

**AGENDA ITEM 95-13-2**

**PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE CALIFORNIA  
REFORMULATED GASOLINE REGULATIONS, INCLUDING AMENDMENTS  
REGARDING THE DOWNSTREAM BLENDING OF OXYGENATES**

Copies of the slide presentation which supported the Air Resources Board's oral staff presentation given by John Courtis.

Attachments

# California Reformulated Gasoline (CaRFG)

Proposed Amendments,  
Including Amendments Regarding  
Downstream Blending of Oxygenates

December 14, 1995

California Environmental Protection Agency

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**Air Resources Board**

# Overview of Staff Presentation

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- Background
- Proposed amendments
- Environmental impacts
- Economic impacts
- Summary

# Background

# Specifications for Reformulated Gasoline

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	<u>Flat Limit Standard</u>	<u>Averaging Standard</u>	<u>Cap for All Gasoline</u>
RVP, psi	7.0	-	7.0
Sulfur, ppmw	40	30	80
Aromatic HC, vol%	25	22	30
Benzene, vol%	1.00	.80	1.20
Olefins, vol%	6.0	4.0	10.0
Oxygen, wt%	1.8-2.2	--	1.8 (min) <sup>a</sup> 2.7 (max)
T90, deg F	300	290 <sup>b</sup>	330
T50, deg F	210	200	220

<sup>a</sup> Wintertime only

<sup>b</sup> Refinery Cap = 310 deg F

# Phase 2 RFG Predictive Model (PM)

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- Allows for certification of alternative gasoline formulations as a compliance option
- Caps are applied when predictive model is used

# Proposed Amendments

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- During 1995 held numerous meetings with oil company representatives, and others on implementation issues
- 2 workshops

# Proposed Amendments

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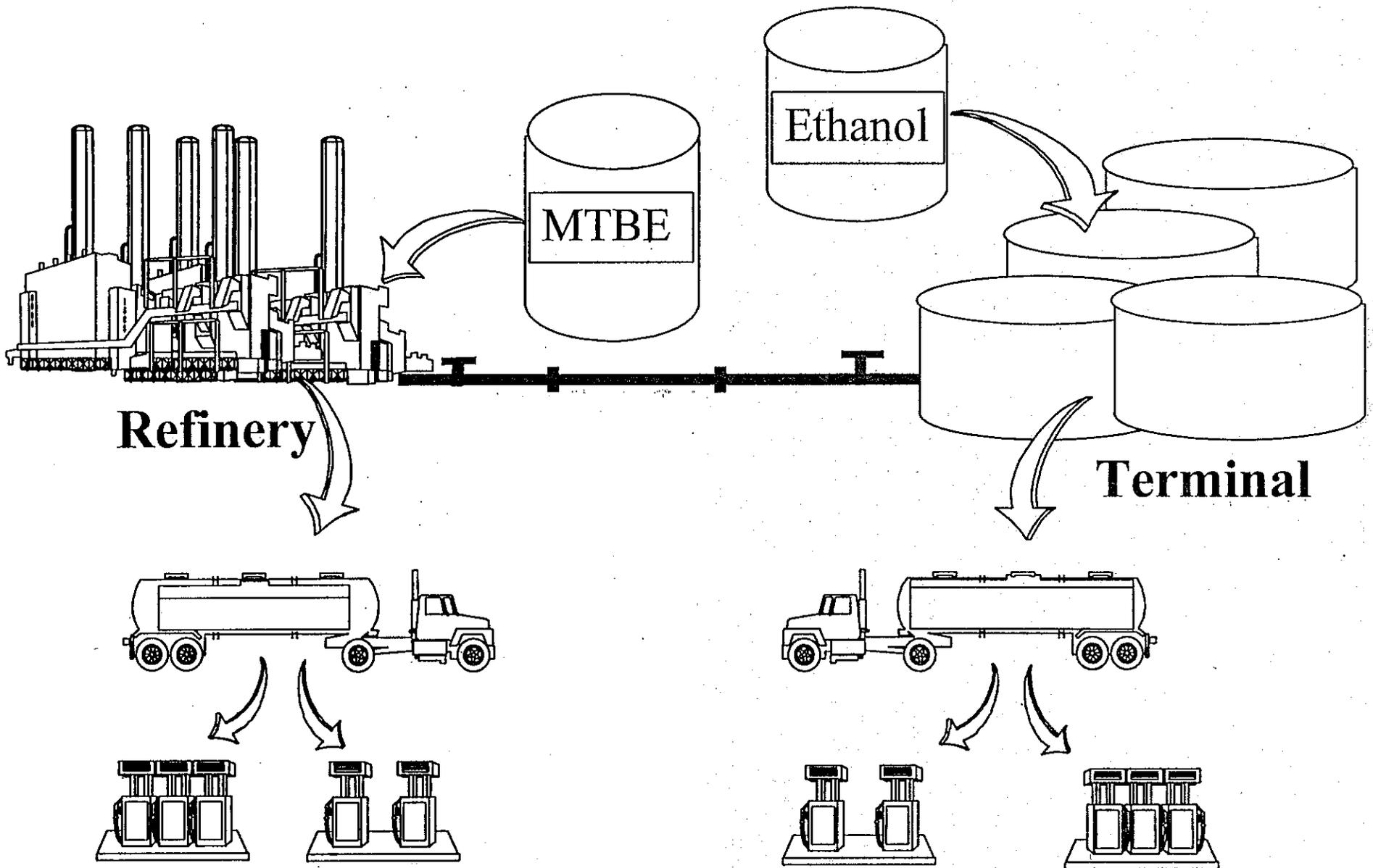
- Add provisions for downstream oxygenate blending
- Other Amendments
  - Extend period for averaging during start-up of CaRFG program
  - Changes to administration of the predictive model
  - Modify the definition of “production facility”
  - Technical changes in small refiner provisions

# Proposed Amendments (Continued)

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- Downstream blending of gasoline blendstocks into oxygenated gasoline
- Other minor housekeeping changes

California Reformulated  
Gasoline Blendstocks for  
Oxygenate Blending  
(CARBOB)



# Why is CARBOB needed?

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- Additional flexibility to refiners that use ethanol as the oxygenate of choice
- Similar to federal requirements for RBOB

# Existing Provisions for Oxygenate Blending

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## ■ Current Regulation

- Requires compliance at production facility
- Allows downstream blending of oxygenates; does not provide for dilution effects to meet specifications

# CARBOB Proposal

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- Allows non-complying gasoline to be shipped from refinery if downstream oxygenate blending results in compliance
- Analogous to U.S. EPA RBOB

# Other Proposed Amendments

# Providing Additional Time for Averaging During Program Start-Up

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- Proposed changes allow offsets up to 180 days at start of program

# Proposed Changes to Administration of Predictive Model (PM)

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- Add more flexibility to refiners to switch between flat and average limits when changing PM formulations

# Definition of Production Facility

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- Allow producers to expand production facility limits to include off-site tanks that are leased by producer and tanks that are operated at direction of producer

# Small Refiner Provisions

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- Propose clarification changes on requirements for gasoline supplied by small refiners

# Change in Wintertime Oxygenate Season for San Luis Obispo

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- Align CaRFG oxygenate season for San Luis Obispo area with wintertime regulation

# RVP Limit for Gasoline Supplied from a Production or Import Facility in SCAB

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- Proposed amendments will assure that the RVP limits apply at refineries during the full start-up period

# Limitations on Combining Non-Oxygenate Blendstock with California Gasoline

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- For enforcement reasons we propose limits on the blending of California gasoline with non-oxygenated blendstocks unless certain demonstrations are made

# Environmental Impacts

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- No changes to the environmental benefits of the regulation

# Economic Impacts

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- No adverse economic impacts
- Adds flexibility to refiners with potential cost savings

# Recommendation

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- We recommend that the Board approve the proposed changes