

# Panel Discussion - Fuels

November 09, 2004

California Environmental Protection Agency

---



**Air Resources Board**

# Panel Discussion

- ✦ Permeation Study
- ✦ Near Term Issues
- ✦ Long Term Issues

# **Permeation Study**

**Coordinating Research Council - E65**

# Test Description

- ✦ 10 vehicles typical of CA in-use fleet (1978-2001 Model Year)
- ✦ 3 CARB fuels:
  - Fuel A: MTBE
  - Fuel B: Ethanol at 2 wt% oxygen
  - Fuel C: non-oxy.
- ✦ Test rigs hold fuel system components in same orientation as on vehicle .
  - Stabilize rigs at 105°F
  - Measure permeation at 105°F, 85°F, and CA 2-day diurnal

# Test Results

- ✦ Permeation increased from all 10 vehicles with a change from the MTBE fuel to the ethanol fuel
- ✦ On average, ethanol increased permeation emissions :
  - by 65% compared to MTBE gasoline
  - by 45% compared to non-oxygenated gasoline
- ✦ Permeation increases, on average, by 1.4 g/day with a change from MTBE fuel to ethanol fuel, and decreases, on average, by 1.1 g/day with a change from ethanol to non-oxygenated fuel

# Emissions

- ✦ CRC results do not directly provide the emissions impact of permeation
- ✦ Vehicle activity data and equipment temperatures must be integrated to provide an appropriate temporal and spatial distribution of emissions.

# Near Term Issues

# Near Term Issues

- ✦ Further reduction in emissions
  - Limited ability to meet more stringent fuel specifications due to concerns over impacts on price, supply, and cost effectiveness.
- ✦ Predictive Model Update - Calendar Year 2005
  - Data set availability?

# Near Term Issues

- ✦ California Waiver Request
- ✦ National Renewable Fuels Requirement

# Long Term Issues

# CaRFG Long Term Issues

- ✦ National fuel should at least preserve the emissions benefits of California fuel
- ✦ Support the needs of extremely low emissions and near zero emissions vehicles

# What are the Desired Goals for National Fuel Standards

- ✦ Oil Industry
  - Provide regulatory certainty,
  - Increase fungibility and flexibility
- ✦ Auto Industry
  - Resolve technology needs: (Sulfur, fuel volatility)
- ✦ Environment
  - Preserve/enhance emission benefits
- ✦ Oxygenates
  - Change from RFG mandate to renewable fuels specification

# Nationwide Clean Diesel Program

- ✦ Need better quality fuel for success of new diesel engine technologies
  - Need more than low sulfur standard
  - Need improved aromatics and cetane quality