March subject to the Southern California March 1 start of the RVP season rather than the April 1 start date for Bay Area production and import facilities. Under the amendments, such gasoline would not longer be characterized as imported.
- Correcting the "California Procedures for Evaluating Alternative Specifications for Phase 3 Reformulated Gasoline Using the Predictive Model," which is incorporated by reference in the regulations, to reflect the Board's original intent that gasoline with an oxygen content within the range of 3.3 to 3.7 weight percent will be evaluated at a single oxygen content of 3.5 weight percent.
- Making various other minor clarifications of and improvements to the CaRFG3 regulations.

### **COMPARABLE FEDERAL REGULATIONS**

The United States Environmental Protection Agency (U.S. EPA) administers the federal RFG regulations, which currently apply to about 80 percent of California's gasoline and are contained in 40 CFR §§ 80.40 and following. One of the requirements for federal RFG is that it contain at least 2.0 weight % oxygen year-round. California, on the other hand, requires a minimum oxygen content of 1.8 wt.% only during the wintertime in Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial counties. The use of oxygen in gasoline reduces emissions of carbon monoxide (CO) from the existing vehicle fleet, and ambient CO concentrations are the highest in the winter. Unhealthy levels of CO are no longer experienced in California outside the wintertime oxygenate areas. Except for the wintertime requirements, producers and importers of California gasoline may use the Predictive Model to reduce or eliminate oxygen as long as the combined specifications for the gasoline achieve an equivalent emissions performance for hydrocarbons, NOx, and potency-weighted toxics.

California has asked U.S. EPA to exercise its authority to waive the minimum oxygen requirement, but in June 2001 the agency denied the state's request. The State of California subsequently challenged the U.S. EPA's denial of the waiver request; and in July 2003, the Ninth Circuit Court of Appeals vacated this denial and directed U.S. EPA to reconsider California's waiver request giving with full consideration of the impacts on California's ability to meet federal standards for ozone and particulate matter. The federal agency has taken no action to date.

### **AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS**

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. The report is entitled "Proposed 2004 Amendments Refining the California Phase 3 Reformulated Gasoline Regulations."

Copies of the ISOR and the full text of the proposed regulatory language, in underline and strikeout format to allow for comparison with the existing regulations, may be accessed on the ARB's web site listed below, or may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1<sup>st</sup> Floor, Sacramento, CA 95814, (916) 322-2990 at least 45 days prior to the scheduled hearing (November 18, 2004).

Upon its completion, the Final Statement of Reasons (FSOR) will be available and copies may be requested from the agency contact persons in this notice, or may be accessed on the ARB's web site listed below.

Inquiries concerning the substance of the proposed regulatory action may be directed to the designated agency contact persons, Mr. Steven Brisby, Manager, Fuels Section, (916) 322-6019, or Mr. Dean C. Simeroth, Chief, Criteria Pollutants Branch, Stationary Source Division, at (916) 322-6020.

Further, the agency representative and designated back-up contact persons to whom *nonsubstantive inquiries concerning the proposed administrative action* may be directed are Artavia Edwards, Manager, Board Administration & Regulatory Coordination Unit, (916) 322-6070, or Amy Whiting, Regulations Coordinator, (916) 322-6533. The Board has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

This notice, the ISOR and all subsequent regulatory documents, including the FSOR, when completed, are available on the ARB Internet site for this rulemaking at <http://www.arb.ca.gov/regact/carfg304/carfg304.htm>

### **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 by public agencies, private persons and businesses in reasonable compliance with the proposed regulations are presented below.

Pursuant to Government Code sections 11346.5(a)(5) and 11346.5(a)(6), the Executive Officer has determined that the proposed regulatory action will not create costs or savings 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 state or local agencies*.

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts on representative private persons or businesses. The ARB is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

The Executive Officer has made an initial determination that the proposed regulatory action will not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons.

In accordance with Government Code section 11346.3, 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 elimination of existing businesses within the State of California, or the expansion of businesses currently doing business within the State of California. A detailed assessment of the economic impacts of the proposed regulatory action can be found in the ISOR.

The Executive Officer has also determined, pursuant to title 1, CCR, section 4, that the proposed regulatory action will affect small businesses. The proposed amendments would provide clarification and compliance flexibility and would improve the way the

regulations are administered. No negative economic impacts on small businesses are expected.

In accordance with Government Code sections 11346.3(c) and 11346.5(a)(11), the ARB's Executive Officer has found that the reporting requirements of the CaRFG regulations which apply to businesses are necessary for the health, safety, and welfare of the people of the State of California.

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the agency or that has otherwise been identified and brought to the attention of the board 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 at the hearing, and in writing or by e-mail before the hearing. To be considered by the Board, written submissions not physically submitted at the hearing must be received **no later than 12:00 noon, November 17, 2004**, and addressed to the following:

Postal mail is to be sent to:

Clerk of the Board  
Air Resources Board  
1001 I Street, 23<sup>rd</sup> Floor  
Sacramento, California 95814

Electronic mail is to be sent to: [carfg304@listserv.arb.ca.gov](mailto:carfg304@listserv.arb.ca.gov) and received at the ARB **no later than 12:00 noon, November 17, 2004**.

Facsimile transmissions are to be transmitted to the Clerk of the Board at (916) 322-3928 and received at the ARB **no later than 12:00 noon, November 17, 2004**.

The Board 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 Board encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action.

### **STATUTORY AUTHORITY AND REFERENCES**

This regulatory action is proposed under that authority granted in sections 39600, 39601, 43013, 43013.1, 43018, and 43101, 43830 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). This regulatory action is proposed to implement, interpret, and make specific sections 39000, 39001, 39002, 39003, 39010, 39500, 39515, 39516, 41511, 43000, 43013, 43013.1, 43016, 43018, 43021, 43101, 43830, and 43830.8, 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).

### **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 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 text as modified is 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 such event 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, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1<sup>st</sup> Floor, Sacramento, CA 95814, (916) 322-2990.

### **CALIFORNIA AIR RESOURCES BOARD**

  
Catherine Witherspoon  
Executive Officer

Date: September 21, 2004

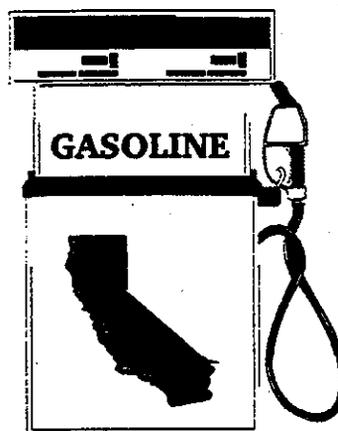
*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs see our Web -site at [www.arb.ca.gov](http://www.arb.ca.gov).*

California Environmental Protection Agency

 **Air Resources Board**

# **Proposed 2004 Amendments Refining the California Phase 3 Reformulated Gasoline Regulations**

**STAFF REPORT: INITIAL STATEMENT OF REASONS**



**Release Date: October 1, 2004**

**State of California  
California Environmental Protection Agency  
AIR RESOURCES BOARD  
Stationary Source Division**

**STAFF REPORT: INITIAL STATEMENT OF REASONS  
PROPOSED 2004 AMENDMENTS REFINING THE CALIFORNIA  
PHASE 3 REFORMULATED GASOLINE REGULATIONS**

**Public Hearing to Consider Amendments to the  
California Reformulated Gasoline Regulations**

**Date of Release: October 1, 2004  
Scheduled for Consideration: November 18-19, 2004**

**Location:**

**California Air Resources Board  
Central Valley Auditorium, Second Floor  
1001 I Street  
Sacramento, California 95814**

This report has been reviewed by the staff of the Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use. This report is available for viewing or downloading from the Air Resources Board's Internet site;  
<http://www.arb.ca.gov/regact/carfg304/carfg304.htm>

### **Acknowledgments**

This report was prepared with the assistance and support from the other divisions and offices of the Air Resources Board. In addition, we would like to acknowledge the assistance and cooperation that we have received from many individuals and organizations.

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## **I. INTRODUCTION AND SUMMARY**

### **A. Introduction**

The California Phase 3 Reformulated Gasoline (CaRFG3) regulations were adopted June 16, 2000 following a December 9, 1999 hearing by the Air Resources Board (ARB). The CaRFG3 regulations prohibited production of California gasoline, after December 31, 2002, with the use of Methyl Tertiary-Butyl Ether (MTBE), established CaRFG3 standards, and established a CaRFG3 Predictive Model. The Predictive Model provides refiners with flexibility to use alternative formulations while preserving the benefits of the program. The regulations are contained in sections 2260-2273.5, title 13, California Code of Regulations.

The CaRFG3 regulations were adopted in response to the March 25, 1999 Executive Order D-5-99 in which he found that, on balance, there is significant risk to the environment from using MTBE in gasoline in California. The Executive Order directed the ARB to adopt CaRFG3 regulations to phase out the use of MTBE in California gasoline by no later than December 31, 2002 and provide additional flexibility to producers of RFG in lowering or removing oxygen while preserving the existing air quality benefits of the CaRFG2 program.

In response to the March 14, 2002 Executive Order D-52-02, the Board, at a July 25, 2002 hearing, approved amendments to the CaRFG3 regulations postponing the prohibition of the use of MTBE in California gasoline by one year. The Board also approved other amendments necessary to implement the postponement of the MTBE ban. These amendments included the one-year postponement of the dates in the current schedule for reducing residual levels of MTBE in CaRFG3 after the addition of MTBE is banned, and postponement of the imposition of the CaRFG3 limits for gasoline properties for one year, from December 31, 2002 to December 31, 2003. Additional amendments to the CaRFG3 regulations, which built on the amendments approved by the Board on July 25, 2002, were approved by the Board on December 12, 2002.

This report is the initial statement of reasons to support proposed additional amendments to the CaRFG3 regulations. The proposed amendments include:

- 1) a correction to the "California Procedures for Evaluating Alternative Specifications for Phase 3 Reformulated Gasoline Using the Predictive Model" that would make the "Procedures" reflect the intent of the Board and staff report in the original CaRFG3 rulemaking;
- 2) several amendments to the CaRFG3 regulations designed to provide or restore flexibility to suppliers of CARBOB and denatured ethanol;
- 3) an amendment clarifying the requirements for gasoline produced in Northern California and transported by marine vessel to Southern California; and
- 4) other miscellaneous changes, which would provide clarifications, corrections, or improvements in compliance flexibility or enforcement ability.

**B. What Are the Proposed Amendments and Why Are They Necessary?**

**1. Correcting the "California Procedures for Evaluating Alternative Specifications for Phase 3 Reformulated Gasoline Using the Predictive Model"**

As adopted, the text of the "California Procedures for Evaluating Alternative Specifications for Phase 3 Reformulated Gasoline Using the Predictive Model" – which contains the actual regulatory provisions regarding the CaRFG3 Predictive Model – reflected the proposed treatment for the oxygen range of 2.5-2.9 weight percent. However, due to drafting errors the "Procedures" document did not reflect the proposed treatment for the oxygen range of 3.3-3.7 weight percent. Staff is proposing that the "Procedures" document be corrected to reflect the originally intended treatment for the oxygen range of 3.3-3.7 weight percent. An excerpted version of the "Procedures" document, showing our proposed corrections, is attached to this report as Appendix C.

**2. Restoring or Providing Flexibility to CARBOB and Denatured Ethanol Suppliers**

First, we are proposing the elimination of the sampling, testing, and recordkeeping requirement applicable only to importers of CARBOB by deleting the requirements of section 2266.5(c). Also, we are proposing an amendment allowing the Executive Officer to develop protocols for individual CARBOB suppliers to blend small amounts of transmix into CARBOB. This proposal is consistent with a similar provision in the Phase 2 CaRFG regulations for protocols to blend transmix into California gasoline. We are also proposing that CARBOB suppliers be permitted in limited specified circumstances to blend California gasoline into CARBOB so long as the resulting CARBOB does not contain more than 0.1 percent by weight oxygen. In addition, we are proposing amendments to the requirements regarding information that a producer or importer of denatured ethanol must provide to the person to whom the denatured is sold or supplied.

These various proposed amendments would provide consistency between requirements on importers and requirements on producers, lessen the need to transport and reprocess transmix and off-specification gasoline, and make it more practical to comply with the requirements. The resulting blends of CARBOBs and California gasolines would still have to meet the CaRFG3 specifications.

**3. Reid Vapor Pressure Control Periods for California Gasoline Transported to Southern California by Marine Vessel**

We are proposing amendments to section 2262.4(c)(4) that eliminate the unintended implication from the use of the word "imported" that additional testing requirements may apply. The objective of this provision was solely to make gasoline produced in the Bay Area and received at a Southern California marine terminal in March subject to the Southern California March 1 start of the RVP season rather than the April 1 start date for Bay Area production and import facilities.

#### **4. Miscellaneous "Cleanup" Amendments to the CaRFG3 Amendments**

Along with the proposed amendments described above, we are proposing several additional clarifications and corrections to the regulatory language to improve the way the regulations are administered.

##### **C. How Were the Proposed Amendments Developed?**

The staff held one preliminary public consultation meeting on February 25, 2004 and three additional workshops in 2004, where many of the CaRFG3 implementation issues were discussed. The proposed changes were developed based on input from participants and affected parties. The "Preliminary Draft Proposed Regulatory Amendments and Interim Guidance on CaRFG3 Implementation Issues" was posted prior to the first workshop, held on April 12, 2004. A revised version, contained in Appendix B, was issued prior to the second workshop, held on June 3, 2004.

##### **D. What Alternatives Were Considered?**

The only alternative is to not propose making the changes and corrections to the regulations. Since the proposed changes and corrections provide clarification and compliance flexibility with no significant negative impacts, this alternative was eliminated from further consideration.

##### **E. What Other Issues Were Considered?**

No other issues were raised for this rulemaking.

##### **F. What Are the Emission Impacts of the Proposed Amendments?**

There would be no significant impacts on emissions. The proposed changes would not significantly affect the formulation of California gasoline and, as such, would not adversely affect emissions. A small increase in CARBOB storage and transfer emissions may result where gasoline is blended into CARBOB, due to an increase in vapor pressure. There would potentially be smog-forming and particulate emission reductions due to proposed additional flexibility, which may reduce the transportation and reprocessing of transmix and California gasoline.

##### **G. What are the Environmental Impacts of the Proposed Amendments?**

###### **1. Water quality.**

There would be no significant impacts on water quality. The basic prohibitions against adding MTBE, and other oxygenates other than ethanol, would remain unchanged.

## **2. *Air Quality***

There should be no significant impacts on air quality, as the basic fuel standards would remain unchanged.

## **3. *Greenhouse Gas Emissions***

The proposed amendments would not have any negative impact on greenhouse gas emissions. There would potentially be carbon dioxide emission reductions due to proposed additional flexibility, which may reduce the transportation and reprocessing of transmix and California gasoline.

## **H. What is the Cost of the Proposed Amendments?**

### **1. *Production Costs.***

There should be no negative impacts on the cost for production of California gasoline. Additional operational flexibility and reduced sampling, testing, and recordkeeping requirements could reduce the overall cost of production and operations.

### **2. *Fuel Supply and Price.***

There should be no negative impacts on the supply and price of California gasoline.

## **I. What are the Economic Impacts?**

There should be no negative economic impacts associated with the proposed changes.

There would be no negative economic impacts for small businesses, as the actions of small businesses would not be affected by the proposed changes.

## II. RECOMMENDATIONS.

The staff recommends that the Board adopt the proposed amendments to the California reformulated gasoline regulations, as contained in Appendix A, and including corrections to the "California Procedures for Evaluating Alternative Specifications for Phase 3 Reformulated Gasoline Using the Predictive Model," as contained in Appendix C.

### **III. PROPOSED AMENDMENTS TO THE CALIFORNIA REFORMULATED GASOLINE REGULATIONS**

This chapter describes the proposed changes to the California Phase 3 Reformulated Gasoline (CaRFG3) regulations. These proposed changes include: (1) a correction to the "California Procedures for Evaluating Alternative Specifications for Phase 3 Reformulated Gasoline Using the Predictive Model" that would make the "Procedures" reflect the intent of the Board and staff in the original CaRFG3 rulemaking; (2) several amendments to the CaRFG3 regulations designed to provide or restore flexibility to suppliers of CARBOB and denatured ethanol; (3) an amendment clarifying the requirements on gasoline produced in Northern California and transported by marine vessel to Southern California; and (4) other miscellaneous changes, which would provide clarifications, corrections, or improvements in compliance flexibility.

#### **A. Correcting the "California Procedures for Evaluating Alternative Specifications for Phase 3 Reformulated Gasoline Using the Predictive Model"**

The CaRFG3 regulations were approved by the ARB at a December 9, 1999 hearing. The October 22, 1999 staff report for the rulemaking stated on page 33 that "for candidate CaRFG3 Predictive Model formulations that have an oxygen range of 2.5-2.9 weight percent...the candidate oxygen content would be treated simply as 2.7 weight percent. Similarly, the oxygen range of 3.3-3.7 weight percent would be treated as 3.5 weight percent. This could result in a higher percentage of CARBOB batches designated at [each] oxygen level, and a greater likelihood of fungibility."

As adopted, the text of the "California Procedures for Evaluating Alternative Specifications for Phase 3 Reformulated Gasoline Using the Predictive Model" – which contains the actual regulatory provisions regarding the CaRFG3 Predictive Model – reflected the proposed treatment for the oxygen range of 2.5-2.9 weight percent. However, due to drafting errors the "Procedures" document did not reflect the proposed treatment for the oxygen range of 3.3-3.7 weight percent. Staff is proposing that the "Procedures" document be resubmitted with corrections reflecting the originally intended treatment for the oxygen range of 3.3-3.7 weight percent.

Another correction would delete a sentence referring to Driveability Index. This sentence was overlooked when references to Driveability Index were removed from the final version of the CaRFG3 regulations in the original CaRFG3 rulemaking. The table of CaRFG3 standards would also be revised to reflect the changes described in III.D.3, below. An excerpted version of the "Procedures" document, showing our proposed corrections, is attached to this report as Appendix C.

#### **B. Providing or Restoring Flexibility to CARBOB and Denatured Ethanol Suppliers**

First, we are proposing the elimination the sampling, testing, and recordkeeping requirements applicable only to imported CARBOB by deleting the requirements of section 2266.5(c). The sampling, testing, and recordkeeping requirements would then be the same for importers of

California gasoline or CARBOB and producers of California gasoline or CARBOB, and would apply only to final blends of California gasoline or CARBOB subject to averaging limits.

Also, the CaRFG3 regulations currently prohibit the blending of anything except CARBOB into CARBOB. We are proposing an amendment allowing the Executive Officer to develop protocols for individual CARBOB suppliers to blend small amounts of transmix into CARBOB. The proposal is consistent with an allowance under the CaRFG2 regulations for protocols to blend transmix into California gasoline. We are also proposing that CARBOB suppliers be permitted in limited specified circumstances to blend California gasoline into CARBOB so long as the resulting CARBOB does not contain more than 0.1 percent by weight oxygen. In addition, the Executive Officer would be allowed to develop protocols for the blending of California gasoline or other CARBOB into CARBOB for other situations. These various proposed amendments would lessen the need to transport and reprocess transmix and off-specification gasoline. The resulting blends of CARBOBs and California gasolines would still have to meet the preexisting CaRFG3 specifications.

In addition, we are proposing amendments to the requirements regarding information that a producer or importer of denatured ethanol must provide to the person to whom the denatured is sold or supplied, in order to make it more practical to comply with the requirements. As the proposed alternative, the information would have to be kept and maintained by the supplier and made available upon request.

### ***1. Sampling, Testing and Recordkeeping by Importers of CARBOB***

Section 2266.5(c) requires each importer of CARBOB to sample, test, and keep records for the fuel properties of each final blend of imported CARBOB by collecting and analyzing a representative sample of the imported CARBOB taken from the final blend at its import facility. We are proposing the elimination of this sampling, testing, and recordkeeping requirement applicable only to imported CARBOB by deleting the requirements of section 2266.5(c). The staff believes that CARBOB importers are sufficiently knowledgeable that they are unlikely to import CARBOB that is not designed to comply with the requirements of the regulations. The sampling, testing, and recordkeeping requirements would then be the same for importers of California gasoline or CARBOB and producers of California gasoline or CARBOB, and would apply only to final blends of California gasoline or CARBOB subject to averaging limits. Section 2270 requires each producer or importer, that has elected to be subject to an average limit or a PM averaging limit, to sample, test, and keep records for sulfur, aromatic hydrocarbon, olefin and benzene contents, T50 and T90, as applicable, for each final blend of California gasoline or CARBOB.

### ***2. Protocols for Adding Transmix to CARBOB and Other Situations***

Under the California Phase 2 Reformulated Gasoline (CaRFG2) regulations, the Executive Officer was authorized to enter into a protocol with an individual gasoline supplier, allowing the supplier to blend small amounts of transmix into California gasoline downstream from the production or import facility. We are proposing that a new section 2266.5(f)(2)(B) be added, authorizing the Executive Officer to enter into similar protocols for blending small amounts of

transmix into downstream CARBOB, under the same conditions as applied in the preexisting transmix blending provisions.

### ***3. Adding California Gasoline to CARBOB***

There are various situations in which a gasoline supplier may end up with relatively small amounts of ethanol-blended California gasoline that has not been properly oxygenated, must be removed from a retail outlet for some legitimate operational reason, or results from calibrating meters for adding ethanol at terminals. Since the CaRFG3 regulations prohibit adding the gasoline to CARBOB at a terminal or bulk plant, it currently must be downgraded to transmix or transported back to a refinery for reprocessing. We are proposing amendments adding a new section 2266.5(f)(1)(E), which would allow limited amounts of off-specification California gasoline containing ethanol to be added to CARBOB at a terminal or bulk plant storage tank for specified operational reasons. The three operational reasons are that (1) the gasoline resulted from oxygenating CARBOB during calibration of oxygen blending equipment, (2) the gasoline resulted from the unintentional over- or under-oxygenation of CARBOB during a cargo tank loading, and (3) the gasoline was pumped out of a storage tank at a gasoline fueling facility for legitimate operational reasons. In each case, the non-oxygenate portion of the gasoline would have to meet the cap limits for CARBOB. The amendments would also require that the resulting blend of CARBOB cannot have an oxygen content exceeding 0.1 percent by weight, and specify how that oxygen content is to be determined prior to adding the gasoline. The oxygen limit would assure that the amendments would have a de minimis impact, and the other limitations are designed so that the mechanism will only be used for bona fide operational reasons.

We are also proposing a new section 2266.5(f)(2)(C), which would allow the Executive Officer to enter into protocols for blending California gasoline or other CARBOB to CARBOB in additional situations that are unforeseen at this time. These protocols would be limited to situations in which the Executive Officer determines that alternatives are not practical and the blending will not significantly affect the properties of the CARBOB to which the gasoline or CARBOB will be added.

### ***4. Substitute for the Requirement of Documentation Accompanying the Transfer of Denatured Ethanol***

In order to assist ARB inspectors in tracking the source of noncomplying ethanol, the CaRFG3 regulations currently require any person selling or supplying denatured ethanol from the California facility at which it was produced or imported to provide the customer with a document that identifies (1) "the name and address of the person selling or supplying the denatured ethanol," and (2) "the name, location and operator of the facility(ies) at which the ethanol was produced and at which the denaturant was added to the ethanol." We are proposing simplifying amendments to section 2262.9(c)(2) for California producers of denatured ethanol. These amendments replace the second requirement listed above with a direction that the person be identified as the producer. With respect to importers of denatured ethanol, the current requirements can be impractical where the ethanol may have been originally produced or denatured at any one of a number of out-of-state facilities. We are proposing amendments to section 2262.9(c)(2)(B) that would provide importers a potentially more practical option under which the required documentation would identify "the date and time the ethanol was

supplied...and state that the person selling or supplying the denatured ethanol...maintains a list...of all the facilities at which the ethanol was produced and at which the denaturant was added to the ethanol.”

**C. Reid Vapor Pressure Control Periods for California Gasoline Transported to Southern California by Marine Vessel**

Section 2262.4(c)(4) of the regulations currently states

For purposes of compliance with section 2262.4(b) [RVP compliance period for production and import facilities] only, gasoline that is produced in California and is transported to the South Coast Air Basin, Ventura County, or the San Diego Air Basin by marine vessel shall be treated as having been imported at the facility to which the gasoline is off-loaded from the marine vessel.

We are proposing amendments that eliminate the unintended implication from the use of the word “imported” that additional testing requirements may apply. The objective of this provision was solely to make gasoline produced in the Bay Area and received at a Southern California marine terminal in March subject to the Southern California March 1 start of the RVP season rather than the April 1 start date for Bay Area production and import facilities. To clarify the objective of the provision, we are proposing that section 2262.4(c)(4) be amended as shown in Appendix A.

**D. Miscellaneous “Cleanup” Amendments to the CaRFG3 Amendments**

Along with the proposed amendments described above, we are proposing several additional clarifications and corrections to the regulatory language to improve the way the regulations are administered.

**1. Section 2260(a)(16) “Import Facility”**

We are proposing a clarification of the definition of “import facility,” by defining it more specifically as the “storage tank” to which imported California gasoline or CARBOB is first delivered in California.

**2. Section 2262, Footnote 2 on RVP Limits**

Section 2262 contains a table entitled, “The California Reformulated Gasoline Phase 2 and Phase 3 Standards.” Footnote 2 to the table specifies the applicability of the RVP limits for CaRFG3. We are proposing amendments to Footnote 2 in which “7.2 psi” would be replaced with “7.20 psi” and “7.0 psi” would be replaced with “7.00 psi” to make the limits stated in the footnote consistent with the text in the table itself and the RVP test method.

**3. Section 2262, Footnote 7 on Applicable Oxygen Content Cap**

Footnote 7 provides, “If the gasoline contains more than 3.5 percent by weight oxygen but no more than 10 volume percent ethanol, the maximum oxygen content cap is 3.7 percent by weight.” For clarification, we are proposing that the text of footnote 7 be amended to read as

follows: "If the gasoline contains more than 3.5 percent by weight oxygen from ethanol, but no more than 10.0 percent by volume ethanol, then the maximum oxygen content cap is 3.7 percent by weight." Federal regulations allow up to 10 percent by volume ethanol in gasoline, and the increased oxygen content cap of 3.7 weight percent is only appropriate to the extent it is necessary to accommodate an ethanol content of a full 10.0 percent. An additional significant digit would be added to the specified ethanol content for the reasons described immediately below.

**4. *Section 2262.5(b) Compliance With the Maximum Oxygen Content Cap Limit Standard***

In this section we are proposing that "ethanol content exceeding 10 percent by volume" be replaced with "ethanol content exceeding 10.0 percent by volume," since the test method for oxygen content specified in section 2263(b) yields results to the tenth of a percent.

**5. *Section 2262.6(c)(2) and (3)***

Section 2262.6(a) contains prohibitions regarding MTBE in California gasoline starting December 31, 2003, and section 2262(c) contains comparable prohibitions regarding oxygenates other than MTBE or ethanol. The 11 oxygenates covered are identified in section 2262.6(c)(4). Section 2262(c)(1) prohibits the sale of California gasoline produced at a California production facility with the use of any of these other oxygenates, and sections 2262(c)(2) and (3) impose stringent limits on the amount of oxygen from the other oxygenates that California gasoline may contain. However, section 2262.6(c)(1) contains an exception for an oxygenate for which a multimedia analysis has been conducted and the California Environmental Policy Council has made a determination that use of the oxygenate will not cause a significant adverse impact on the public health or the environment. It follows that if use of a specific oxygenate is not prohibited by section 2262.6(c)(1) because of a multimedia evaluation and determination, there should be no limits in section 2262.6(c)(2) and (3) on the presence of oxygen from the oxygenate. However, this is not recognized in the current regulation. Staff is accordingly proposing that exceptions be made in section 2262(c)(2) and (3) for any oxygenate that is not prohibited by section 2262.6(c)(1). To date, no multimedia evaluation has been conducted for any of the 11 oxygenates covered by prohibition in section 2262.6(c)(1).

**6. *Section 2262.9(a)(3) Standards for Products Represented as Appropriate for Use as a Denaturant in Ethanol***

We are proposing that the significant digits for the maximum permitted benzene, olefins, and aromatic hydrocarbon content of the denaturant in ethanol as specified in section 2262.(a)(3) be made consistent with the significant digits for these properties in the CaRFG3 standards as set forth in the table in section 2262.

Accordingly, in section 2262.9(a)(3)(A) we are proposing that "a benzene content exceeding 1.1 percent by volume" be replaced with "a benzene content exceeding 1.10 percent by volume." In section 2262.9(a)(3)(A)2. we are proposing that "an olefins content exceeding 10 percent by volume" be replaced with "an olefins content exceeding 10.0 percent by volume." And in section 2262.9(a)(3)(A)3. the proposed amendments would replace "an aromatic hydrocarbon

content exceeding 35 percent by volume” with “an aromatic hydrocarbon content exceeding 35.0 percent by volume.”

**7. *Section 2265(a) Election to Sell or Supply a Final Blend as a [California Phase 3 Reformulated Gasoline Predictive Model] Alternative Gasoline Formulation***

Section 2265(a)(2) requires that a gasoline producer or importer using the CaRFG3 Predictive Model for a given batch of gasoline must notify the Executive Officer of, among other things, the “identity, location, and estimated volume” of the final blend in question when it is being supplied from the production or import facility. We are proposing that the requirement for the “estimated volume” be eliminated, because knowledge of the volume is not necessary to determine compliance with the regulations unless the producer or importer is using the Predictive Model averaging compliance option for one or more properties. Where averaging is being used, the producer or importer is separately required by section 2264(a)(2) and (d) to report the volume of the final blend, and this requirement would not be changed.

**8. *Section 2266.5(a)(6)(A) Determining Whether Downstream CARBOB Complies With the Cap Limits for California Gasoline Through the Use of CARBOB Cap Limits Derived from the CARBOB Model***

Footnote 2 of the table states, “The CaRFG Phase 3 CARBOB cap limits for sulfur are phased in starting December 31, 2003, and December 31, 2004, in accordance with section 2261(b)(1)(A).” For consistency with section 2261(b)(1)(A), we are proposing to replace “December 31, 2004” with “December 31, 2005.” The December 31, 2005 date was inadvertently retained when the other CaRFG3 and MTBE phase-out implementation dates were postponed one year in the 2002 rulemaking.

**9. *2266.5(g)(1)(C) Issuance of Certificate***

This section states, “The executive officer shall provide each complying oxygen blender with a certificate...The certification shall constitute the oxygen blender’s certification pursuant to Health and Safety Code section 43021.” The Legislature has replaced Health and Safety Code section 43021 with Health and Safety Code section 43026, and we are proposing an amendment to reflect this change.

**10. *Section 2266.5(h)(2)(B) Blending to Meet a Cap Limit***

Section 2266.5(h)(1) prohibits a person from adding most nonoxygenated blendstocks to California gasoline that has been supplied from the production or import facility unless the person can demonstrate the blendstock meets the CaRFG3 refinery limits and the person meets with regard to the blendstock all of the requirements applicable to the gasoline producers. This is designed to assure that all California gasoline is subject to the more stringent refinery limits at some point. Section 2266.5(h)(2)(B) makes a limited exception authorizing a person to “add nonoxygenate blendstock to California gasoline that does not comply with one or more of the applicable cap limits contained in section 2262, where the person obtains prior approval from the executive officer based on a demonstration that adding the blendstock is a reasonable means of bringing the gasoline into compliance with the cap limits.” We are proposing that this provision be expanded to cover oxygenated as well as nonoxygenated blendstock, and that it also serve as

an exception to section 2262.5(d), which restricts the addition of oxygenates to downstream gasoline. The proposed amendment would make it easier for persons to bring noncomplying downstream gasoline into compliance with the cap limits, while assuring that this mechanism would only be used where necessary and appropriate.

#### **E. Alternatives**

The only alternative that staff has identified is to not propose making the changes and corrections to the regulations. Since the proposed changes and corrections provide clarification and compliance flexibility with no significant negative impacts, this alternative was eliminated from further consideration.

#### **IV. ENVIRONMENTAL IMPACTS OF THE PROPOSED AMENDMENTS TO THE CARFG3 REGULATIONS**

This chapter presents a summary of the results of the analysis of the environmental effects of the proposed amendments. The proposed amendments would provide clarification and compliance flexibility and would improve the way the regulations are administered. The staff does not anticipate any significant adverse environmental effects associated with the proposed amendments.

The proposed amendments do not affect compliance with the requirements specified in Sections 43013.1 and 43830.8 of the California Health and Safety Code (H&SC), nor do they present any issues that were not addressed during the review of the CaRFG3 regulations by the California Environmental Policy Council in 2000. At that time, the Council determined that there will not be a significant adverse environmental impact on public health or the environment, including any impact on air, water, or soil, that is likely to result from the change in gasoline that is expected to be implemented to meet the CaRFG3 regulations approved by the ARB.

##### **A. Effects on Water Quality**

There would be no significant impacts on water quality. The basic prohibitions against adding MTBE, and other oxygenates other than ethanol, would remain unchanged.

##### **B. Effects on Air Quality**

There should be no significant impacts on air quality, as the basic fuel standards would remain unchanged.

##### **C. Effects on Greenhouse Gas Emissions**

The proposed amendments would not have any negative impact on greenhouse gas emissions. There would potentially be carbon dioxide emission reductions due to proposed additional flexibility, which may reduce the transportation and reprocessing of transmix and California gasoline.

##### **D. Effects on Allowable Emissions**

There are no significant additional emission impacts associated with the proposed amendments. There may be small, unquantifiable emission increases associated with the proposal that limited blending of California gasoline into CARBOB be allowed. Since CARBOB has a lower vapor pressure than California gasoline, CARBOB storage and transfer emissions are lower than California gasoline storage and transfer emissions. This is an emission benefit of Phase 3 California RFG over Phase 2 California RFG. If California gasoline is blended into CARBOB, some of that benefit will be lost. However, we believe that the blending of California gasoline into CARBOB would only affect a small fraction of the CARBOB supply. Also, employment of the proposed additional blending flexibility would reduce the transportation and reprocessing of transmix and California gasoline, resulting in a reduction of smog-forming and particulate emissions.

**E. Other Environmental Impacts**

The staff has concluded that the proposed amendments will not have any other significant adverse environmental impacts.

**F. Effects of the Proposed CaRFG3 Amendments on the State Implementation Plan**

There should be no effects of the proposed amendments on the State Implementation Plan, because there should be no significant impacts on air quality.

**G. Environmental Justice and Neighborhood Impacts**

There should be no environmental justice and neighborhood impacts of the proposed action. The proposed amendments would simply improve the implementation and flexibility of the current program.

## **V. ECONOMIC EFFECTS OF THE PROPOSED AMENDMENTS TO THE CARFG3 REGULATIONS**

This chapter presents a summary of the staff's analysis of the economic effects of the proposed amendments. The proposed amendments would provide clarification and compliance flexibility and would improve the way the regulations are administered. Therefore, the staff does not anticipate any adverse economic effects associated with the proposed amendments.

### **A. Costs of Complying with the Proposed Regulation**

There are no additional costs associated with proposed amendments. In some situations the additional compliance flexibility provided by the proposed amendments may lead to cost reductions.

### **B. Economic Effects on Small Businesses**

Government Code section 11346.2(b)(4)(B) requires the ARB to describe any alternatives it has identified that would lessen any adverse impact on small business. In defining small business, Government Code section 11342(h) explicitly excludes refiners from the definition. Also the definition includes only businesses that are independently owned and, if in retail trade, gross less than \$2,000,000 per year. Thus, our analysis of the economic effects on small business is limited to the costs to certain gasoline retailers and jobbers, where a jobber is an individual or business that purchases wholesale gasoline and delivers and sells it to another party, usually a retailer or other end-user.

There would be no negative economic impacts for small businesses, as the actions of small businesses would not be adversely affected by the proposed changes.

**APPENDIX A**

**PROPOSED REGULATION ORDER**

**Amendments to the California Phase 3 Gasoline (CaRFG3) Regulations**

## PROPOSED REGULATION ORDER

### PROPOSED 2004 AMENDMENTS REFINING THE CALIFORNIA PHASE 3 REFORMULATED GASOLINE REGULATIONS

#### California Code of Regulations, Title 13, Division 3 Chapter 5. Standards for Motor Vehicle Fuels Article 1. Standards for Gasoline

#### Subarticle 2. Standards for Gasoline Sold Beginning March 1, 1996

#### Section 2260. Definitions.

(a) For the purposes of this subarticle, the following definitions apply:

\* \* \* \* \*

(16) "Import facility" means the ~~facility at~~ storage tank to which imported California gasoline or CARBOB is first ~~received~~ delivered in California, including, in the case of gasoline or CARBOB imported by cargo tank and delivered directly to a facility for dispensing gasoline into motor vehicles, the cargo tank in which the gasoline or CARBOB is imported.

\* \* \* \* \*

NOTE: Authority cited: sections 39600, 39601, 43013, 43013.1, 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). Reference: sections 39000, 39001, 39002, 39003, 39010, 39500, 39515, 39516, 41511, 43000, 43013, 43013.1, 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).

\* \* \* \* \*

#### Section 2262. The California Reformulated Gasoline Phase 2 and Phase 3 Standards.

The CaRFG Phase 2 and CaRFG Phase 3 standards are set forth in the following table. For all properties but Reid vapor pressure (cap limit only) and oxygen content, the value of the regulated property must be less than or equal to the specified limit. With respect to the Reid vapor pressure cap limit and the oxygen content flat and cap limit, the limits are expressed as a range, and the Reid vapor pressure and oxygen content must be less than or equal to the upper limit, and more than or equal to the lower limit. A qualifying small refiner may comply with the small refiner CaRFG Phase 3 standards, in place of the CaRFG Phase 3 standards in this section, in accordance with section 2272.

**The California Reformulated Gasoline Phase 2 and Phase 3 Standards**

<i>Property</i>	<i>Flat Limits</i>		<i>Averaging Limits</i>		<i>Cap Limits</i>	
	<i>CaRFG Phase 2</i>	<i>CaRFG Phase 3</i>	<i>CaRFG Phase 2</i>	<i>CaRFG Phase 3</i>	<i>CaRFG Phase 2</i>	<i>CaRFG Phase 3</i>
Reid Vapor Pressure <sup>1</sup> (pounds per square inch)	7.00	7.00 or 6.90 <sup>2</sup>	Not Applicable	Not Applicable	7.00 <sup>3</sup>	6.40 - 7.20
Sulfur Content (parts per million by weight)	40	20	30	15	80	60 <sup>4</sup> 30 <sup>4</sup>
Benzene Content (percent by volume)	1.00	0.80	0.80	0.70	1.20	1.10
Aromatics Content (percent by volume)	25.0	25.0	22.0	22.0	30.0 <sup>3</sup>	35.0
Olefins Content (percent by volume)	6.0	6.0	4.0	4.0	10.0	10.0
T50 (degrees Fahrenheit)	210	213	200	203	220	220
T90 (degrees Fahrenheit)	300	305	290 <sup>5</sup>	295	330	330
Oxygen Content (percent by weight)	1.8 - 2.2	1.8 - 2.2	Not Applicable	Not Applicable	1.8 <sup>6</sup> - 3.5 0 <sup>6</sup> - 3.5	1.8 <sup>6</sup> -3.5 <sup>7</sup> 0 <sup>6</sup> - 3.5 <sup>7</sup>
Methyl tertiary-butyl ether (MTBE) and oxygenates other than ethanol	Not Applicable	Prohibited as provided in § 2262.6	Not Applicable	Not Applicable	Not Applicable	Prohibited as provided in § 2262.6

<sup>1</sup> The Reid vapor pressure (RVP) standards apply only during the warmer weather months identified in section 2262.4.

<sup>2</sup> The 6.90 pounds per square inch (psi) flat limit applies only when a producer or importer is using the evaporative emissions model element of the CaRFG Phase 3 Predictive Model, in which case all predictions for evaporative emissions increases or decreases made using the evaporative emissions model are made relative to 6.90 psi and the gasoline may not exceed the maximum RVP cap limit of 7.20 psi. Where the evaporative emissions model element of the CaRFG Phase 3 Predictive Model is not used, the RVP of gasoline sold or supplied from the production or import facility may not exceed 7.00 psi.

<sup>3</sup> For sales, supplies, or offers of California gasoline downstream of the production or import facility starting on the date on which early compliance with the CaRFG Phase 3 standards is permitted by the executive officer under section 2261(b)(3), the CaRFG Phase 2 cap limits for Reid vapor pressure and aromatics content shall be 7.20 psi and 35.0 percent by volume respectively.

- 4 The CaRFG Phase 3 sulfur content cap limits of 60 and 30 parts per million are phased in starting December 31,  
2003, and December 31, 2005, respectively, in accordance with section 2261(b)(1)(A).  
5 Designated alternative limit may not exceed 310.  
6 The 1.8 percent by weight minimum oxygen content cap only applies during specified winter months in the  
areas identified in section 2262.5(a).  
7 If the gasoline contains more than 3.5 percent by weight oxygen from ethanol but no more than 10.0 volume  
percent ethanol, the maximum oxygen content cap is 3.7 percent by weight.

NOTE: Authority cited: sections 39600, 39601, 43013, 43013.1, 43018, 43101, and 43830, 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). Reference: sections 39000, 39001, 39002, 39003, 39010, 39500, 39515, 39516, 41511, 43000, 43013, 43013.1, 43016, 43018, 43101, 43830, and 43830.8, 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).

\* \* \* \* \*

**Section 2262.4. Compliance With the CaRFG Phase 2 and CaRFG Phase 3 Standards for Reid Vapor Pressure.**

**(a) Compliance with the cap limits for Reid vapor pressure.**

- (1) No person shall sell, offer for sale, supply, offer for supply, or transport California gasoline which exceeds the applicable cap limit for Reid vapor pressure within each of the air basins during the regulatory period set forth in section (a)(2).

**(2) Regulatory Control Periods.**

**(A) April 1 through October 31 (May 1 through October 31 in 2003 and 2004):**

South Coast Air Basin and Ventura County  
San Diego Air Basin  
Mojave Desert Air Basin  
Salton Sea Air Basin

**(B) May 1 through September 30:**

Great Basin Valley Air Basin

**(C) May 1 through October 31:**

San Francisco Bay Area Air Basin  
San Joaquin Valley Air Basin  
Sacramento Valley Air Basin  
Mountain Counties Air Basin  
Lake Tahoe Air Basin

**(D) June 1 through September 30:**

North Coast Air Basin  
Lake County Air Basin

Northeast Plateau Air Basin

(E) *June 1 through October 31:*

North Central Coast Air Basin

South Central Coast Air Basin (Excluding Ventura County)

**(b) *Compliance by producers and importers with the flat limit for Reid vapor pressure.***

**(1) *Reid vapor pressure standard for producers and importers.***

(A) In an air basin during the regulatory control periods specified in section (b)(2), no producer or importer shall sell, offer for sale, supply, or offer for supply from its production facility or import facility California gasoline which has a Reid vapor pressure exceeding the applicable flat limit set forth in section 2262 unless the gasoline has been reported as a PM alternative gasoline formulation pursuant to section 2265(a) using the evaporative emissions model element of the CaRFG Phase 3 Predictive Model.

(B) In an air basin during the regulatory control periods specified in section (b)(2), no producer or importer shall sell, offer for sale, supply, or offer for supply from its production facility or import facility California gasoline which has been reported as a PM alternative gasoline formulation pursuant to section 2265(a) using the evaporative emissions model element of the CaRFG Phase 3 Predictive Model if the gasoline has a Reid vapor pressure exceeding the PM flat limit for Reid vapor pressure in the identified PM alternative specifications.

**(2) *Regulatory control periods for production and import facilities.***

(A) 1. *March 1 through October 31 (Except as otherwise provided in (A)2. and (A)3. below):*

South Coast Air Basin and Ventura County

San Diego Air Basin

Mojave Desert Air Basin

Salton Sea Air Basin

2. In the areas identified in section 2262.4(b)(2)(A)1., California gasoline that is supplied March 1 through March 31, 2003 from a production or import facility that is qualified under this subsection is not subject to the prohibitions of section 2262.4(b)(1), as long as the gasoline either is designated as subject to the CaRFG Phase 3 standards, or is subject to the CaRFG Phase 2 standards and also meets the prohibitions in sections 2262.6(a)(1) and 2262.6(c) regarding the use of oxygenates. In order for a production or import facility to be qualified, the producer or importer must notify the Executive Officer in writing by February 14, 2003 that it has elected to have the facility be subject to this subsection during March 2003.

3. In the areas identified in section 2262.4(b)(2)(A)1., California gasoline that is supplied March 1 through March 31, 2004 from a production or import facility that was not qualified under section 2262.4(b)(2)(A)2. is not subject to the prohibitions of section 2262.4(b)(1).

(B) *April 1 through September 30:*  
Great Basin Valley Air Basin

(C) *April 1 through October 31:*  
San Francisco Bay Area Air Basin  
San Joaquin Valley Air Basin  
Sacramento Valley Air Basin  
Mountain Counties Air Basin  
Lake Tahoe Air Basin

(D) *May 1 through September 30:*  
North Coast Air Basin  
Lake County Air Basin  
Northeast Plateau Air Basin

(E) *May 1 through October 31:*  
North Central Coast Air Basin  
South Central Coast Air Basin (Excluding Ventura County)

**(c) *Applicability.***

- (1) Section (a)(1) shall not apply to a transaction occurring in an air basin during a regulatory control period in section (a)(2) where the person selling, supplying, or offering the gasoline demonstrates as an affirmative defense that, prior to the transaction, he or she has taken reasonably prudent precautions to assure that the gasoline will be delivered to a retail service station or bulk purchaser-consumer's fueling facility when the station or facility is not subject to a regulatory control period in section (a)(2).
- (2) Section (b) shall not apply to a transaction occurring in an air basin during the applicable regulatory control period for producers and importers where the person selling, supplying, offering or transporting the gasoline demonstrates as an affirmative defense that, prior to the transaction, he or she has taken reasonably prudent precautions to assure that the gasoline will be delivered to a retail service station or bulk purchaser-consumer's fueling facility located in an air basin not then subject to the regulatory control period for producers and importers set forth in section (b)(2).
- (3) Section (a)(1) shall not apply to a transaction occurring in an air basin during the regulatory control period where the transaction involves the transfer of gasoline from a

stationary storage tank to a motor vehicle fuel tank and the person selling, supplying, or offering the gasoline demonstrates as an affirmative defense that the last delivery of gasoline to the stationary storage tank occurred more than fourteen days before the start of the regulatory control period.

- (4) ~~For purposes of compliance with section 2262.4(b) only, G~~gasoline that is produced in California, and is then transported to the South Coast Air Basin, Ventura County, or the San Diego Air Basin by marine vessel ~~shall be treated as having been imported at the facility to which the gasoline is off loaded from the marine vessel, shall be~~ subject to the regulatory control periods for production and import facilities identified in section 2262.4(b)(2)(A).

NOTE: Authority cited: sections 39600, 39601, 43013, 43013.1, 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). Reference: sections 39000, 39001, 39002, 39003, 39010, 39500, 39515, 39516, 41511, 43000, 43013, 43013.1, 43016, 43018, 43101, 43830, and 43830.8, 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).

#### **Section 2262.5. Compliance With the Standards for Oxygen Content.**

- (a) *Compliance with the minimum oxygen content cap limit standard in specified areas in the wintertime.*

(1) Within the areas and periods set forth in section (a)(2), no person shall sell, offer for sale, supply, offer for supply, or transport California gasoline unless it has an oxygen content of not less than the minimum oxygen content cap limit in section 2262.

(2) (A) *November 1 through February 29:*

South Coast Area  
Imperial County

(B) *October 1 through October 31, (1996 through 2002 only):*

South Coast Area

- (b) *Compliance with the maximum oxygen content cap limit standard.* No person shall sell, offer for sale, supply, or transport California gasoline which has an oxygen content exceeding the maximum oxygen content cap limit in section 2262, or which has an ethanol content exceeding 10.0 percent by volume.

\* \* \* \* \*

NOTE: Authority cited: sections 39600, 39601, 43013, 43013.1, 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). Reference: sections 39000, 39001, 39002, 39003, 39010, 39500, 39515, 39516, 41511, 43000,

43013, 43013.1, 43016, 43018, 43101, and 43830.8, 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).

**Section 2262.6. Prohibition of MTBE and Oxygenates Other Than Ethanol in California Gasoline Starting December 31, 2003.**

\* \* \* \* \*

**(c) Use of oxygenates other than ethanol or MTBE in California gasoline on or after December 31, 2003.**

- (1) Starting December 31, 2003, no person shall sell, offer for sale, supply or offer for supply California gasoline which has been produced at a California production facility with the use of any oxygenate other than ethanol or MTBE unless a multimedia evaluation of use of the oxygenate in California gasoline has been conducted and the California Environmental Policy Council established by Public Resources Code section 71017 has determined that such use will not cause a significant adverse impact on the public health or the environment.
- (2) Starting December 31, 2003, no person shall sell, offer for sale, supply or offer for supply California gasoline which contains a total of more than 0.10 weight percent oxygen collectively from all of the oxygenates identified in section (c)(4), other than oxygenates not prohibited by section (c)(1).
- (3) Starting July 1, 2004, no person shall sell, offer for sale, supply or offer for supply California gasoline which contains a total of more than 0.06 weight percent oxygen collectively from all of the oxygenates identified in section (c)(4), other than oxygenates not prohibited by section (c)(1).
- (4) **Covered oxygenates.** Oxygen from the following oxygenates is covered by the prohibitions in section 2262.6(c)(1), (2) and (3):

Methanol  
 Isopropanol  
 n-Propanol  
 n-Butanol  
 iso-Butanol  
 sec-Butanol  
 tert-Butanol  
 Tert-pentanol (*tert*-amylalcohol)  
 Ethyl *tert*-butylether (ETBE)  
 Diisopropylether (DIPE)  
 Tert-amylmethylether (TAME)

- (5) The prohibitions in section 2262.6(c)(1) and (2), and in section 2262.6(c)(3), shall be phased in respectively as follows:
- (A) Starting December 31, 2003 and July 1, 2004 respectively for all sales, supplies, or offers of California gasoline by a producer or importer from its production facility or import facility.
  - (B) Starting February 14, 2004 and August 15, 2004 respectively for all other sales, supplies, offers or movements of California gasoline except for transactions directly involving:
    1. the fueling of motor vehicles at a retail outlet or bulk purchaser-consumer facility, or
    2. the delivery of gasoline from a bulk plant to a retail outlet or bulk purchaser-consumer facility.
  - (C) Starting March 31, 2004 and September 30, 2004 respectively for all remaining sales, supplies, offers or movements of California gasoline, including transactions directly involving the fueling of motor vehicles at a retail outlet or bulk purchaser-consumer facility.
- (6) ***Phase-in for low-throughput fueling facilities.*** The prohibitions in section 2262.6(c)(1) and (2), and in section 2262.6(c)(3), starting respectively on December 31, 2003 and July 1, 2004, shall not apply to transactions directly involving the fueling of motor vehicles at a retail outlet or bulk purchaser-consumer facility, where the person selling, offering, or supplying the gasoline demonstrates as an affirmative defense that the exceedance of the standard was caused by gasoline delivered to the retail outlet or bulk purchaser-consumer facility prior to the date on which the delivery became subject to the prohibition pursuant to the phase-in provisions in section 2262.6(c)(5).

NOTE: Authority cited: sections 39600, 39601, 43013, 43013.1, 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). Reference: sections 39000, 39001, 39002, 39003, 39010, 39500, 39515, 39516, 41511, 43000, 43013, 43013.1, 43016, 43018, 43101, and 43830.8, 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).

\* \* \* \* \*

**Section 2262.9. Requirements Regarding Denatured Ethanol Intended For Use as a Blend Component in California Gasoline**

**(a) Standards.**

- (1) **Standards for denatured ethanol.** Starting December 31, 2003, no person shall sell, offer for sale, supply or offer for supply denatured ethanol intended for blending with CARBOB or California gasoline that fails to comply with any of the following standards:

**(A) Standards for properties regulated by the CaRFG Phase 3 standards.**

1. A sulfur content not exceeding 10 parts per million;
2. A benzene content not exceeding 0.06 percent by volume; ~~or~~ and
3. An olefins content not exceeding 0.5 percent by volume; ~~or~~ and
4. An aromatic hydrocarbon content not exceeding 1.7 percent by volume.

\* \* \* \* \*

**(3) Standards for products represented as appropriate for use as a denaturant in ethanol.**

- (A) Except as otherwise provided in section (a)(3)(B), starting December 31, 2003, no person shall sell, offer for sale, supply or offer for supply a product represented as appropriate for use as a denaturant in ethanol intended for blending with CARBOB or California gasoline, if the denaturant has:

1. A benzene content exceeding 1.10 percent by volume; or
2. An olefins content exceeding 10.0 percent by volume; or
3. An aromatic hydrocarbon content exceeding 35.0 percent by volume.

- (B) A person may sell, offer for sale, supply or offer for supply a product that is represented as only suitable for use as an ethanol denaturant in ethanol intended for blending with CARBOB or California gasoline if the denatured ethanol contains no more than a specified percentage of the denaturant that is less than 4.76 percent. In this case, the product must be prominently labeled as only lawful for use as a denaturant where the denatured ethanol contains no more than the specified percentage of the denaturant, and the seller, supplier or offeror must take reasonably prudent precautions to assure that the denaturant will not be used in concentrations greater than the specified percentage in ethanol intended for blending with CARBOB or California gasoline. If these conditions are met, the standards in section (a)(3)(A)

for the denaturant will be adjusted by multiplying the stated values by (4.76 ) max.%), where "max.%" is the maximum percentage of denaturant specified for the denatured ethanol.

\* \* \* \* \*

**(c) Documentation required for the transfer of denatured ethanol intended for use as a blend component in California gasoline.**

- (1) (A) Starting December 31, 2003, and except as provided in section (c)(1)(B), on each occasion that any person transfers custody or title of denatured ethanol intended for use as a blend component in California gasoline, the transferor shall provide the transferee a document that prominently states that the denatured ethanol complies with the standards for denatured ethanol intended for use as a blend component in California gasoline.
- (B) Starting December 31, 2003, on each occasion that any person transfers custody or title of denatured ethanol that is intended to be added to CARBOB designated for blending with denatured ethanol exceeding any of the standards in section (a)(1)(A), the transferor shall provide the transferee a document that prominently identifies the maximum sulfur, benzene, olefin and aromatic hydrocarbon content of the denatured ethanol, and states that the denatured ethanol may only be lawfully added to CARBOB that is designated for blending with denatured ethanol having such properties.
- (2) Starting December 31, 2003, any person who sells or supplies denatured ethanol intended for use as a blend component in California gasoline from the California facility at which it was imported or produced shall provide the purchaser or recipient a document that identifies:
- (A) The name and address of the person selling or supplying the denatured ethanol, and identification of the person as the producer or importer of the denatured ethanol; and
- (B) With respect to imported denatured ethanol, the name, location and operator of the facility(ies) at which the ethanol was produced and at which the denaturant was added to the ethanol. As an alternative, the document provided to the purchaser or recipient may identify the date and time the ethanol was supplied from its import or production facility, and state that the person selling or supplying the denatured ethanol from the California facility at which it was imported or produced maintains at the facility a list of the name, location, and operator of all of the facility(ies) at which the ethanol was produced and at which the denaturant was added to the ethanol. In this case, the person shall for at least two years maintain such information, and records identifying the entities that produced the ethanol and added the denaturant in each batch of denatured ethanol imported to the facility; during that two year period, the person

shall make the information and records, available to the Executive Officer within five days after a request for the material.

NOTE: Authority cited: sections 39600, 39601, 43013, 43013.1, 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). Reference: sections 39000, 39001, 39002, 39003, 39010, 39500, 39515, 39516, 41511, 43000, 43013, 43013.1, 43016, 43018, 43101, and 43830.8, 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).

### **Section 2263. Sampling Procedures and Test Methods**

- (c) ***Sampling Procedures.*** In determining compliance with the standards set forth in this subarticle 2, an applicable sampling methodology set forth in 13 C.C.R. section 2296 shall be used.
- (b) ***Test Methods.***
- (c) In determining compliance with the gasoline standards set forth in this subarticle 2, including those in the sections identified in Table 1, the test methods presented in Table 1 shall be used. All identified test methods are incorporated herein by reference.

Table 1

<i>Section</i>	<i>Gasoline Specification</i>	<i>Test Method</i> <sup>a</sup>
2262	Reid Vapor Pressure	ASTM D 323-58 <sup>b</sup> or 13 C.C.R. Section 2297
2262	Sulfur Content	ASTM D 2622-94 <sup>c, d</sup> or ASTM D 5453-93
2262	Benzene Content	ASTM D 5580-00 <sup>e</sup>
2262	Olefin Content	ASTM D 1319-95a <sup>f</sup> (Through December 31, 2001) ASTM D 6550-00 <sup>g, h, i</sup> (Starting January 1, 2002)
2262	Oxygen Content	ASTM D 4815-99
2262	T90 and T50	ASTM D 86-99aε1
2262	Aromatic Hydrocarbon Content	ASTM D 5580-00 <sup>j</sup>
2262.5(b)	Ethanol Content	ASTM D 4815-99
2262.6	MTBE Content	ASTM D 4815-99
2262.6(c)	Oxygen from oxygenates identified in section 2262.6(c)(4)	ASTM D 4815-99

\* \* \* \* \*

NOTE: Authority cited: sections 39600, 39601, 43013, 43013.1, 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). Reference: sections 39000, 39001, 39002, 39003, 39010, 39500, 39515, 39516, 41511, 43000, 43013, 43013.1, 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).

\* \* \* \* \*

**Section 2265. Gasoline Subject to PM Alternative Specifications Based on the California Predictive Model.**

**(a) Election to sell or supply a final blend as a PM alternative gasoline formulation.**

- (1) In order to sell or supply from its production facility or import facility a final blend of California gasoline as a PM alternative gasoline formulation subject to PM alternative specifications, a producer or importer shall satisfy the requirements of this section (a).
- (2) The producer or importer shall evaluate the candidate PM alternative specifications for gasoline subject to the CaRFG Phase 2 standards in accordance with the Air Resources Board's "California Procedures for Evaluating Alternative Specifications for Phase 2 Reformulated Gasoline Using the California Predictive Model," as adopted April 20, 1995 and last amended December 11, 1998, which is incorporated herein by reference. The producer or importer shall evaluate the candidate PM alternative specifications for gasoline subject to the CaRFG Phase 3 standards in accordance with the Air Resources Board's "California Procedures for Evaluating Alternative Specifications for Phase 3 Reformulated Gasoline Using the California Predictive Model," as ~~last amended April 25, 2004~~ corrected [Insert date of correction], which is incorporated herein by reference (the two documents incorporated by reference in this section 2265(a)(2) are collectively referred to as the "Predictive Model Procedures"). If the PM alternative specifications meet the criteria for approval in the applicable Predictive Model Procedures, the producer shall notify the executive officer of: (A) The identity, and location, ~~and estimated volume~~ of the final blend; (B) the PM alternative specifications that will apply to the final blend, including for each specification whether it applies as a PM flat limit or a PM averaging limit; and (C) the numerical values for percent change in emissions for oxides of nitrogen, hydrocarbons, and potency-weighted toxic air contaminants as determined in accordance with the applicable Predictive Model Procedures. The notification shall be received by the executive officer before the start of physical transfer of the gasoline from the production or import facility, and in no case less than 12 hours before the producer or importer either completes physical transfer or commingles the final blend.
- (3) Once a producer or importer has notified the executive officer pursuant to this section 2265(a) that a final blend of California gasoline is being sold or supplied from a production or import facility as a PM alternative gasoline formulation, all final blends of California gasoline subsequently sold or supplied from that production or import facility shall be subject to the same PM alternative specifications until the producer or importer either (A) designates a final blend at that facility as a PM alternative gasoline formulation subject to different PM alternative specifications, (B) elects in accordance with section 2264.2 to have a final blend at that facility subject to flat limit compliance options and/or averaging compliance options, or (C) elects in accordance with section 2266(c) to sell a final blend at that facility as an alternative gasoline formulation.

- (4) The executive officer may enter into a written protocol with any individual producer or importer for the purposes of specifying how the requirements in section (a)(2) shall be applied to the producer's or importer's particular operations, as long as the executive officer reasonably determines that application of the regulatory requirements under the protocol is not less stringent or enforceable than application of the express terms of section (a)(2). Any such protocol shall include the producer's or importer's agreement to be bound by the terms of the protocol.
- (5) If, through no intentional or negligent conduct, a producer or importer cannot report within the time period specified in section (a)(2) above, the producer or importer may notify the executive officer of the required data as soon as reasonably possible and may provide a written explanation of the cause of the delay in reporting. If, based on the written explanation and the surrounding circumstances, the executive officer determines that the conditions of this section (a)(5) have been met, timely notification shall be deemed to have occurred.

\* \* \* \* \*

NOTE: Authority cited: sections 39600, 39601, 43013, 43013.1, 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). Reference: sections 39000, 39001, 39002, 39003, 39010, 39500, 39515, 39516, 41511, 43000, 43013, 43013.1, 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).

\* \* \* \* \*

### **Section 2266.5. Requirements Pertaining to California Reformulated Gasoline Blendstock for Oxygen Blending (CARBOB) and Downstream Blending.**

#### **(a) Application of the California gasoline standards to CARBOB.**

- (1) **Applicability of standards and requirements to CARBOB.** All of the standards and requirements in sections 2261, 2262, 2262.3, 2262.4, 2262.5(a), (b), (c) and (e), 2262.6, 2264, 2264.2, 2265, 2266, 2267, 2268, 2270(b) and (e), 2271 and 2272 pertaining to California gasoline or transactions involving California gasoline also apply to CARBOB or transactions involving CARBOB. Whenever the term "California gasoline" is used in the sections identified in the preceding sentence, the term means "California gasoline or CARBOB." Whenever the term "gasoline" is used in section 2265(b)(1), the term means "California gasoline or CARBOB."

**(2) Determining whether a final blend of CARBOB complies with the standards for California gasoline.**

**(A) General.**

1. **Applicability.** This section (a)(2) governs the determination of whether a final blend of CARBOB complies with the standards for California gasoline that apply when the gasoline is sold or supplied from the production or import facility at which it was produced or imported. Section (a)(6) governs the determination of whether downstream CARBOB that has already been supplied from its production or import facility complies with the applicable cap limits for California gasoline.
2. Where a producer or importer has designated a final blend as CARBOB and has complied with all applicable provisions of this section 2266.5, the properties of the final blend for purposes of compliance with sections 2262, 2262.3, 2262.4, 2262.5, 2262.6, 2265 and 2266 shall be determined in accordance with section (a)(2)(B) or (a)(2)(C) as applicable.
3. If the producer or importer has not complied with all applicable provisions of this section 2266.5, the properties of the final blend for purposes of the producer's or importer's compliance with the limits for sulfur, benzene, aromatic hydrocarbons, olefins, T50, T90, and oxygen required by sections 2262.3, 2262.5, 2265 and 2266 shall be determined without using the CARBOB Model or adding oxygenate to the gasoline, and compliance with the flat limits for Reid vapor pressure and oxygenates required by sections 2262.4, 2262.6, 2265 and 2266 shall be determined in accordance with section (a)(2)(B) or (a)(2)(C) as applicable.

**(B) Determining whether a final blend of CARBOB complies with the standards for California gasoline by use of the CARBOB Model.**

1. A producer or importer may elect to have the CARBOB model used in determining whether a final blend designated as CARBOB complies with the standards applicable to California gasoline, by providing the notice in section (b)(1)(C). In this case, the CARBOB limits for the final blend shall be determined in accordance with the "Procedures for Using the California Model for California Reformulated Gasoline Blendstocks for Oxygenate Blending (CARBOB)," as adopted April 25, 2001. The CARBOB's compliance with the assigned CARBOB limit for a property shall constitute compliance with the corresponding finished gasoline limit – be it a section 2262 flat limit, PM flat limit, TC limit, or (if no designated alternative limit has been established) section 2262 or PM averaging limit. In addition, where the producer or importer has elected to use the CARBOB model for a given final blend that is not being transferred from its production or import facility during the Reid vapor pressure control period for that facility set forth in section 2262.4(a), the final blend must have a Reid vapor pressure no lower than the value used in the T50 CARBOB model.
2. Notwithstanding section (a)(2)(B)1., where a final blend of CARBOB is sampled and analyzed by a state board inspector in accordance with section 2263 using the methodology in (a)(2)(C), the results may be used to establish a violation of applicable standards for California gasoline.

**(C) Determining whether a final blend of CARBOB complies with the standards for California gasoline by oxygenate blending and testing.** Except as otherwise provided in section (a)(2)(B), the properties of a final blend of CARBOB shall be determined for purposes of compliance with sections 2262, 2262.3, 2262.4, 2262.5, 2262.6, 2265 and 2266 by adding the specified type and amount of oxygenate to a representative sample of the CARBOB and determining the properties and characteristics of the resulting gasoline in accordance with an applicable test method identified in section 2263(b) or permitted under section 2263(c). Where the producer or importer has in accordance with section (b)(1)(E) designated a range for oxygen from denatured ethanol of 1.8 wt.% to 2.2 wt.% (or a range that is within 1.8 wt. % and 2.2 wt.% and includes 2.0 wt.%), denatured ethanol equal to 5.7 vol.% of the blended volume shall be added; where the designated range for oxygen from denatured ethanol is 2.5 wt.% to 2.9 wt.% (or is within 2.5 wt.% and 2.9% and includes 2.7 wt.%), denatured ethanol equal to 7.7 vol.% of the blended volume shall be added; and where the designated range for oxygen from denatured ethanol is 3.3 wt.% to 3.7 wt.% (or is within 3.3 wt.% and 3.7 wt.% and includes 3.5 wt.%), denatured ethanol equal to 10.0 vol.% of the blended volume shall be added. In all other cases where the designated range for oxygen from denatured ethanol is no greater than 0.4 wt.%, the amount of denatured ethanol added shall be the volume

percent that results in an oxygen content at the midpoint of the range of oxygen, based on the following equation:

$$\text{Vol.\% Denatured Ethanol} = 620 \div [(218.8 \div \text{wt.\% oxygen}) - 0.40]$$

~~Where the producer or importer has in accordance with section (b)(1)(E) designated a range of amounts of oxygen that is greater than 0.4 wt.%, or an oxygenate other than denatured ethanol, the oxygenate shall be added in an amount that results in an oxygen content within 0.2 wt.% of the designated minimum oxygen level.~~

Where the producer or importer has in accordance with section (b)(1)(E) designated a range of amounts of oxygen that is greater than 0.4 wt.%, or an oxygenate other than denatured ethanol, the oxygenate shall be added in an amount that results in an oxygen content within 0.2 wt.% of the designated minimum oxygen level.

**(D) Characteristics of denatured ethanol used in determining whether a final blend of CARBOB complies with the standards for California gasoline.**

- 1. Default denatured ethanol characteristics on or after December 31, 2003 when the CARBOB Model is used.** Except as provided in section (a)(2)(D)3., where a producer or importer has elected to use the CARBOB Model for a final blend of CARBOB supplied from its production or import facility on or after December 31, 2003, the following default denatured ethanol specifications shall be specified for the CARBOB Model:

Sulfur content:	10 parts per million
Benzene content:	0.06 volume percent
Olefin content:	0.5 volume percent
Aromatic hydrocarbon content:	1.7 volume percent

- 2. Default denatured ethanol characteristics on or after December 31, 2003 when the CARBOB Model is not used.** Except as provided in section (a)(2)(D)3., where a producer or importer has not elected to use the CARBOB Model, denatured ethanol used as the oxygenate must have the following properties in determining whether CARBOB complies with the standards applicable to California gasoline when it is supplied from the production facility or import facility on or after December 31, 2003:

Sulfur content:	3 - 10 parts per million
Benzene content:	0 - 0.06 volume percent
Olefin content:	0 - 0.5 volume percent
Aromatic hydrocarbon content:	0 - 1.7 volume percent

3. ***Producer- or importer-specified characteristics of denatured ethanol used in determining whether a final blend of CARBOB complies with the standards for California gasoline.***

- a. With respect to a final blend of CARBOB supplied from its production or import facility prior to December 31, 2003, the producer or importer must specify the properties of the oxygenate used in determining whether the final blend of CARBOB complies with the applicable California gasoline standards, by providing the notice in section (b)(1)(D). With respect to a final blend of CARBOB supplied from its production or import facility on or after December 31, 2003, the producer or importer may elect to specify the properties of the oxygenate in accordance with the preceding sentence. Where the producer or importer has elected to use the CARBOB model in connection with the final blend, the maximum value for each property identified in the section (b)(1)(D) notification shall be used for the CARBOB Model. Where the producer or importer has not elected to use the CARBOB model in connection with the final blend, the oxygenate used in oxygenate blending and testing in accordance with section (a)(2)(C)1. must not exceed the maximum value for each property identified in the section (b)(1)(D) notification; that oxygenate's specifications for each property may be under the maximum value for each property identified in the section (b)(1)(D) notification by no more than the following:

Sulfur content:	5 parts per million
Benzene content:	0.06 volume percent
Olefin content:	0.1 volume percent
Aromatic hydrocarbon content:	1.0 volume percent

- b. ***Maintaining oxygenate samples for use in compliance testing.*** A producer or importer who is specifying the properties of the oxygenate used in a final blend of CARBOB in accordance with the preceding section (a)(2)(D)3.a. must maintain at the production or import facility, while the final blend is at the facility, oxygenate meeting the required specifications in quantities that are sufficient to enable state board inspectors to use the oxygenate in compliance determinations.

- (E) ***Protocol for determining whether a final blend of CARBOB complies with the standards for California gasoline.*** The executive officer may enter into a written protocol with any individual producer or importer for the purpose of specifying a alternative method for determining whether a final blend of CARBOB complies with the standards for California gasoline, as long as the executive officer reasonably determines that application of the protocol is not less stringent or enforceable than application of the express terms of section (a)(2)(A)-(D). Any such protocol shall

include the producer's or importer's agreement to be bound by the terms of the protocol.

- (3) **Calculating the volume of a final blend of CARBOB.** Where a producer or importer has designated a final blend as CARBOB and has complied with all applicable provisions of this section 2266.5, the volume of a final blend shall be calculated for all purposes under section 2264 by adding the minimum designated amount of the oxygenate having the smallest volume designated by the producer or importer. If the producer or importer has not complied with any applicable provisions of this section 2266.5, the volume of the final blend for purposes of the refiner or producer's compliance with sections 2262, 2262.3, 2262.4, 2262.5, 2262.6, 2265 and 2266 shall be calculated without adding the amount of oxygenate to the CARBOB.
- (4) **Specifications for a final blend of CARBOB when the CARBOB model is not being used.** A producer or importer who has not elected to use the CARBOB model pursuant to section (a)(2)(B) with regard to a final blend of CARBOB may not sell, offer for sale, supply or offer for sale that final blend of CARBOB from its production facility or import facility where the sulfur, benzene, olefin or aromatic hydrocarbon content of the CARBOB, when multiplied by (1 minus the designated maximum volume percent, expressed as a decimal fraction, that the oxygenate will represent after it is added to the CARBOB), results in a sulfur, benzene, olefin or aromatic hydrocarbon content value exceeding the applicable limit for that property.
- (5) **Assignment of designated alternative limits for CARBOB and for the oxygenated California gasoline where the producer or importer has elected to use the CARBOB model.**
- (A) **Applicability.** This section (a)(5) applies where a producer or importer has elected to have the CARBOB model apply in connection with a final blend of CARBOB which is also subject to an averaging compliance option or a PM averaging compliance option for one or more properties.
- (B) **Assignment of CARBOB designated alternative limit.** The producer or importer may assign a CARBOB designated alternative limit for the final blend of CARBOB by satisfying the notification requirements of section (a)(5)(D). In no case shall a CARBOB designated alternative limit be less than the sulfur, benzene, olefin or aromatic hydrocarbon content, or T90 or T50, of the final blend shown by the sample and test of the CARBOB conducted pursuant to section 2270. The CARBOB designated alternative limit shall be treated as the designated alternative limit under section 2262.3(c)(2), and a violation of section 2262.3(c)(2) will exist when the CARBOB exceeds the CARBOB designated alternative limit.
- (C) **Determining the designated alternative limit for the final blend after the CARBOB is oxygenated.** Whenever a producer or importer has assigned a designated alternative

limit for a final blend of CARBOB, the designated alternative limit for the final blend after the CARBOB is oxygenated shall be determined in accordance with the "Procedures for Using the California Model for California Reformulated Gasoline Blendstocks for Oxygenate Blending (CARBOB)," as adopted April 25, 2001. This will be the final blend's designated alternative limit for purposes of compliance with sections 2262.3(c)(3) and 2264(b) and (c).

- (D) **Notification.** The producer or importer shall notify the executive officer of the CARBOB designated alternative limit, the designated alternative limit for the final blend after it is oxygenated, and all other information identified in section 2264(a)(2)(A), within the time limits set forth in section 2264(a)(2)(A) and subject to section 2264(a)(3) and (4).
- (6) **Determining whether downstream CARBOB complies with the cap limits for California gasoline.**
- (A) **Determining whether downstream CARBOB complies with the cap limits for California gasoline through the use of CARBOB cap limits derived from the CARBOB Model.** Whenever downstream CARBOB designated for ethanol blending has already been supplied from its production or import facility, the CARBOB's compliance with the cap limits for California gasoline may be determined by applying the CARBOB cap limits in the following table:

<i>Property</i>	<i>CARBOB Cap Limits</i>	
	<i>CaRFG2</i>	<i>CaRFG3</i>
Reid Vapor Pressure <sup>1</sup> (pounds per square inch)	5.78	5.99
Sulfur Content (parts per million by weight)	89	66 <sup>2</sup>
		32 <sup>2</sup>
Benzene Content (percent by volume)	1.33	1.22
Aromatics Content (percent by volume)	33.1	38.7
Olefins Content (percent by volume)	11.1	11.1
T50 (degrees Fahrenheit)	232 <sup>3</sup>	232 <sup>3</sup>
	237 <sup>3</sup>	237 <sup>3</sup>
T90 (degrees Fahrenheit)	335	335

<sup>1</sup> The Reid vapor pressure standards apply only during the warmer weather months identified in section 2262.4.

- 2 The CaRFG Phase 3 CARBOB cap limits for sulfur are phased in starting December 31, 2003, and  
December 31, ~~2004~~ 2005, in accordance with section 2261(b)(1)(A).
- 3 The first number applies to CARBOB that is subject to the Reid vapor pressure standard pursuant  
to section 2262.4, and the second number applies to CARBOB that is not subject to the Reid vapor  
pressure standard.

**(B) Determining whether downstream CARBOB complies with the cap limits for California gasoline by oxygenate blending and testing.** Whenever downstream CARBOB designated for oxygenate blending has already been supplied from its production or import facility, the CARBOB's compliance with the cap limits for California gasoline may be determined by adding the specified type and amount of oxygenate to a representative sample of the CARBOB and determining the properties and characteristics of the resulting gasoline in accordance with an applicable test method identified in section 2263(b) or permitted under section 2263(c). Denatured ethanol used as the oxygenate must have the properties set forth in section (a)(2)(D)2. Where the designated range for oxygen from denatured ethanol is 1.8 wt.% to 2.2 wt.% (or is within 1.8 wt.% and 2.2 wt.% and includes 2.0 wt.%), denatured ethanol equal to 5.7 vol.% of the blended volume shall be added; where the designated range for oxygen from denatured ethanol is 2.5 wt.% to 2.9 wt.% (or is within 2.5 wt.% and 2.9 wt.% and includes 2.7 wt.%), denatured ethanol equal to 7.7 vol.% of the blended volume shall be added; and where the designated range for oxygen from denatured ethanol is 3.3 wt.% to 3.7 wt.% (or is within 3.3 wt.% and 3.7 wt.% and includes 3.5 wt.%), denatured ethanol equal to 10.0 vol.% of the blended volume shall be added. In all other cases where the designated range for oxygen from denatured ethanol is no greater than 0.4 wt.%, the amount of denatured ethanol added shall be the volume percent that results in an oxygen content at the midpoint of the range of oxygen, based on the following equation:

$$\text{Vol.\% Denatured Ethanol} = 620 \div [(218.8 \div \text{wt.\% oxygen}) - 0.40]$$

Where the designated a range of amounts of oxygen is greater than 0.4 wt.%, or an oxygenate other than denatured ethanol is designated, the oxygenate shall be added in an amount that results in an oxygen content within 0.2 wt.% of the designated minimum oxygen level.

**(C) Protocols.** A person may enter into a protocol with the executive officer for the purpose of identifying more stringent specifications for the denatured ethanol used pursuant to section (a)(6)(B), or different CARBOB cap limits under section (a)(6)(A), if the executive officer reasonably determines that the specifications or cap limits are reasonably premised on the person's program to assure that the denatured ethanol added to the CARBOB by oxygenate blenders will meet the more stringent specifications.

**(b) Notification to ARB regarding the supply of CARBOB from the facility at which it was produced or imported.**

(1) A producer or importer supplying a final blend of CARBOB from the facility at which the producer or importer produced or imported the CARBOB must notify the executive officer of the information set forth below, along with any information required under section 2265(a)(2) (for a PM alternative gasoline formulation) or 2266(c) (for a test-certified alternative gasoline formulation). The notification must be received by the executive officer before the start of physical transfer of the final blend of CARBOB from the production or import facility, and in no case less than 12 hours before the producer or importer either completes physical transfer or commingles the final blend.

(A) The identity and location of the final blend;

(B) The designation of the final blend as CARBOB;

(C) If the producer or importer is electing to use the CARBOB model to determine whether the final blend complies with the standards applicable to California gasoline when it is supplied from the production facility or import facility, a statement of that election and

1. Each of the CARBOB limits that will apply to the final blend for properties not subject to the averaging compliance option or the PM averaging compliance option; and
2. For any property subject to the averaging compliance option or the PM averaging compliance option, the averaging or PM averaging limit for the CARBOB (the CARBOB is subject to this limit only if no designated alternative limit is assigned to the CARBOB pursuant to section 2266.5(a)(5)(B));

(D) If the producer or importer is specifying, pursuant to section (a)(2)(D)3., the properties of the oxygenate to be added downstream by the oxygenate blender, a statement of that election, the type of oxygenate, and the oxygenate's specifications for the following properties:

- Maximum sulfur content (nearest part per million by weight)
- Maximum benzene content (nearest hundredth of a percent by volume)
- Maximum olefin content (nearest tenth of a percent by volume)
- Maximum aromatic hydrocarbon content (nearest tenth of a percent by volume)

(E) The designation of each oxygenate type or types and amount or range of amounts to be added to the CARBOB, and the applicable flat limit, PM alternative specification, or TC alternative specification for oxygen. The amount or range of amounts of oxygenate to be added shall be expressed as a volume percent of the gasoline after the oxygenate is added, in the nearest tenth of a percent. For any final blend of CARBOB except one that is subject to PM alternative specifications or TC alternative

specifications, the amount of oxygenate to be added must be such that the resulting California gasoline will have a minimum oxygen content no lower than 1.8 percent by weight and a maximum oxygen content no greater than 2.2 percent by weight. For a final blend of CARBOB that is subject to PM alternative specifications, the amount or range of amounts of oxygenate to be added must be such that the resulting California gasoline has an oxygen content that meets the oxygen content PM alternative specification for the final blend. For a final blend of CARBOB that is subject to TC alternative specifications, the amount or range of amounts of oxygenate to be added must be such that the resulting California gasoline has an oxygen content that meets the oxygen content alternative specification for the final blend;

- (2) **Applicability of notification to subsequent final blends.** The notification a producer or importer provides pursuant to section (b)(1)(B), (C), (D) and (E) for a final blend of CARBOB shall apply to all subsequent final blends of CARBOB or California gasoline supplied by the producer or importer from the same production or import facility until the producer or importer designates a final blend at that facility as either (i) California gasoline rather than CARBOB, or (ii) CARBOB subject to a new notification made pursuant to section (b)(1).
- (3) **Allowance of late notifications.** If, through no intentional or negligent conduct, a producer or importer cannot report within the time period specified in (b)(1) above, the producer or importer may notify the executive officer of the required data as soon as reasonably possible and may provide a written explanation of the cause of the delay in reporting. If, based on the written explanation and the surrounding circumstances, the executive officer determines that the conditions of this section (b)(3) have been met, timely notification shall be deemed to have occurred.
- (4) **Protocols.** The executive officer may enter into a written protocol with any individual producer or importer for the purpose of specifying how the requirements in section (b)(1) shall be applied to the producer's or importer's particular operations, as long as the executive officer reasonably determines that application of the regulatory requirements under the protocol is not less stringent or enforceable than application of the express terms of section (b)(1). Any such protocol shall include the producers or importer's agreement to be bound by the terms of the protocol.
- (c) **~~Sampling, testing and recordkeeping by importers of CARBOB.~~ [Reserved]**
- (1) **~~When sampling and testing is required.~~** Each importer of CARBOB shall sample and test for the sulfur, aromatic hydrocarbon, olefin, oxygen and benzene content, T50, T90, and, during the regulatory control periods identified in section 2262.4(a)(2) and (b)(2), the Reid vapor pressure, of each final blend of CARBOB which the importer has imported by tankship, pipeline, railway tankcars, trucks and trailers, or other means, by collecting and analyzing a representative sample of CARBOB taken from the final blend at its import facility. An importer who is electing to use the CARBOB model in

determining compliance shall analyze the CARBOB without adding oxygenate. In all other cases, the importer shall oxygenate and analyze the CARBOB in accordance with section (a)(2)(C).

- ~~(2) **Maintaining records.** Each importer required to sample and analyze a final blend of CARBOB pursuant to this section (c) shall maintain, for two years from the date of each sampling, records showing the sample date, identify of blend or product sampled, container or other vessel sampled, the final blend volume, and the sulfur, aromatic hydrocarbon, olefin, oxygen and benzene content, T50, T90, and Reid vapor pressure as determined in accordance with section (a)(2). All CARBOB imported by the importer and not tested as required by this section shall be deemed to have a Reid vapor pressure, sulfur, aromatic hydrocarbon, olefin, oxygen and benzene content, T50 and T90 exceeding the applicable flat limit or averaging limit standards specified in section 2262, unless the importer demonstrates that the CARBOB meets those standards and limit(s).~~
- ~~(3) **Production of records.** An importer shall provide to the executive officer any records required to be maintained by the importer pursuant to this section (c) within 20 days of a written request from the executive officer if the request is received before expiration of the period during which the records are required to be maintained. Whenever an importer fails to provide records regarding a final blend of CARBOB in accordance with the requirements of this section, the final blend of CARBOB shall be presumed to have been sold by the importer in violation of the applicable flat limit or averaging limit standards and compliance requirements in sections 2262, 2262.3(b) or (c), 2262.4(b), or 2262.5(c), unless the importer demonstrates that the CARBOB meets those standards and limit(s).~~
- ~~(4) **Protocols.** The executive officer may enter into a protocol with any importer for the purpose of specifying alternative sampling, testing, recordkeeping, or reporting requirements which shall satisfy the provisions of sections (c)(1) or (c)(2). The executive officer may only enter into such a protocol if s/he reasonably determines that application of the regulatory requirements under the protocol will be consistent with the state board's ability effectively to enforce the provisions of sections 2262, 2262.3(b) or (c), 2262.4(b), or 2262.5(c), and the PM averaging limit(s). Any such protocol shall include the importer's agreement to be bound by the terms of the protocol.~~

**(d) Documentation required when CARBOB is transferred.**

- (1) Required Documentation.** On each occasion when any person transfers custody or title of CARBOB, the transferor shall provide the transferee a document that prominently:
- (A) States that the CARBOB does not comply with the standards for California gasoline without the addition of oxygenate,
  - (B) Identifies the applicable flat limit, PM alternative specification, or TC alternative specification for oxygen, and

(C) Identifies, consistent with the notification made pursuant to section (b), the oxygenate type or types and amount or range of amounts that must be added to the CARBOB to make it comply with the standards for California gasoline. Where the producer or importer of the CARBOB has elected to specify the properties of the oxygenate pursuant to section (b)(1)(D), the document must also prominently identify the maximum permitted sulfur, benzene, olefin and aromatic hydrocarbon contents – not to exceed the maximum levels in the section (b)(1)(D) notification – of the oxygenate to be added to the CARBOB.

(2) **Compliance by pipeline operator.** A pipeline operator may comply with this requirement by the use of standardized product codes on pipeline tickets, where the code(s) specified for the CARBOB is identified in a manual that is distributed to transferees of the CARBOB and that sets forth all of the required information for the CARBOB.

**(e) Restrictions on transferring CARBOB.**

(1) **Required agreement by transferee.** No person may transfer ownership or custody of CARBOB to any other person unless the transferee has agreed in writing with the transferor that either:

(A) The transferee is a registered oxygenate blender and will add oxygenate of the type(s) and amount (or within the range of amounts) designated in accordance with section (b) before the CARBOB is transferred from a final distribution facility, or

(B) The transferee will take all reasonably prudent steps necessary to assure that the CARBOB is transferred to a registered oxygen blender who adds the type and amount (or within the range of amounts) of oxygenate designated in accordance with section (b) to the CARBOB before the CARBOB is transferred from a final distribution facility.

(2) **Prohibited sales of CARBOB from a final distribution facility.** No person may sell or supply CARBOB from a final distribution facility where the type and amount or range of amounts of oxygenate designated in accordance with section (b) has not been added to the CARBOB.

**(f) Restrictions on blending CARBOB with other products.**

(1) **Basic prohibition.** No person may combine any CARBOB that has been supplied from the facility at which it was produced or imported with any other CARBOB, gasoline, blendstock or oxygenate, except:

**(A) *The specified oxygenate.***

1. The CARBOB may be blended with oxygenate of the type and amount (or within the range of amounts) specified by the producer or importer at the time the CARBOB was supplied from the production or import facility.
2. Where ethanol is the specified oxygenate and specifications for the ethanol are identified in the product transfer document for the CARBOB pursuant to section 2266.5(d)(1)(C), only ethanol meeting those specifications may be combined with the CARBOB.
3. Where ethanol is the specified oxygenate and specifications for the ethanol are not identified, only ethanol meeting the standards in section 2262.9(a) may be combined with the CARBOB.

**(B) *Identically-specified CARBOB.*** The CARBOB may be blended with other CARBOB for which the same oxygenate type, and the same amount (or range of amounts) of oxygen, was specified by the producer or importer at the time the CARBOB was supplied from the production or import facility. However, where specifications for the denatured ethanol to be added to the CARBOB have been established pursuant to section 2266.5(a)(2)(D)3, it may only be blended with other CARBOB for which the same denatured ethanol specifications have been set.

**(C) *CARBOB specified for different oxygen level.*** Where a person is changing from an initial to a new type of CARBOB stored in a storage tank at a terminal or bulk plant, and the conditions below are met; in this case, the CARBOB in the tank after the new type of CARBOB is added will be treated as that new type of CARBOB.

1. The change in service is for legitimate operational reasons and is not for the purpose of combining the different types of CARBOB;
2. The initial and new CARBOBs are designated for blending with different amounts (or ranges of amounts) of oxygen, and the change in oxygen content will not exceed 1.1 weight percent of the oxygenated gasoline blend;
3. The volume of the new CARBOB that is added to the tank is at least four times as large as the volume of the initial CARBOB in the tank, and
4. The sulfur content of the new CARBOB added to the tank is no more than 12 parts per million.

**(D) *California gasoline not subject to RVP standard.*** Where a person is changing from California gasoline to CARBOB as the product stored in a storage tank at a terminal or bulk plant and the conditions below are met; in this case the product in the tank,

pipe or manifold after the new product is added will be treated as the new type of product.

1. The change in service is for legitimate operational reasons and is not for the purpose of combining the California gasoline and CARBOB and
2. The resulting blend of product in the tank is supplied from the terminal or bulk plant during a time that it is not subject to the standards for Reid vapor pressure under section 2262.4.

**(E) Limited amounts of California gasoline containing ethanol.** A person may add California gasoline containing ethanol to CARBOB at a terminal or bulk plant if all of the following conditions are met, in which case the resulting mixture will continue to be treated as CARBOB.

1. The gasoline is added to the CARBOB for one of the following operational reasons:
  - a. The gasoline resulted from oxygenating CARBOB at the terminal or bulk plant during calibration of oxygenate blending equipment; or
  - b. The gasoline resulted from the unintentional over- or under-oxygenation of CARBOB during the loading of a cargo tank truck at the terminal or bulk plant; or
  - c. The gasoline was pumped out of a gasoline storage tank at a motor vehicle fueling facility for legitimate operational reasons.
2. The non-oxygenate portion of the gasoline complies with the applicable cap limits for CARBOB in section 2266.5(a)(6).
3. The resulting mixture of CARBOB has an oxygen content not exceeding 0.1 percent by weight.
  - a. The oxygen content of the mixture may be determined arithmetically by [i] using the volume of the CARBOB prior to mixing based on calibrated tank readings, [ii] using the volume of the gasoline added based on calibrated meter readings, [iii] using the volume of the denatured ethanol in the gasoline being added based on direct calibrated meter readings of the denatured ethanol if available, [iv] calculating weight percent oxygen of the gasoline being added from volume percent denatured ethanol based on the following formula:

$$\text{(wt.\% oxygen)} \approx 218.8 / \{ [620 / (\text{vol.\% deEtOH})] + 0.40 \}.$$

and [v] accounting for any oxygen in the CARBOB tank due to previous additions of gasoline to the tank.

b. If the meter readings described in section 2266.5(f)(1)(E)3.a.[iii] are not available, the oxygen content of the mixture may be determined arithmetically by [i] using the volume of the CARBOB prior to mixing based on calibrated tank readings, [ii] using the volume of the gasoline added based on calibrated meter readings, [iii] using the oxygen content of the gasoline in weight percent based on sampling and testing of the gasoline for denatured ethanol content in accordance with methods specified in section 2263, and [iv] accounting for any oxygen in the CARBOB tank due to previous additions of gasoline to the tank.

c. In making the determination described in section 2266.5(f)(1)(E)3.a. or b., the oxygen content of the mixture shall be calculated based on the following formula:

$$\text{(wt.\% oxygen)} \approx \frac{[(\text{volume CARBOB}) * (\text{wt.\% oxygen in CARBOB}) + (\text{volume gasoline}) * (\text{wt.\% oxygen in gasoline})]}{[(\text{volume CARBOB}) + (\text{volume gasoline})]}$$

4. Prior to the mixing, the operator of the terminal or bulk plant notifies the executive officer of the following:

a. The identity and location of the facility at which the mixing will take place;

b. The operational reason for adding the gasoline into the CARBOB;

c. The projected percentage oxygen content of the mixture.

5. The terminal or bulk plant operator maintains for two years records documenting the information identified in section 2266.5(f)(1)(E)4, and makes them available to the executive officer upon request.

**(2) Protocols.**

**(A) Protocols covering the changeover in service of a storage tank.** Notwithstanding section (f)(1), the executive officer may enter into a written protocol with any person to identify conditions under which the person may lawfully combine CARBOB with California gasoline or other CARBOB during a changeover in service of a storage tank for a legitimate operational business reason. The executive officer may only enter into such a protocol if he or she reasonably determines that commingling of the two products will be minimized as much as is reasonably practical. Any such

protocol shall include the person's agreement to be bound by the terms of the protocol.

**(B) Protocols for blending transmix into CARBOB.** Notwithstanding section (f)(1), the executive officer may enter into a written protocol with any person to identify conditions under which the person may lawfully blend transmix into CARBOB which has been supplied from its production or import facility. The executive officer may enter into such a protocol only if he or she reasonably determines that alternatives to the blending are not practical and the blending will not significantly affect the properties of the CARBOB gasoline into which the transmix is added. Any such protocol shall include the person's agreement to be bound by the terms of the protocol.

**(C) Protocols In Other Situations.** Notwithstanding section (f)(1), the executive officer may enter into a written protocol with any person to identify conditions under which the person may lawfully add California gasoline or other CARBOB to CARBOB in a storage tank at a terminal or bulk plant in situations other than those identified in sections 2266.5(f)(1)(C), (D), or (E), or (f)(2)(A) or (B). The executive officer may enter into such a protocol only if he or she reasonably determines that alternatives to the activity are not practical and the blending will not significantly affect the properties of the CARBOB into which the gasoline or CARBOB is added. The protocol shall include any of the conditions in section 2266.5(f)(1)(E) that the executive officer determines are necessary and appropriate. Any such protocol shall include the person's agreement to be bound by the terms of the protocol.

**(g) Requirements for oxygenate blenders.**

**(1) Registration and Certification.**

**(A) Registration.** Any oxygen blender must register with the executive officer by March 1, 1996, or at least 20 days before blending oxygenates with CARBOB, whichever occurs later. Thereafter, an oxygenate blender must register with the executive officer annually by January 1. The registration must be addressed to the attention of the Chief, Compliance Division, California Air Resources Board, P.O. Box 2815, Sacramento, CA, 95812.

**(B) Required contents of registration.** The registration must include the following:

1. The oxygen blender's contact name, telephone number, principal place of business which shall be a physical address and not a post office box, and any other place of business at which company records are maintained.
2. For each of the oxygen blender's oxygenate blending facilities, the facility name, physical location, contact name, and telephone number.

- (C) **Issuance of certificate.** The executive officer shall provide each complying oxygen blender with a certificate of registration compliance no later than June 30. The certification shall be effective from no later than July 1, through June 30 of the following year. The certification shall constitute the oxygen blender's certification pursuant to Health and Safety Code section ~~43021~~ 43026.
- (D) **Submittal of updated information.** Any oxygen blender must submit updated registration information to the executive officer at the address identified in section (g)(1)(A) within 30 days of any occasion when the registration information previously supplied becomes incomplete or inaccurate.
- (2) **Requirement to add oxygenate to CARBOB.** Whenever an oxygenate blender receives CARBOB from a transferor to whom the oxygenate blender has represented that he/she will add oxygenate to the CARBOB, the oxygenate blender must add to the CARBOB oxygenate of the type(s) and amount (or within the range of amounts) identified in the documentation accompanying the CARBOB. If the documentation identifies the permitted maximum sulfur, benzene, olefin and aromatic hydrocarbon contents of the oxygenate, the oxygenate blender must add an oxygenate that does not exceed the maximum permitted levels.
- (3) **Additional requirements for terminal blending.** Any oxygenate blender who makes a final blend of California reformulated gasoline by blending any oxygenate with any CARBOB in any gasoline storage tank, other than a truck used for delivering gasoline to retail outlets or bulk purchaser-consumer facilities, shall, for each such final blend, determine the oxygen content and volume of the final blend prior to its leaving the oxygen blending facility, by collecting and analyzing a representative sample of gasoline taken from the final blend, using methodology set forth in section 2263.
- (h) **Downstream blending of California gasoline with nonoxygenate blendstocks.**
- (1) **Basic prohibition.** No person may combine California gasoline which has been supplied from a production or import facility with any nonoxygenate blendstock, other than vapor recovery condensate, unless the person can affirmatively demonstrate that (1) the blendstock that is added to the California gasoline meets all of the California gasoline standards without regard to the properties of the gasoline to which the blendstock is added, and (2) the person meets with regard to the blendstock all requirements in this subarticle applicable to producers of California gasoline.
- (2) **Exceptions.**
- (A) **Protocols.** Notwithstanding section (i)(1), the executive officer may enter into a written protocol with any person to identify conditions under which the person may lawfully blend transmix into California gasoline which has been supplied from its

production or import facility. The executive officer may only enter into such a protocol if he or she reasonably determines that alternatives to the blending are not practical and the blending will not significantly affect the properties of the California gasoline into which the transmix is added. Any such protocol shall include the person's agreement to be bound by the terms of the protocol.

(B) **Blending to meet a cap limit.** Notwithstanding section (i)(1) or 2262.5(d), a person may add nonoxygenate or oxygenated blendstock to California gasoline that does not comply with one or more of the applicable cap limits contained in section 2262, where the person obtains the prior approval of the executive officer based on a demonstration that adding the blendstock is a reasonable means of bringing the gasoline into compliance with the cap limits.

(i) **Restrictions during the RVP season on blending gasoline containing ethanol with California gasoline not containing ethanol.**

(1) **Basic prohibition.** Within each air basin during the Reid vapor pressure cap limit periods specified in section 2262.4(a)(2), no person may combine California gasoline produced using ethanol with California gasoline produced without using ethanol, unless the person can affirmatively demonstrate that: (A) the resulting blend complies with the cap limit for Reid vapor pressure set forth in section 2262, or (B) the person has taken reasonably prudent precautions to assure that the gasoline is not subject to the Reid vapor pressure cap limit either because of sections 2261(d) or (f) or 2262.4(c)(1) or (c)(3), or because the gasoline is no longer California gasoline.

(2) **Exception.** Section 2266.5(i)(1) does not apply to combining California gasolines that are in a motor vehicle's fuel tank.

NOTE: Authority cited: sections 39600, 39601, 43013, 43013.1, 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). Reference: sections 39000, 39001, 39002, 39003, 39010, 39500, 39515, 39516, 41511, 43000, 43013, 43013.1, 43016, 43018, 43021, 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).

**APPENDIX B****PRELIMINARY DRAFT PROPOSED REGULATORY  
AMENDMENTS AND INTERIM GUIDANCE ON CaRFG3  
IMPLEMENTATION ISSUES**

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**PRELIMINARY DRAFT PROPOSED REGULATORY AMENDMENTS AND  
INTERIM GUIDANCE ON CaRFG3 IMPLEMENTATION ISSUES**

**1. Adding Transmix to CARBOB.**

Section 2266.5(h)(2)(A), title 13, California Code of Regulations – part of the Phase 3 California reformulated gasoline (CaRFG3) regulations – provides that notwithstanding the conditional prohibition of blending nonoxygenated blendstocks into downstream gasoline, “the Executive Officer may enter into a written protocol with any person to identify conditions under which the person may lawfully blend transmix into California gasoline which has been supplied from its production or import facility.” No such provision currently authorizes blending of transmix into downstream CARBOB notwithstanding the section 2266.5(f) restrictions on blending CARBOB with other products. The ARB staff plans later this year to propose an amendment that would allow the blending of transmix into downstream CARBOB under the same conditions as those that apply to the blending of transmix into downstream gasoline.

Staff expects to propose the following language as a new section 2266.5(f)(2)(B):

**Section 2266.5. Requirements Pertaining to California Reformulated Gasoline Blendstock for Oxygen Blending (CARBOB) and Downstream Blending.**

\* \* \* \* \*

**(f) Restrictions on blending CARBOB with other products.**

\* \* \* \* \*

**(2)(B) Protocols for blending transmix into CARBOB.** Notwithstanding section (f)(1), the executive officer may enter into a written protocol with any person to identify conditions under which the person may lawfully blend transmix into CARBOB which has been supplied from its production or import facility. The executive officer may enter into such a protocol only if he or she reasonably determines that alternatives to the blending are not practical and the blending will not significantly affect the properties of the CARBOB gasoline into which the transmix is added. Any such protocol shall include the person’s agreement to be bound by the terms of the protocol.

As an interim policy pending completion of the rulemaking, the staff would be prepared to enter into temporary protocols consistent with the proposal. Interested parties may contact the ARB’s Enforcement Division to obtain copies of any previously agreed-to protocols covering blending transmix into downstream gasoline.

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## 2. Adding California Gasoline to CARBOB

The ARB staff expects to propose the following amendments in the Fall 2004 CaRFG3 follow-up rulemaking.

Add as a new section 2266.5(f)(1)(E):

### **Section 2266.5. Requirements Pertaining to California Reformulated Gasoline Blendstock for Oxygen Blending (CARBOB) and Downstream Blending.**

\* \* \* \* \*

#### **(f) Restrictions on blending CARBOB with other products.**

- (1) **Basic prohibition.** No person may combine any CARBOB that has been supplied from the facility at which it was produced or imported with any other CARBOB, gasoline, blendstock or oxygenate, except:

\* \* \* \* \*

#### **(E) Limited amounts of California gasoline containing ethanol.** A person may add California gasoline containing ethanol to CARBOB at a terminal or bulk plant if all of the following conditions are met, in which case the resulting mixture will continue to be treated as CARBOB.

1. The gasoline is added to the CARBOB for one of the following operational reasons:
  - a. The gasoline resulted from oxygenating CARBOB at the terminal or bulk plant during calibration of oxygenate blending equipment; or
  - b. The gasoline resulted from the unintentional over- or under-oxygenation of CARBOB during the loading of a cargo tank truck at the terminal or bulk plant; or
  - c. The gasoline was pumped out of a gasoline storage tank at a motor vehicle fueling facility for legitimate operational reasons.
2. The non-oxygenate portion of the gasoline complies with the applicable cap limits for CARBOB in section 2266.5(a)(6).
3. The resulting mixture of CARBOB has an oxygen content not exceeding 0.1 percent by weight.
  - a. The oxygen content of the mixture may be determined arithmetically by [i] using the volume of the CARBOB prior to mixing based on calibrated tank readings, [ii] using the volume of the gasoline added based on calibrated meter readings, [iii] using the volume of the denatured ethanol in the gasoline being added based on direct calibrated meter readings of the denatured ethanol if available, [iv] calculating weight

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percent oxygen of the gasoline being added from volume percent denatured ethanol based on the following formula:

$$\text{(wt. \% oxygen)} \approx 218.8 / \{ [620 / (\text{vol. \% deEtOH})] + 0.40 \},$$

and [v] accounting for any oxygen in the CARBOB tank due to previous additions of gasoline to the tank.

- b. If the meter readings described in section 2266.5(f)(1)(E)3.a.[iii] are not available, the oxygen content of the mixture may be determined arithmetically by [i] using the volume of the CARBOB prior to mixing based on calibrated tank readings, [ii] using the volume of the gasoline added based on calibrated meter readings, [iii] using the oxygen content of the gasoline in weight percent based on sampling and testing of the gasoline for denatured ethanol content in accordance with methods specified in section 2263, and [iv] accounting for any oxygen in the CARBOB tank due to previous additions of gasoline to the tank.
- c. In making the determination described in section 2266.5(f)(1)(E)3.a. or b., the oxygen content of the mixture shall be calculated based on the following formula:

$$\text{(wt. \% oxygen)} \approx \frac{[(\text{volume CARBOB}) * (\text{wt. \% oxygen in CARBOB}) + (\text{volume gasoline}) * (\text{wt. \% oxygen in gasoline})]}{[(\text{volume CARBOB}) + (\text{volume gasoline})]}.$$

4. Prior to the mixing, the operator of the terminal or bulk plant notifies the executive officer of the following:
- a. The identity and location of the facility at which the mixing will take place;
  - b. The operational reason for adding the gasoline into the CARBOB;
  - c. The projected percentage oxygen content of the mixture.
5. The terminal or bulk plant operator maintains for two years records documenting the information identified in section 2266.5(f)(1)(E)4, and makes them available to the executive officer upon request.

\* \* \* \* \*

And add as a new section 2266.5(f)(2)(C):

(C) *Protocols In Other Situations.* Notwithstanding section (f)(1), the executive officer may enter into a written protocol with any person to identify conditions under which the person may lawfully add California gasoline or other CARBOB to CARBOB in a storage tank at a terminal or bulk plant in situations other than those identified in sections 2266.5(f)(1)(C), (D), or (E), or (f)(2)(A). The executive officer may enter into such a protocol only if he or she reasonably

determines that alternatives to the activity are not practical and the blending will not significantly affect the properties of the CARBOB into which the gasoline or CARBOB is added. The protocol shall include any of the conditions in section 2266.5(f)(1)(E) that the executive officer determines are necessary and appropriate. Any such protocol shall include the person's agreement to be bound by the terms of the protocol.

Modifications to the 4/9/04 draft version respond to comments from a stakeholder organization. A proposed formula approximating the calculation of oxygen content of the CARBOB-gasoline mixture in the case of zero-oxygen CARBOB where meter readings are not available has been expanded to include the oxygen content of nonzero-oxygen CARBOB, and to apply where meter readings are available as well.

As an interim policy pending completion of the rulemaking, the staff would be prepared to permit any affected party to use these mechanisms on a temporary basis if the party agrees in writing to be bound to the stated conditions.

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### 3. Substitute for Requirement for Documentation Accompanying the Transfer of Denatured Ethanol

Section 2262.9(c)(2) provides as follows:

#### Section 2262.9. Requirements Regarding Denatured Ethanol Intended For Use as a Blend Component in California Gasoline

\* \* \* \* \*

#### **(c) Documentation required for the transfer of denatured ethanol intended for use as a blend component in California gasoline.**

\* \* \* \* \*

- (2) Starting December 31, 2003, any person who sells or supplies denatured ethanol intended for use as a blend component in California gasoline from the California facility at which it was imported or produced shall provide the purchaser or recipient a document that identifies:
- (A) The name and address of the person selling or supplying the denatured ethanol, and
  - (B) The name, location and operator of the facility(ies) at which the ethanol was produced and at which the denaturant was added to the ethanol.

The ARB staff has concluded that compliance with the requirement in (c)(2)(B) is often impracticable because of the prevalence of commingling denatured ethanol from difference sources, and the commingling of neat ethanol before it reaches a California production facility that adds the denaturant.

Staff plans to propose an amendment to change the requirements as follows:

- (2) Starting December 31, 2003, any person who sells or supplies denatured ethanol intended for use as a blend component in California gasoline from the California facility at which it was imported or produced shall provide the purchaser or recipient a document that identifies:
- (A) The name and address of the person selling or supplying the denatured ethanol, and identification of the person as the producer or importer of the denatured ethanol; and
  - (B) With respect to imported denatured ethanol, the name, location and operator of the facility(ies) at which the ethanol was produced and at which the denaturant was added to the ethanol. As an

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alternative, the document provided to the purchaser or recipient may identify the date and time the ethanol was supplied from its import or production facility, and state that the person selling or supplying the denatured ethanol from the California facility at which it was imported or produced maintains at the facility a list of the name, location, and operator of all of the facilit(ies) at which the ethanol was produced and at which the denaturant was added to the ethanol. In this case, the person shall for at least two years maintain such information, and records identifying the entities that produced the ethanol and added the denaturant in each batch of denatured ethanol imported to the facility; during that two year period, the person shall make the information and records, available to the Executive Officer within five days after a request for the material.

As an interim policy pending completion of the rulemaking planned for this Fall, the staff is prepared accept compliance with the draft changes as an alternative for any person who first notifies the Executive Officer in writing of his or her election to comply with the alternative and to be bound by its terms.

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**4. Reid Vapor Pressure Control Periods for California Gasoline Transported to Southern California by Marine Vessel.**

Section 2262.4(c)(4) provides as follows:

**Section 2262.4. Compliance With the CaRFG Phase 2 and CaRFG Phase 3 Standards for Reid Vapor Pressure.**

\* \* \* \* \*

**(c) Applicability.**

\* \* \* \* \*

- (4) For purposes of compliance with section 2262.4(b) [RVP compliance period for production and import facilities] only, gasoline that is produced in California and is transported to the South Coast Air Basin, Ventura County, or the San Diego Air Basin by marine vessel shall be treated as having been imported at the facility to which the gasoline is off-loaded from the marine vessel.

The intent of this provision was to assure that gasoline produced in the Bay Area and received at a Southern California marine terminal in March would be subject to the Southern California March 1 start of the RVP season rather than the April 1 start date for Bay Area production and import facilities. However, the provision has had the unintended consequence of triggering the section 2270 testing requirements that apply to imported gasoline but not gasoline produced in California. Accordingly, the staff plans to propose the following substitute language, which would achieve the original intent but would not characterize the gasoline as imported for any purposes.

- (4) ~~For purposes of compliance with section 2262.4(b) only, G~~gasoline that is produced in California, and is then transported to the South Coast Air Basin, Ventura County, or the San Diego Air Basin by marine vessel ~~shall be treated as having been imported at the facility to which the gasoline is off-loaded from the marine vessel, shall be subject to the regulatory control periods for production and import facilities identified in section 2262.4(b)(2)(A).~~

As an interim policy pending completion of the rulemaking, the staff plans to apply section 2262.4(c)(4) as modified above.

**APPENDIX C****CALIFORNIA PROCEDURES FOR EVALUATING  
ALTERNATIVE SPECIFICATIONS FOR PHASE 3  
REFORMULATED GASOLINE USING THE PREDICTIVE  
MODEL**

State of California  
California Environmental Protection Agency  
AIR RESOURCES BOARD

**California Procedures for Evaluating  
Alternative Specifications for Phase 3 Reformulated Gasoline  
Using the California Predictive Model**

Adopted: June 16, 2000  
Amended: April 25, 2001  
Amended: [Insert date of amendment]

**Note:** The proposed amendments are shown in underline to indicate additions and ~~strikeout~~ to indicate deletions compared to the Procedures as amended April 25, 2001. Preexisting underlined text has generally been changed to italics to avoid having that text confused with text that is underlined because it is being added.

Only those portions affected by the proposed amendments are shown. The symbol **\*\* \* \* \* \*** means that intervening text not proposed to be amended is not shown.

\* \* \* \* \*

**I. INTRODUCTION****A. Purpose and Applicability**

1. The predictive model prescribed in this document may be used to evaluate gasoline specifications as alternatives to the Phase 3 California Reformulated Gasoline (RFG) flat and averaging limits in the gasoline specifications set forth in Title 13, California Code of Regulations (13 CCR), section 2262.

This procedure:

- ◆ prescribes the range of specifications that may be utilized to select a set of candidate Phase 3 RFG alternative gasoline specifications for evaluation,
  - ◆ defines the Phase 3 RFG reference specifications,
  - ◆ prescribes the calculations to be used to predict the emissions from the candidate fuel specifications and the reference Phase 3 RFG specifications,
  - ◆ prescribes the calculations to be used to compare the emissions resulting from the candidate fuel specifications to the reference Phase 3 RFG specifications,
  - ◆ establishes the requirements for the demonstration and approval of the candidate fuel specifications as an alternative Phase 3 RFG formulation, and
  - ◆ establishes the notification requirements.
2. Gasoline properties for which alternative gasoline specifications may be set by this procedure include all eight Phase 3 RFG properties.
  3. The Phase 3 RFG specifications, established in 13 CCR, section 2262, are shown in Table 1.

**Table 1**  
**Properties and Specifications for Phase 3 Reformulated Gasoline**

Fuel Property	Units	Flat Limit	Averaging Limit	Cap Limit
Reid vapor pressure (RVP)	psi, max.	6.90 <sup>1</sup> /7.00	none	7.20
Sulfur (SUL)	ppmw, max.	20	15	60/30 <sup>3</sup>
Benzene (BENZ)	vol.%, max.	0.80/1.00 <sup>2</sup>	0.70	1.10
Aromatic HC (AROM)	vol.%, max.	25.0/35.0 <sup>2</sup>	22.0	35.0
Olefin (OLEF)	vol.%, max.	6.0	4.0	10.0
Oxygen (OXY)	wt. %	1.8 (min)	none	1.8(min) <sup>4</sup>
		2.2 (max)		3.5(max) <sup>5</sup>
Temperature at 50 % distilled (T50)	deg. F, max.	213/220 <sup>2</sup>	203	220
Temperature at 90% distilled (T90)	deg. F, max.	305/312 <sup>2</sup>	295	330

<sup>1</sup> Applicable during the summer months identified in 13 CCR, sections 2262.4(b). If the applicant elects to comply with the regulatory option which provides for the use of the evaporative HC emissions model, the flat RVP limit is 6.90. That is, all predictions for evaporative emissions increases or decreases made using the evaporative HC emissions models are made relative to 6.90 psi. If the applicant elects to comply with the regulatory option which provides for the use of only the exhaust HC emissions model, the flat RVP limit and the candidate fuel RVP specification is 7.00. Also, under the federal Reformulated Gasoline Regulations, the U.S. EPA enforces a minimum RVP limit of 6.4 psi.

The exhaust models contain an RVP term, but this has been made constant by fixing the RVP for both the reference and candidate fuels at 7.00 psi in the calculation of the standardized RVP values used in the exhaust emission equations. This fixing of the RVP takes RVP out of the exhaust models as a fuel property which effects exhaust emissions. Thus, RVP effects only evaporative HC emissions.

<sup>2</sup> The higher value is the small refiner CaRFG flat limit for qualifying small refiners only, as specified in section 2272.

<sup>3</sup> The Phase 3 RFG sulfur content cap limits of 60 and 30 parts per million are phased in starting December 31, 2002 2003, and December 31, 2004 2005, respectively, in accordance with section 2261(b)(1)(A).

<sup>4</sup> Applicable only during specified winter months in the areas identified in 13 CCR, section 2262.5(a).

<sup>5</sup> If the gasoline contains more than 3.5 percent by weight oxygen from ethanol but not more than 10.0 volume percent ethanol, the maximum oxygen content cap is 3.7 percent by weight.

\* \* \* \* \*

## B. Synopsis of Procedure

\* \* \* \* \*

### 4. Determination of Emissions Equivalency

The candidate fuel specifications are deemed equivalent to the reference fuel specifications if, for each pollutant (NO<sub>x</sub>, total OFP or exhaust HC, and potency-weighted toxics (PWT)), the predicted percent change in emissions between the candidate fuel specifications and the reference Phase 3 RFG specifications is equal to or less than 0.04%. If the applicant has elected to use the evaporative HC emissions model in the evaluation of the emissions equivalency, the 0.04% criteria must be met for NO<sub>x</sub>, OFP, and PWT. If the applicant has elected not to use the evaporative HC emissions model, the 0.04% criteria must be met for NO<sub>x</sub>, exhaust HC, and PWT. If, for any of the three pollutants in the criteria, the predicted percent change in emissions between the candidate fuel specifications and the reference Phase 3 RFG specifications is equal to or greater than 0.05%, the candidate specifications are deemed unacceptable and may not be a substitute for Phase 3 RFG. [Note: All final values of the percent change in emissions shall be reported to the nearest hundredth using conventional rounding.] ~~In addition to satisfying the 0.04% emissions difference criteria, the candidate fuel specifications are required to meet the Phase 3 RFG specification for driveability index (DI) of 1225.~~

\* \* \* \* \*

## III. GENERAL EQUATIONS FOR CALCULATING PERCENT CHANGES IN EMISSIONS

### A. Summary and Explanation

- ◆ The applicant will first select which of two compliance options he/she wishes to be subject to. The first compliance option, referred to as the exhaust and evap model option, uses the exhaust HC emissions models, the evaporative HC emissions changes models, and the CO adjustment factor in determining the HC emissions equivalency of the candidate fuel specifications. The second option, referred to as the exhaust-only option, uses only the exhaust HC emissions model in the determination of the HC emissions equivalency of the candidate fuel specifications. (See III.B)

The exhaust and evap model option may only be used for final blends of California gasoline or CARBOB where some part of the final blend is physically transferred from its production or import facility during the Reid vapor pressure control period for the production or import facility set forth in section 2262.4, title 13, California Code of Regulations, or within 15 days before the start of such period.

- ◆ The applicant will select a candidate specification for each property, and will identify whether the specification represents a flat limit or an averaging limit. The Phase 3 RFG reference specification is identified for each property using the flat/average limit compliance option selected for the corresponding candidate specification. (See III.B.)
- ◆ The selected candidate specifications and the comparable Phase 3 RFG reference specifications are inserted into the predictive model equations to determine the predicted candidate and reference emissions by Tech class. (See III.C.)
- ◆ Because oxygen is specified in the form of a range, emissions predictions are, in a majority of the cases, made for two oxygen levels, the upper level of the specified range for the candidate fuel specifications and the lower level. The emissions of the candidate fuel are compared to the emissions of the reference fuel at both of these oxygen levels. The only two three cases where two emissions predictions are not made for the candidate fuel specifications is if the oxygen range of the candidate fuel specifications is within the range of 1.8 to 2.2 percent (inclusive), or within the range of 2.5 to 2.9 percent (inclusive), or within the range of 3.3 to 3.7 percent (inclusive). In these cases, the predicted emissions for the candidate fuel specifications are compared to the predicted emissions for the reference fuel specifications at only one oxygen level.
- ◆ For NO<sub>x</sub> and exhaust HC, the ratio of the predicted emissions for the candidate fuel specifications to the predicted emissions for the reference fuel specifications is emissions weighted according to the relative contribution of each technology class. These emissions-weighted ratios are summed, reduced by 1, and multiplied by 100 to represent the Tech class-weighted percent change in emissions. The resulting values represent the predicted percent change in NO<sub>x</sub> or exhaust HC emissions between the candidate fuel specifications and reference fuel specifications. (See III.D.)
- ◆ If the exhaust and evap model option has been selected, the predicted percent change in evaporative HC emissions between the candidate fuel specifications and the reference fuel specifications is computed using the equations given in Section VII.A. The predicted change is computed for each evaporative emissions process. (See VII.A)
- ◆ If the exhaust and evap model option has been selected, the credit resulting from the reduction of CO emissions is calculated in accordance with the equation given in Section IX.A. (See IX.A)
- ◆ If the exhaust and evap model option has been selected, the predicted percent changes in exhaust HC emissions, evaporative HC emissions, and the CO credit are combined in accordance with the equation given in Section X to yield the predicted percent change in ozone-forming potential

(OFF) between the reference fuel specifications and the candidate fuel specifications. (See X)

- ◆ For exhaust toxics emissions, the predicted emissions for the candidate fuel specifications and the reference fuel specifications (for each pollutant and each Tech class) are VMT weighted and potency-weighted, in accordance with the equations given in VI.B. (See VI.B)
- ◆ The evaporative benzene emissions predictions for the reference fuel specifications and the candidate fuel specifications are calculated in accordance with the equations given in Section VIII.A. Note that emissions predictions for evaporative benzene emissions are made even if the applicant is not using the compliance option which provides for the use of the evaporative HC emissions models. (See VIII.A)
- ◆ For both the reference fuel specifications and the candidate fuel specifications, the VMT and potency-weighted exhaust toxics emissions predictions are combined with the potency-weighted evaporative benzene emissions predictions, in accordance with the equations given in Sections XI.A and XI.B. This yields the total potency-weighted toxics emissions prediction for the reference fuel specifications and for the candidate fuel specifications. (See XI.A and XI.B)
- ◆ The percent change in the predicted total potency-weighted toxics emissions between the reference fuel specifications and the candidate fuel specifications is calculated in accordance with the equation given in Section XI.C. (See XI.C)

## **B. Selection by Applicant of Candidate and Reference Specifications**

The applicant shall first select which of two compliance options he/she wishes to be subject to. The first compliance option uses the exhaust HC emissions models, the evaporative HC emissions models, and the CO adjustment factor in determining the HC emissions equivalency of the candidate fuel specifications. The second option uses only the exhaust HC emissions model in the determination of the HC emissions equivalency of the candidate fuel specifications.

If the applicant selects the first compliance option, the applicable Phase 3 RVP limits are a flat limit of 6.90 and a cap limit of 7.20. That is, if the applicant elects to use the evaporative HC emissions predictive model, all evaporative HC emissions changes predicted by the model for the candidate fuel will be based on the use of 6.90 psi as the RVP of the Phase 3 reference fuel. If the applicant selects the second compliance option, the applicable Phase 3 RVP limit is a flat (and cap) limit of 7.00.

Next, the applicant shall, for each fuel property, select a candidate specification and indicate whether this specification represents a flat limit or an

averaging limit. The appropriate corresponding Phase 3 RFG reference specifications (flat or average) are then identified. Table 7 provides an optional worksheet to assist the applicant in selecting the candidate and reference specifications. These steps are summarized below.

1. Identify the value of the candidate specification for each fuel property and insert the values into Table 7. The candidate specifications may have any value for RVP, sulfur, benzene, aromatic hydrocarbons, olefins, T50, and T90 as long as each specification is less than or equal to the cap limits shown in Table 1. Note that, if the applicant is not using the compliance option which provides for the use of the evaporative HC emissions models, no value is entered for RVP into the "Candidate Fuel Specifications" column of Table 7 (In this case the RVP is 7.00). The candidate specification may have any value for oxygen as long as the specification is within the range of the cap limits shown in Table 1.
2. The oxygen contents of the candidate fuel specifications can be found from Table 6. Note that, because oxygen is specified in the form of a range, there are usually two candidate fuel specifications for oxygen, the upper end of the range (maximum) and the lower end of the range (minimum). There are ~~two~~ three exceptions to this, in which case it is assumed that the candidate fuel specifications have a single oxygen content. If the oxygen range of the candidate fuel specifications is within the range of 1.8 to 2.2 percent (inclusive), the oxygen content of the candidate fuel specifications is assumed to be 2.0 percent. If the oxygen range of the candidate fuel specifications is within the range of 2.5 to 2.9 percent (inclusive), the oxygen content of the candidate fuel specifications is assumed to be 2.7 percent. If the oxygen range of the candidate fuel specifications is within the range of 3.3 to 3.7 percent (inclusive), the oxygen content of the candidate fuel specifications is assumed to be 3.5 percent. Also, the predictive model equations assume that only one oxygenate is being blended into the gasoline. Thus, it is assumed that the total oxygen content is equal to either the total oxygen content as MTBE or the total oxygen content as ethanol. If the refiner is blending both MTBE and ethanol into a gasoline, a small error will be introduced in the predictive model predictions for formaldehyde and acetaldehyde.
3. The hot soak benzene emissions model contains an MTBE content term. Thus, for hot soak benzene emissions predictions, it is necessary to specify the oxygen content as MTBE for the candidate and reference fuel. Table 6 is used as in 2. above, using the oxygen content as MTBE of the candidate fuel, to specify the oxygen content as MTBE for the candidate and reference fuel specifications. That is, the relevant oxygen content value is the oxygen content as MTBE, not the total oxygen content as in the case of the exhaust emissions predictions. The result is that, if the candidate fuel does not contain MTBE, the oxygen content as MTBE for the reference fuel is 2.0 percent, and the oxygen content as MTBE for the candidate fuel is zero percent. The reason it is assumed that the

reference fuel contains MTBE is that MTBE was the oxygenate used while the Phase 2 regulations were in effect, and this assumption helps ensure that potency-weighted toxics emissions from Phase 3 gasoline will not be greater than those from Phase 2 gasoline.

4. For each property other than oxygen and RVP, indicate whether the candidate specification will represent a flat limit or an averaging limit.
5. For each candidate specification identified in 1., identify the appropriate corresponding Phase 3 RFG reference specifications (flat or average). Circle the appropriate flat or average limit for the reference fuel in Table 7. The circled values are the reference specifications which will be used in the predictive model.
6. Table 6 gives the oxygen contents of the reference fuel specifications. Because oxygen is specified in the form of a range, there are two reference fuel oxygen specifications. In most cases they are the same, but in two cases they are not. These two cases are: 1) If the minimum oxygen content of the candidate fuel specifications is within 1.8 to 2.2 percent (inclusive) and the maximum oxygen content of the candidate is greater than 2.2 percent, and 2) If the minimum oxygen content of the candidate fuel specifications is less than 1.8 percent and the maximum oxygen content of the candidate is between 1.8 and 2.2 percent (inclusive). In case 1), the oxygen contents of the reference fuel specifications are 1.8 and 2.0 percent. In case 2), the oxygen contents of the reference fuel specifications are 2.0 and 2.2 percent. (See Table 6)

**Examples:**

If you elect to meet a sulfur limit of 10 for the candidate fuel and elect to comply with a flat limit, the reference fuel sulfur limit would be 20. However, if you elect to meet a sulfur limit of 10 on average, the reference fuel sulfur limit would be 15.

If the oxygen range of the candidate fuel specifications is 2.0 percent to 2.5 percent, the maximum oxygen content of the candidate fuel is 2.5 percent and the minimum oxygen content of the candidate fuel is 2.0 percent. The maximum oxygen content of the reference fuel is 2.0 percent and the minimum oxygen content of the reference fuel is 1.8 percent. The predicted emissions from the candidate fuel specifications with 2.5 percent oxygen are compared to the predicted emissions from the reference fuel specifications with 2.0 percent oxygen, and the predicted emissions from the candidate fuel specifications with 2.0 percent oxygen are compared to the predicted emissions from the reference fuel specifications with 1.8 percent oxygen. These comparisons are described by row 2 of Table 6.

**Table 6**  
**Candidate and Reference Specifications for Oxygen**

Oxygen Content for Candidate Fuel Specified by Applicant		Number of Reference vs Candidate Comparisons Required	Values to be Used in Comparison in Equations	
Minimum	maximum		Candidate	Reference
$\geq 1.8,$ $\leq 2.2$	$\geq 1.8,$ $\leq 2.2$	1	2.0	2.0
$\geq 1.8,$ $\leq 2.2$	$> 2.2$	2	minimum	1.8
			maximum	2.0
$< 1.8$	$\geq 1.8,$ $\leq 2.2$	2	minimum	2.0
			maximum	2.2
$< 1.8$	$> 2.2$	2	minimum	2.0
			maximum	2.0
$< 1.8$	$< 1.8$	2	minimum	2.0
			maximum	2.0
$\geq 2.5,$ $\leq 2.9$	$\geq 2.5,$ $\leq 2.9$	1	2.7	2.0
$> 2.2,$ $< 2.5$	$> 2.2$	2	minimum	2.0
			maximum	2.0
$\geq 2.5,$ $\leq 3.3$	$> 2.9$	2	minimum	2.0
			maximum	2.0
$\geq 3.3$ $\leq 3.7$	$\geq 3.3$ $\leq 3.7$	1	<u>3.5</u>	<u>2.0</u>

\* \* \* \* \*