

**AGENDA ITEM 94-8-1**

**PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE SMALL REFINER  
VOLUME PROVISIONS IN THE REGULATION LIMITING THE AROMATIC  
HYDROCARBON CONTENT OF CALIFORNIA MOTOR VEHICLE DIESEL FUEL**

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

Attachments

**Public Hearing to Consider Proposed  
Amendments to the Small Refiner Volume  
Provisions in the Regulation Limiting the  
Aromatic Hydrocarbon Content of California  
Motor Vehicle Diesel Fuel**

**July 29, 1994**

**California Environmental Protection Agency**

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**Air Resources Board**

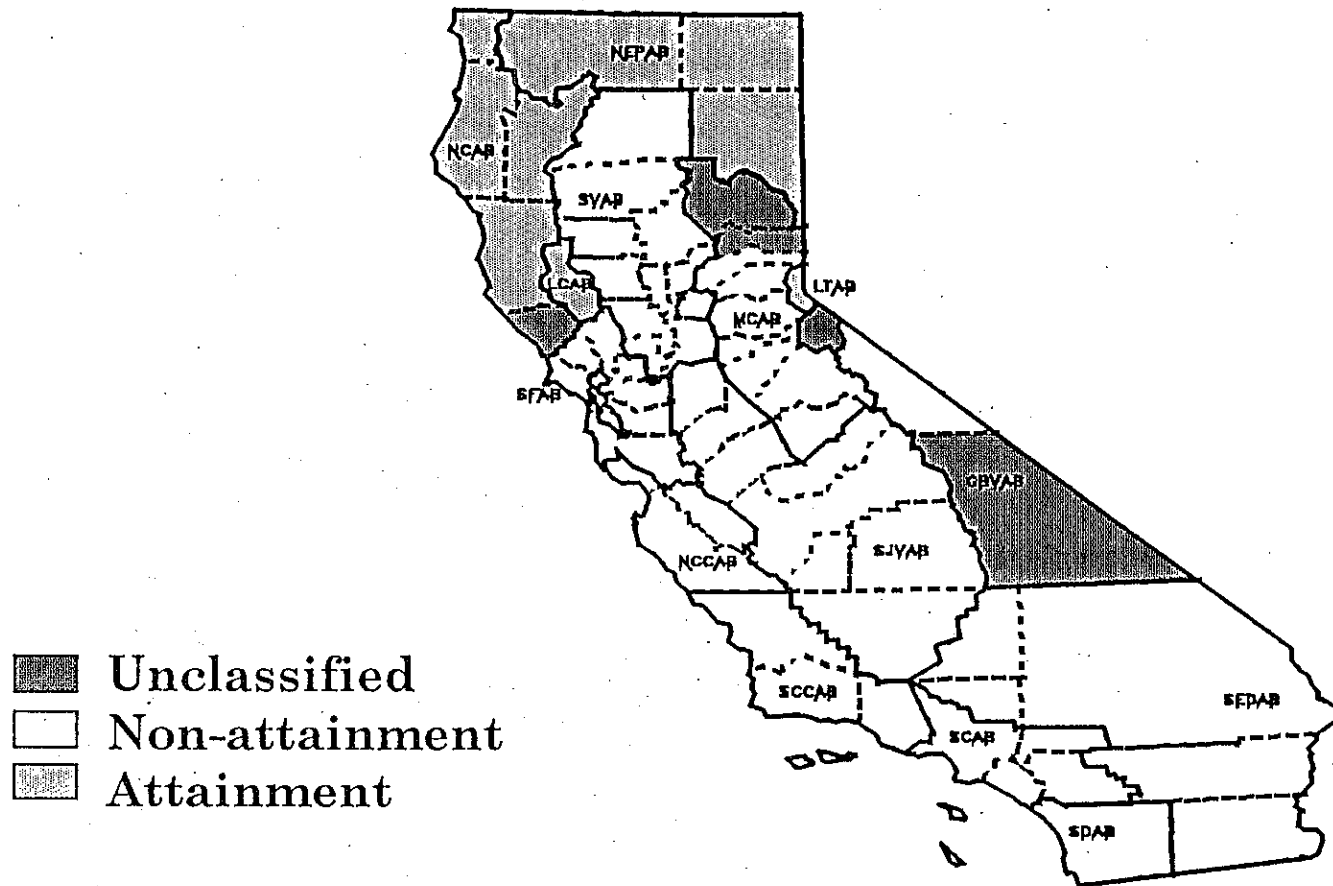
# *Overview*

- **Background**
  - *Why do we need the diesel fuel regulations?*
  - *What do the diesel fuel regulations require?*
- **What is the small refiners issue?**
- **Description of proposed regulation amendments**
- **Effects of the proposed amendments**
- **Summary**

# *Background*

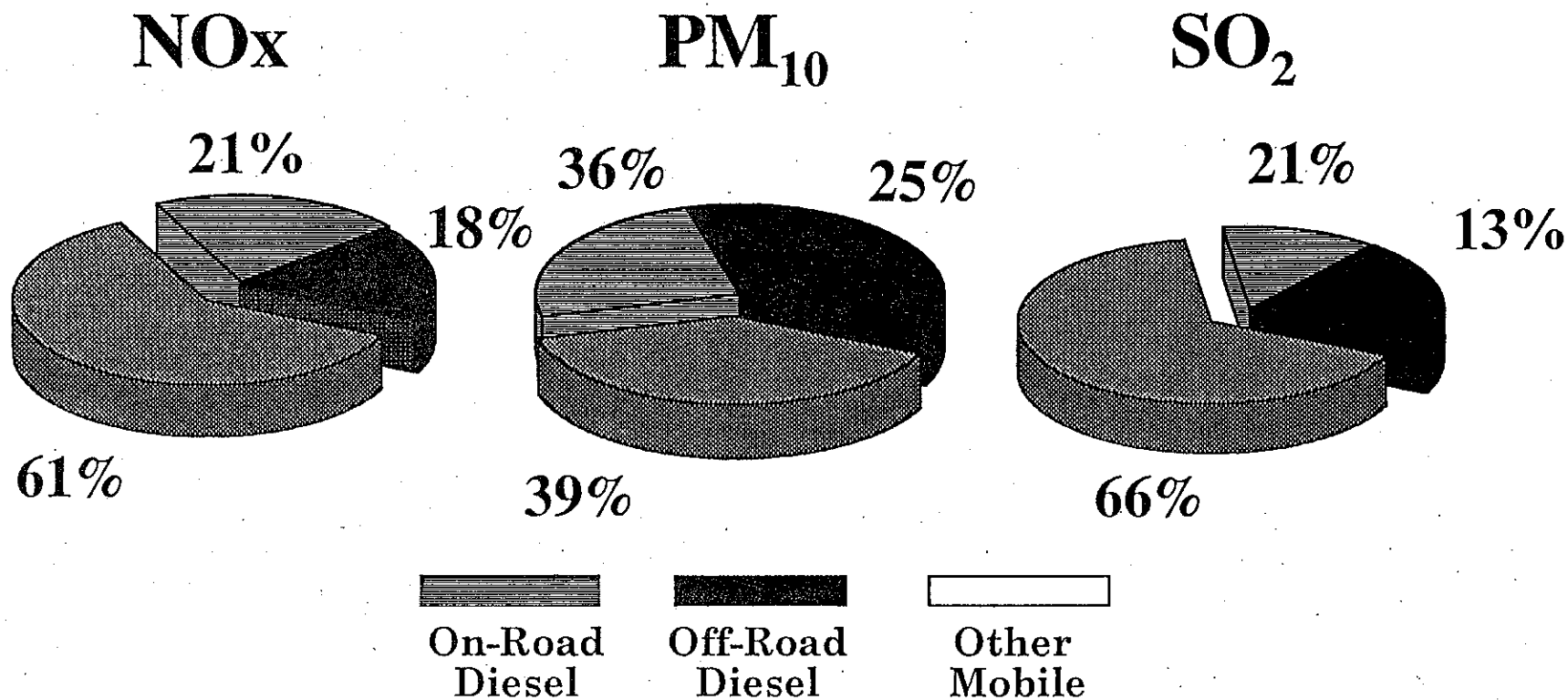
*Why do we need the diesel fuel  
regulations?*

# Most of California Exceeds the Air Quality Standards for Ozone



Source: "Area Designations for State and National Ambient Air Quality Standards,"; ARB/TSD, Sept. 1993.

# Diesel Vehicles Are Significant Part of Mobile Source Emissions (1990)



Diesel Vehicles\* = 4 Percent of Motor Vehicles

<sup>1</sup> Caltrans Report, November 1992.

# Benefits of the Diesel Fuel Regulations

(tons/day-1995)

<u>Pollutant</u>	<u>Sulfur Standard</u>	<u>Aromatic Standard</u>	<u>Total</u>
SO <sub>2</sub>	80	0	80
PM <sub>10</sub>	5	15*	20
NO <sub>X</sub>	0	70	70

\* Includes air pollutant benefits for toxic or suspected toxic air contaminants  
Source: ARB/SSD/TSD

# Cost and Cost-Effectiveness of the Diesel Fuel Regulations

	<u>1988 Estimate</u>	<u>Current Estimate</u>
Capital Cost (Million \$)	300	150
Unit Production Cost (¢/gal)	11 to 12	6
Cost-Effectiveness* (\$/lb)	6.9	2.6

\* Estimated as the total cost of the regulation divided by the sum of NO<sub>x</sub> and PM reductions

Source: 1988 staff report/ARB/SSD



# Diesel Regulation Requirements

- Applies to on-road and off-road vehicles
- Specifications
  - Sulfur content\* 500 ppmw (max.)
  - Aromatic hydrocarbon content
    - Large refiners* 10 vol% (max.)
    - Small refiners\*\** 20 vol% (max.)
- Allows certification of equivalent formulations
- Implementation date Oct. 1, 1993

\* Required in South Coast Air Basin since 1985 and for small refiners since 1989

\*\* 20% limit applies to independent refiners up to 1996 under certain conditions.

# Additional Requirements for Small Refiners

- Production of 20 vol% aromatic diesel limited to 65% of base year distillate volume
- Base year distillate volume determined as average of 3 highest years distillate production from 1983-87 (*Powerine base years are 1989-90*)
- Suspensions from regulation for qualifying small refiners allowed from Oct. 1, 1993 to Oct. 1, 1994

# **Board's Intent When Adopting Small Refiners Provisions**

- **Provide fairness and equity to all refining sectors**
- **Recognize the small refiners' role in the diesel fuel marketplace**
- **Limit small refiner production of 20 vol% aromatic diesel fuel to preserve benefits of the regulation**

# Small Refiners Issue

*Is the small refiner exempt  
volume provision still  
appropriate in light of current  
conditions?*

*Staff held a workshop on  
April 21, 1994 to solicit comments  
on the small refiner issue and  
used the information to develop  
the proposals contained in the  
Staff Report*

# Staff's Findings

- **The California refining sector has changed**
  - Fewer small refiners producing motor vehicle diesel fuel
  - Refiners utilize capacity to greater extent than in 1983-1987
  - Most distillate produced by small refiners is motor vehicle diesel fuel

# **Description of Staff Report Proposal for Determining Exempt Volume**

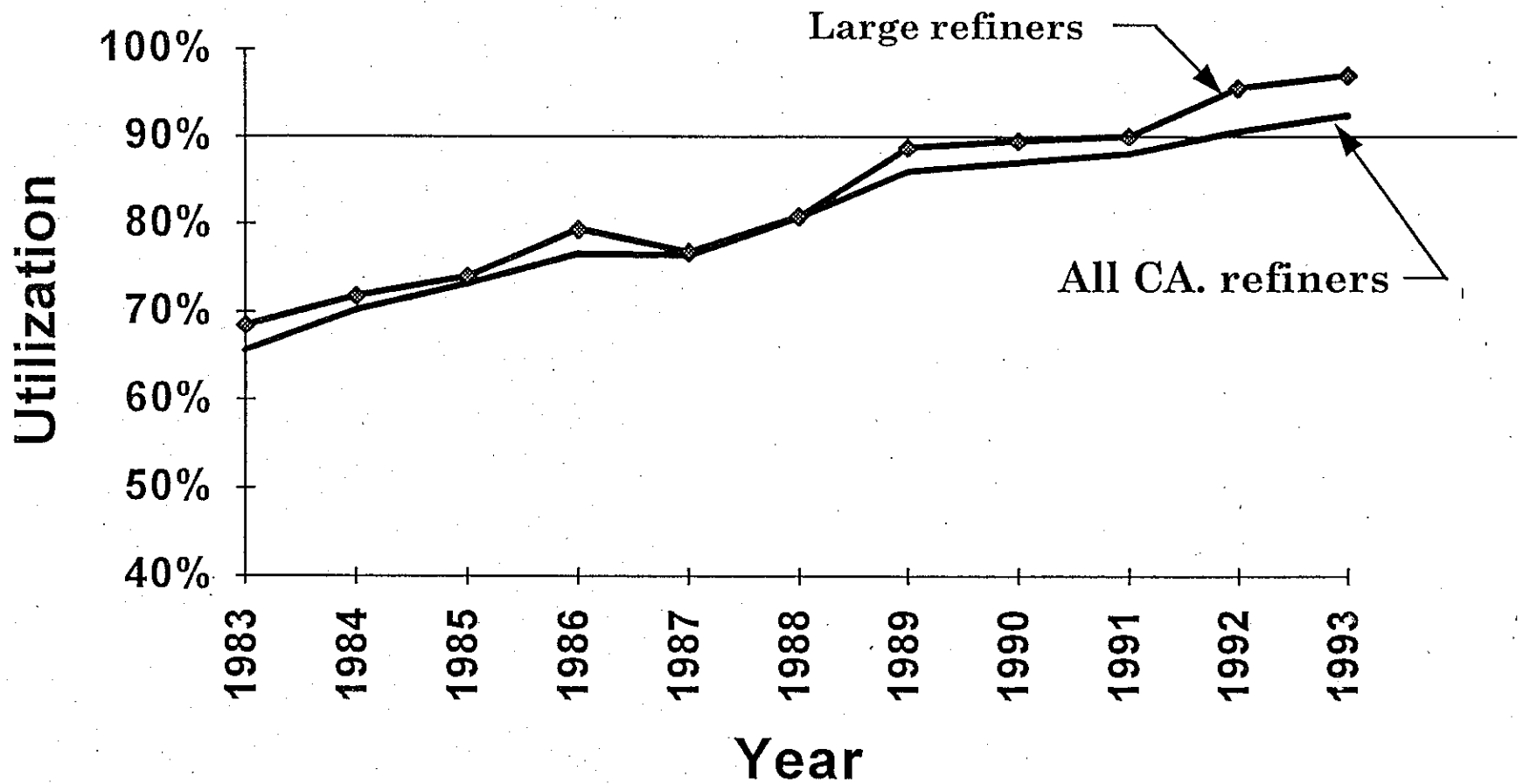
- **Small refiners could choose to either:**
  - **Remain subject to current provisions to determine exempt volume limit (65% of historical)**
  - **Produce diesel fuel up to 100% of historical distillate volume and limit total distillate production**

# **Modified Recommendation Subsequent to Release of the Staff Report**

- **Additional data from the CEC was evaluated to determine historical operational trends**
- **The small refiners provided additional information to show the economic effect of staff's original proposal**
- **Upon a re-evaluation of the proposed amendments, staff determined that it is appropriate to modify the original proposal**



# Refinery Utilization for California Refineries



Source: CEC PIIRA database

# What Are We Proposing Today?

- Change the small refiner diesel fuel exempt volume limit
- Set each refiner's exempt diesel volume by the use of:
  - Small refiner's crude capacity
  - Industry average utilization of crude capacity for 1991-1992 [90%]
  - Small refiner's ratio of distillate production to crude input
  - Small refiners' diesel fraction of distillate

# Description of Other Proposed Amendments

Small refiners must still comply with sulfur and 20 vol% aromatic standards by Oct. 1, 1994

- Delay small refiner exempt volume limits to January 1, 1995
- Clarify that small refiners can produce 10 vol% aromatic diesel while producing 20 vol% aromatic diesel

# Effects of Staff's Proposal (BPD)

	<b>Under Existing Regulation Diesel Limit</b>	<b>June 10, 1994 Staff Report Proposal Distillate Limit</b>	<b>Modified* Proposal Diesel Limit</b>
Kern	3,600	5,500	6,400
Paramount	2,400	3,700	7,500
Powerine	4,500	6,900	8,400
Witco	400	600	1,400
<i>Total</i>	<i>10,900</i>	<i>16,700</i>	<i>23,700</i>

\* Estimated value

# Cost of Compliance

- **Average cost of small refiners' compliance is estimated at 7.5 cents per gallon**

# Rationale for Staff's Proposal

- Corrects problem with original regulation and proposal in staff report
- Does not create unfair advantage
- Reflects need for greater efficiency of refining operations

# Environmental Effect of Staff's Proposal

- Increasing small refiner volumes could reduce emission benefits up to:

**NO<sub>x</sub>**      3 tons/day      (4%)

**PM**      0.6 tons/day      (3%)

# **Economic Benefits Outweigh the Adverse Environmental Effect**

- **Provides opportunity for small refiners to operate at an efficient level**
- **Promotes competition in the marketplace**
- **Allows independent marketers continued access to traditional suppliers**



# Summary

## Staff Proposal

- No change in the requirement that small refiners meet the 20 vol% aromatic standard on Oct. 1, 1994
- Increase small refiners' exempt volume limit as proposed
- Delay volume limitation from Oct. 1, 1994 to Jan. 1, 1995

**Recommend the Board  
adopt staff's proposal**