

# **Meeting to Discuss Issues Relating to the California Phase 3 Reformulated Gasoline Regulations**

**March 21, 2000**

**California Environmental Protection Agency**

---



**Air Resources Board**

# Agenda

- ◆ Introductions
- ◆ Topics of Discussion
  - Governor's Environmental policy Meeting
  - The Predictive Model and EMFAC2000
  - ARB's Request for an Oxygenate Waiver
  - CARBOB Regulation
  - Denatured Ethanol Specifications
  - Permeation Emissions
  - Commingling of Ethanol-Blends
  - Small Refiners
  - Others
- ◆ Presentation from Others
- ◆ Schedule Next Meeting

# **Governor's Executive Order**

- ◆ On March 25, 1999 Governor Davis issued Executive Order D-5-99 for the phase-out of MTBE from California gasoline by the earliest practical date but not later than December 31, 2002
- ◆ Directs the ARB to adopt CaRFG3 regulations to provide additional flexibility in removing oxygen while preserving benefits
- ◆ Directs the ARB to request waiver from federal oxygen requirement from the U.S. EPA

## **Senate Bill 989 (Sher)**

- ◆ Requires the ARB to ensure that the CaRFG3 regulations maintain or improve upon emissions and air quality benefits achieved by CaRFG2 and provide additional flexibility to reduce or remove oxygen from motor vehicle fuel

## **Senate Bill 529 (Bowen)**

- ◆ Establishes a mechanism for conducting multi-media review of revisions to ARB's CaRFG standards

# **ARB Public Hearing on December 9, 1999**

- ◆ The Board approved the proposed CaRFG3 regulations: Resolution 99-39
- ◆ Resolution 99-39 includes a number of directives for resolving remaining issues regarding the CaRFG3 regulations

# Approved CaRFG3 Specifications Compared to CaRFG2

Property	Flat Limits		Cap Limits	
	Current	Approved	Current	Approved
RVP, psi	7.0	7.0 <sup>(1)</sup>	7.0	6.4-7.2
Benzene, vol%	1.00	0.80	1.20	1.10
Sulfur, ppmw	40	20	80	60/30 <sup>(2)</sup>
Aromatic HC, vol%	25	same	30	35
Olefins, vol. %	6.0	same	10	same
Oxygen, wt. %	1.8 to 2.2	same	0-3.5	0-3.7 <sup>(3)</sup>
T50 °F	210	213	220	220
T90 °F	300	305	330	330

1) Equal to 6.9 psi. if using the evaporative element of the Predictive Model

2) 60 ppmw. will apply December 31, 2002; 30 ppmw. will apply December 31, 2004

3) Allow 3.7 for gasoline containing no more than 10 volume percent ethanol

# **Environmental Policy Council Hearing on January 16, 2000**

- ◆ Found that there will be no significant adverse impact on public health or the environment, including any impact on air, water or soil, that is likely to result from the change in motor vehicle gasoline that is expected to be produced to meet the CaRFG3 regulations

# **Air Resources Board**

## **Resolution 99-39 Directives**

- ◆ The Predictive Model and the EMFAC2000 Emission Inventory
  - Once EMFAC 2000 is approved by the ARB, the weighting of evaporative, exhaust, and CO emissions, and the balancing of tech groups in the Predictive Model will be modified to reflect the EMFAC 2000 emissions inventory

## **Resolution 99-39 Directives (continued)**

- ◆ Continue to Pursue the U. S. EPA Oxygen Waiver
  - Continue to support request to U. S. EPA to waive the application of the federal RFG year-round 2.0 wt.% Minimum oxygen requirement for federal RFG areas

## **Resolution 99-39 Directives (continued)**

### ◆ CARBOB Regulations

- Amendments to CaRFG to assure the practical and effective implementation of the on CARBOB and imported gasoline
- Proposal to the Board by October 2000

## **Resolution 99-39 Directives (continued)**

- ◆ Denatured Ethanol
  - Specifications for denatured ethanol for use in motor vehicles fuels
  - Proposal to the Board by October 2000

## **Resolution 99-39 Directives (continued)**

- ◆ Small Refiners
  - Amendments to the ARB's diesel fuel regulations to incorporate a mechanism for small refiners to fully mitigate any increased emissions associated with the CaRFG3 small refiner provisions
  - Proposal to the Board by October 2000

## **Resolution 99-39 Directives (continued)**

### ◆ Permeation Emissions

- Update the Board in October 2000 on the potential increase in hydrocarbon emissions from material permeability with the use of ethanol in gasoline
- Report to the Board on the results of permeability testing by December 2001

## **Resolution 99-39 Directives (continued)**

- ◆ **Commingling of Ethanol Gasoline with Non-oxygenated Gasoline**
  - Determine the expected real-world emissions impact in 2003 and beyond
  - Report to the Board with any recommendations by December 2001

## **Resolution 99-39 Directives (continued)**

- ◆ **MTBE Residual Limits**
  - Evaluate the practicality of the allowable MTBE residual limits for CaRFG3
  - Include workshops if appropriate

## **Resolution 99-39 Directives (continued)**

### ◆ Driveability Index

- Evaluated the DI of in-use CaRFG to determine whether the in-use-DI levels are adequate to minimize any adverse impacts on the DI levels on the in-use emission performance
- Report to the Board by 2004

## **Resolution 99-39 Directives (continued)**

- ◆ Transmit to the U. S. EPA the Board's recommendation to adopt a nationwide DI standard to assure the adequate emissions performance of existing and advanced technology motor vehicles

## **Resolution 99-39 Directives (continued)**

### ◆ Sulfur Limit

- ARB staff to work with CEC staff to evaluate the sulfur levels of gasoline produced to comply with the CaRFG3 regulations
- These include the determination on the expect impact of an ultra-low sulfur flat or cap limit on California gasoline supplies, production and import volumes, and the ability of refiner to produce complying California gasoline on a consistent basis
- Report to the Board by July 2002

## **Resolution 99-39 Directives (continued)**

- ◆ Request that the U.S. EPA administrator determine, starting in 2003, that the wintertime oxygenated gasoline season in the south coast air basin is November through February rather than October through February

## **Resolution 99-39 Directives (continued)**

- ◆ Monitor refiner progress towards compliance with the CaRFG3 regulations and to report to the Board semiannually on this progress and implementation of the directives

## **Resolution 99-39 Directives (continued)**

- ◆ Work with local air quality management districts and local communities to address potential impacts from an increase use of cargo tank trucks to transport ethanol