Transit Bus Fleet Rule Implementation Update

November 2003

California Environmental Protection Agency

Air Resources Board
Today’s Presentation

- Changes to the Regulation
- Non-Compliance
- Requirements for 2004
  - Reports Due 1/31/04
  - Retrofit
- 2004 - 2006
- Proposed 2004 Amendments
Regulation Changes

- October 2002 Amendments Finalized
- Compliance Path Change, SCAQMD
- Definitions
  - Alternative Fuel
  - Active Fleet
  - Emergency Contingency
  - Spare Bus
Regulation Changes (continued)

- Alternative Fuel Bus Purchases by Diesel Path Transit Agency
- Reducing Total Diesel PM Emissions
  - PM Reduction from 2002 Baseline
  - Technology Delay
  - Verified Fuel Use
  - Small Transit Agency Delay
  - DECS Allowances
Regulation Changes (continued)

- Reducing Total Diesel PM Emissions
  - Use of ARB Verified DECS or ARB Certified Rebuild Kit
- Financial Hardship Delay for Small T.A.
- Reporting Requirements
- Deleting Certification Procedures for PM Retrofit Devices
- Adding Interim Certification for HEB
ARB Actions on Non-Compliance

- Issued Notices of Violation to seven T.A.s for not meeting NOx fleet average by 10/1/02
- Sent warning letters to seven T.A.s for late 2003 reports
- Violations of reporting and failure to meet PM reductions will result in NOVs in the future
Reports Due in 2004

For 2003
Reporting Requirements

- Annual Report Due 1/31/04:
  - Number, Engine Mftr & Make, Engine Model Year For All Engines in Buses, and Fuel Used
  - Alt.-Fuel Path List Bus Purchases & Leases, and Percentage of Alt. Fuel Buses Purchased or Leased
Transit Agency Changing Fuel Path from Diesel to Alt.-Fuel Must Report Change by January 31, 2004 (SCAQMD Only)
Reporting Requirements (continued)

- Total Diesel PM Emission Reduction
  - Annual Report Due 1/31/2004
  - No., Mft., Make, & Model Year of all Diesel-fueled, Dual-fuel, Bi-fuel, and Diesel HEB
  - PM Engine Cert. Values & Total PM
  - Identification for DECS Used
  - Percentage Reduction Achieved
Actions Required in 2004

By Transit Agencies
Low-Sulfur Diesel Fuel

- Continue Using Low Sulfur Diesel Fuel
  - <15 parts per million (ppm) Sulfur
- May Use a Fuel that is Verified as a DECS Instead to Meet PM Reductions
  - None Verified Yet
NOx Fleet Average

- Maintain NOx Fleet Average
  - Applies to all transit agencies
  - 4.8 g/bhp-hr NOx
  - October 1, 2002
Total Diesel PM Reduction

- By January 1, 2004, Reduce Total PM:
  - Diesel Path by 40%
  - Alternative Fuel Path by 20%
  - Relative to January 1, 2002, Baseline
## Diesel PM Reduction Schedule

<table>
<thead>
<tr>
<th>Fuel Path</th>
<th>2004</th>
<th>2005</th>
<th>2007</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel Path</td>
<td>40%</td>
<td>60%</td>
<td>85%</td>
<td>85%</td>
</tr>
<tr>
<td>Alt-Fuel Path</td>
<td>20%</td>
<td>40%</td>
<td>60%</td>
<td>85%</td>
</tr>
</tbody>
</table>

Percentages of retrofit requirements must be met by January 1 of each year.
Diesel PM Reduction (continued)

- Compliance Extension
  - Agencies with <20 Buses in 1-Hr. Ozone Attainment Districts May Delay 100% Implementation to 1/1/2007 (Diesel Path) or 1/1/2009 (A-F Path)
  - Notify ARB in Annual Report
PM Retrofits

- Delays
  - Unavailability of Technology
    - Apply no later than 90 days prior to deadline
    - Demonstrate why technology is unavailable, why can’t comply by retiring old buses, and provide schedule of compliance
  - Small Transit Agency (<20 buses) Delay
    - Financial Hardship
    - Apply no later than 30 days prior to deadline
2004 - 2006 Engines

Section 1956.1
Engine Options
2004-2006

- New Engines: Only Alt. Fuel Available
- Repower: Must be at or below all Emissions Standards and Requirements Applicable to the Original Engine
  - May Not “Repower” with Current Year Engine
  - May Not Use Aftertreatment to be at or below Standards on New Engines
Potential Amendments

2004
Urban Bus Engine Standards

- Proposal to Harmonize with U.S. EPA 2007 HDD Engine Standards
- Proposal to Allow Early Introduction of 2007 Technology in 2004 - 2006
Fleet Rule For Transit Agencies

- New Section Numbers
- Definition Modification
  - Remove “Non-Controlling” Part of Definition
  - Focus Remains on Type of Engine and Duty
- PM Reduction Floor Set to an Average of 0.01 g/bhp-hr
- Reduce the NOx Fleet Average
Non-Urban Bus

- Define Non-Urban Buses:
  - Buses with medium-heavy and heavy-heavy engines currently not subject to the regulation
- Add Reporting Requirements for NUB
- Brings in Transit Agencies Not Previously Subject to Rule
Non-Urban Bus: Emission Reduction

- PM Reduction
  - Mirrors 2002 Transit Rule Amendment requirements
  - % reduction of baseline year overtime
  - Repower, replace or retrofit

- NOx Reduction
  - Fleet Average Approach
Survey

- Non-urban buses
  - Vehicle type and model year
  - Engine manufacturer, model, and model year
  - Fuel used
  - Power system
Zero-Emission Bus Rule

Summary

- 7/1/03 - Start ZEB Demonstration Project
- 1/31/05 - Final Project Report to ARB
- 1/31/06 - ZEB status report to the Board

Requires 15% of purchases to be ZEB

- 2008-15, Diesel Path
- 2010-15, Alternate Fuel Path
Zero-Emission Bus Rule

Status

- ZEB demonstration 18 to 32 months behind schedule
- Bus cost greater than anticipated during February 2000 rulemaking
ARB Website:
www.arb.ca.gov/msprog/bus/bus.htm

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list name: diesel-retrofit