Fleet Rule for Transit Agencies

Implementation Update

April 2008
Kathleen Mead, Manager
Retrofit Implementation Section

California Environmental Protection Agency

Air Resources Board
Today’s Presentation

- Fleet Rule for Transit Agencies Requirement Review
  - Urban Bus
  - Transit Fleet Vehicles
- 2009 & 2010 Compliance Deadlines
- Revised Web Based Reporting
- Other Regulations
“Urban Bus”

- Passenger carrying vehicle
- Owned or operated by a transit agency (includes contract fleet)
- Powered by a heavy HD diesel engine or of a type normally powered by a heavy HD diesel engine
- “Normally powered” defined as:
  - Thirty-five feet or longer
  - > 33,000 (lbs) GVWR
“Emergency Contingency Vehicle”

• Emergency contingency vehicle is an urban bus placed in an inactive contingency fleet for energy or other local emergencies, after the urban bus has reached the end of its normal minimum useful life.

• Not included in the urban bus compliance calculations.
2007 Urban Bus Engine Standard

- “Urban Bus” service certification still required
- Align with 2007 truck HHD standard
  - Section 1956.8
Choose A Fuel Path

- Fuel path affects future vehicle purchases
- Determines PM reductions timeline
- Other requirements
Alternative Fuel Path

- At Least 85% Annual UB purchases
  - Includes contracted, leased, used, and newly purchased
  - Alternative fuels include
    - Compressed Natural Gas (CNG)
    - Liquefied Natural Gas (LNG)
    - Propane (LPG)
    - Gasoline Hybrids (gHEBs)
    - And other fuels that do not rely on diesel fuel
Diesel Path
2007+ MY Purchasing Requirement

- Diesel Path Agencies With >30 Urban Buses
- One-to-one Requirement for Each 2007 to 2009 MY Engine Purchased Certified Above 0.2 g NOx
- One NOx Retrofit for Each New Purchase
  - 40%+ NOx reduction if available; otherwise 25%
  - Limited to available vehicles within transit agency, includes TFV
# Urban Bus Compliance Deadlines

<table>
<thead>
<tr>
<th>Fuel Path</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel</td>
<td>85% or meet 0.01g/bhp-hr</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Alternative Fuel</td>
<td>60%</td>
<td>-</td>
<td>85% or meet 0.01g/bhp-hr</td>
</tr>
</tbody>
</table>

- PM Reduction from January 1, 2002 Baseline
- As of October 1, 2002: NOx Fleet average not to exceed 4.8g/bhp-hr
“Transit Fleet Vehicle”

• Greater than 8,500 (lbs) GVWR
• Powered by heavy-duty engine fueled by diesel or alternative fuel
• Owned or operated by a transit agency (includes contract fleet)
• Not an urban bus
“Commuter Service Bus”

Defined as Transit Fleet Vehicle if:

- Powered by a heavy duty diesel engine or of a type normally powered by a heavy duty diesel engine or alternative fuel
- Operates on a fixed route primarily during peak commute hours
- No passenger-initiated stops
- No more than 10 stops per day, excluding Park-and-Ride lots.
## TFV Compliance Deadlines

<table>
<thead>
<tr>
<th>Date</th>
<th>% PM reduction from 2005 baseline</th>
<th>Fleet NOx Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 31, 2007</td>
<td>40%</td>
<td>3.2 or retire 1997 and earlier M Y</td>
</tr>
<tr>
<td>December 31, 2010</td>
<td>80%</td>
<td>2.4 or retire 2001 and earlier M Y</td>
</tr>
</tbody>
</table>
Available Extensions
For 2009 & 2010

• Financial Hardship
  – <30 in transit fleet (both UB and TFV)
  – Application 30 days prior to compliance deadline

• Unavailability of Technology for PM
  – Application required 90 days prior to compliance deadline

• Delay of Implementation for PM
  – <20 in transit fleet in 1 hour Ozone attainment
  – For TFV Fleets only
Transit Fleet Vehicles Only

• Extension
  – Service Contracts: Up to 1 year delay
  – Termination of equipment and service contracts defined by FTA: vehicle lease, maintenance/lease, turnkey
  – Application no later than 90 days prior to the deadline.

• Exemption
  – Low Usage Vehicle: non-revenue with <1000 miles per year usage
  – Mileage documentation required
Calculating the Emission Standards

<table>
<thead>
<tr>
<th>Engine Model Year</th>
<th>Particulate Matter Emission Standards</th>
<th>NOx Emission Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Urban Bus Engine (g/bhp-hr)</td>
<td>Heavy-Duty Diesel Engine (g/bhp-hr)</td>
</tr>
<tr>
<td>Pre-1988</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>1988-1990</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>1991-1993</td>
<td>0.1</td>
<td>0.25</td>
</tr>
<tr>
<td>1994-1995</td>
<td>0.07</td>
<td>0.1</td>
</tr>
<tr>
<td>1996-2002</td>
<td>0.05</td>
<td>0.1</td>
</tr>
<tr>
<td>2003-2006</td>
<td>0.01</td>
<td>0.1</td>
</tr>
<tr>
<td>2007+</td>
<td>0.01</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Note: Engine Model Year:
- Oct. 2002-2003 (Settlement Agreement)
- 2004-2006 / Diesel
- 2004-2006 / Alt-fuel
- 2007-2009
- 2010+
Pursuant to the authority vested in the Air Resources Board by Health and Safety Code Division 26, Part 5, Chapter 2, and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: The engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

<table>
<thead>
<tr>
<th>MODEL YEAR</th>
<th>ENGINE FAMILY</th>
<th>ENGINE SIZES (L)</th>
<th>FUEL TYPE</th>
<th>STANDARDS &amp; TEST PROCEDURE</th>
<th>INTENDED SERVICE CLASS</th>
<th>ECS &amp; SPECIAL FEATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>7CEXH0505CAA</td>
<td>8.3</td>
<td>Diesel</td>
<td>ISC 360 / 8785; FR91902 (350)</td>
<td>DD, TC, CAC, ECM, ECR, PTOX, GC</td>
<td></td>
</tr>
</tbody>
</table>

Following are: 1) the FTP exhaust standards, or family emission limit(s) as applicable, under 13 CCR 1956.1 (urban bus) or 13 CCR 1956.8 (other than Urban bus); 2) the EURO and NTE limits under the applicable California emission standards and test procedures for heavy-duty diesel engines and vehicles (Test Procedures); and 3) the corresponding certification levels, in g/hp-hr, for this engine family. “Diesel” CO, EURO and NTE certification may have been demonstrated by the manufacturer as provided under the applicable Test Procedures in lieu of testing. (For flexible- and dual-fueled engines, the CERT values in brackets [ ] are those when tested on conventional test fuel. For multi-fueled engines, the STD and CERT values for default operation permitted in 13 CCR 1956.1 or 13 CCR 1956.8 are in parentheses.)

<table>
<thead>
<tr>
<th>NMHC</th>
<th>NOx</th>
<th>NMHC+NOx</th>
<th>CO</th>
<th>PM</th>
<th>HCHO</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD</td>
<td>0.54</td>
<td>0.14</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>FEL</td>
<td>*</td>
<td>1.5%</td>
<td>1.5%</td>
<td>1.0</td>
<td>1.2</td>
</tr>
<tr>
<td>CERT</td>
<td>0.02</td>
<td>0.00</td>
<td>0.08</td>
<td>0.84</td>
<td>0.1</td>
</tr>
</tbody>
</table>

W/hp-hr = pounds per brake horsepower hour; FTP = Federal Test Procedure; EU = EURO III European Stage-III Cycle; NOx = NITrogen Oxides; PM = particulate matter; HCHO = formaldehyde.

BE IT FURTHER RESOLVED: Certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

BE IT FURTHER RESOLVED: The listed engine models have been certified to the split engine family standards under 13 CCR 1956.8(b) [Diesel engines] or 13 CCR 1956.8(d) [Otto engines] and the incorporated 40CFR 86.007-15(m)(9).

BE IT FURTHER RESOLVED: For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels) and 13 CCR 2035 et seq. (emission control warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed at El Monte, California on this 2 day of March 2007.

Annette Hebert, Chief
Mobile Source Operations Division
Average, Banking & Trading (ABT) Program

- Title 13, section 1956.8 of the California Code of Regulations
- 2007+ model year engines with certified above 0.01g PM standard
- Additional PM and NOx control needed?
## ABT Engines

<table>
<thead>
<tr>
<th>Model Year</th>
<th>Make/Model</th>
<th>Service Class</th>
<th>Engine Family Name</th>
<th>Executive Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>Cummins ISM</td>
<td>HHDD</td>
<td>7CEXH0551MAC</td>
<td>A-021-0452</td>
</tr>
<tr>
<td>2007</td>
<td>Ford E-Series</td>
<td>MDDE</td>
<td>7NVXH06.0AED</td>
<td>A-010-1456</td>
</tr>
<tr>
<td>2007</td>
<td>Ford E-Series</td>
<td>MDDE</td>
<td>7NVXH06.0AED</td>
<td>A-010-1456-1</td>
</tr>
<tr>
<td>2007</td>
<td>Ford 6.0 E-Series</td>
<td>MDDE</td>
<td>6NVXH06.0AED</td>
<td>A-010-1379</td>
</tr>
<tr>
<td>2007</td>
<td>General Motors 6.6</td>
<td>MDDE</td>
<td>7GMXH06.8590</td>
<td>A-006-1414</td>
</tr>
<tr>
<td>2007</td>
<td>General Motors 6.6</td>
<td>LHDD</td>
<td>7GMXH06.6590</td>
<td>A-006-1426</td>
</tr>
<tr>
<td>2007</td>
<td>International 6.0</td>
<td>LHDD</td>
<td>7NVXH06.0AEC</td>
<td>A-004-0314</td>
</tr>
<tr>
<td>2007</td>
<td>International 6.0</td>
<td>MDDE</td>
<td>7NVXH06.0AED</td>
<td>A-004-0315</td>
</tr>
<tr>
<td>2008</td>
<td>Cummins ISM</td>
<td>HHDD</td>
<td>8CEXH0661MAC</td>
<td>A-021-0466</td>
</tr>
<tr>
<td>2008</td>
<td>Cummins ISM</td>
<td>HHDD</td>
<td>8CEXH0661MAC</td>
<td>A-021-0466-1</td>
</tr>
<tr>
<td>2008</td>
<td>Ford 6.0 E-Series</td>
<td>MDDE</td>
<td>8NVXH06.0AED</td>
<td>A-010-1461</td>
</tr>
<tr>
<td>2008</td>
<td>International 6.0</td>
<td>MDDE</td>
<td>8NVXH06.0AED</td>
<td>A-004-0323</td>
</tr>
</tbody>
</table>
## Exhaust Emissions Standards

(ABT Engine-Diesel Fuel)

<table>
<thead>
<tr>
<th></th>
<th>NMHC</th>
<th>NOx</th>
<th>NMHC+NOx</th>
<th>CO</th>
<th>PM</th>
<th>HCHO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Std</td>
<td>0.5</td>
<td>0.5</td>
<td></td>
<td>15.5</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>FEL</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cert</td>
<td>0.1</td>
<td>0.1</td>
<td>2.5</td>
<td>1.0</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>NTE</td>
<td>0.6</td>
<td></td>
<td>2.4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- g/bhp-hr: grams per brake horsepower-hour
- FTP: Federal Test Procedure
- EURO: Euro III European Steady-State Cycle, including RMCSET=ram mode cycle supplemental emissions
- CO: carbon monoxide
- PM: particulate matter
- HCHO: formaldehyde
# Exhaust Emissions Standards (CNG Fuel)

<table>
<thead>
<tr>
<th></th>
<th>NMHC</th>
<th>NOx</th>
<th>NMHC+NOx</th>
<th>CO</th>
<th>PM</th>
<th>HCHO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FTP</td>
<td>EURO</td>
<td>FTP</td>
<td>EURO</td>
<td>FTP</td>
<td>EURO</td>
</tr>
<tr>
<td>STD</td>
<td>*</td>
<td>*</td>
<td>1.2</td>
<td>*</td>
<td>15.5</td>
<td>*</td>
</tr>
<tr>
<td>FEL</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>CERT</td>
<td>*</td>
<td>*</td>
<td>1.0</td>
<td>*</td>
<td>0.1</td>
<td>*</td>
</tr>
<tr>
<td>NTE</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

* g/bhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; EURO=Euro III European Steady-State Cycle; NTE=Not-to-Exceed; STD=standard or emission test cap; FEL=family emission limit; CERT=certification level; NMHC/HC=non-methane hydrocarbon; NOx=oxides of nitrogen; CO=carbon monoxide; PM=particulate matter; HCHO=formaldehyde;
### NOx Emission Calculation
(Transit Fleet Vehicles)

#### Engine Inventory

<table>
<thead>
<tr>
<th>Engine Model Year</th>
<th>Number of Vehicles</th>
<th>NOx Standard</th>
<th>Total NOx Emission</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-1997 Diesel</td>
<td>1</td>
<td>5</td>
<td>5.00</td>
</tr>
<tr>
<td>1998-2003 Diesel</td>
<td>4</td>
<td>4</td>
<td>16.00</td>
</tr>
<tr>
<td>Oct. 2002-2003 Diesel</td>
<td>4</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>2004-2006 Diesel</td>
<td>5</td>
<td>2.2</td>
<td>11.00</td>
</tr>
<tr>
<td>2007-2009 Diesel</td>
<td>2</td>
<td>1.2</td>
<td>2.40</td>
</tr>
</tbody>
</table>

**Total Engines:** 12  
**Total NOx:** 34.40

**Fleet NOx Average:** Compliant 12/31/2007  
**Value:** 2.87
## PM Emission Calculation (Transit Fleet Vehicle)

### Engine Inventory

<table>
<thead>
<tr>
<th>Diesel Engine Model Year</th>
<th>Number of Diesel Engines</th>
<th>PM % Reduction</th>
<th>Total PM Emission</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994-2006 (0.1g)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No DECS</td>
<td>5</td>
<td></td>
<td>0.500</td>
</tr>
<tr>
<td>Level 3 DECS</td>
<td>5</td>
<td>85%</td>
<td>0.075</td>
</tr>
<tr>
<td>Level 2 DECS</td>
<td></td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>Level 1 DECS</td>
<td></td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>2007+ (0.01g)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No DECS</td>
<td>2</td>
<td></td>
<td>0.020</td>
</tr>
<tr>
<td>Other 0.01g engine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No DECS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Engines:** 12  
**Total PM Emissions:** 0.595

2005 PM Baseline  
**Compliant 12/31/2007**  
**Percent Reduction:** 40.50%
Annual Reporting
Annual Reporting

• Annual Report Due January 31 through 2017
• Separate report for Urban Buses and TFV:
  – Number, engine mfr & make, engine model year for all engines in buses, and fuel used as of January 1st of that year
Reporting Requirements (continued)

Urban Bus:
- Alternative NOx Strategy Transit Agencies
  - Provide update of compliance plan
- Alternative Fuel Path: Percentage of Alt. Fuel Buses Purchased or Leased
- ZEB Reporting

Diesel Path:
- Document each filter installed for each 2007-2009 model year diesel UB purchased
The Reporting Process

- Web Based
  www.arb.ca.gov/msprog/bus/rptg/rptg.htm
- Update Existing Report Information
  - PM and NOx Average Calculated
### VEHICLE INFORMATION

#### Urban Bus Fleet Summary
None Reported

#### Transit Fleet Vehicle Summary

<table>
<thead>
<tr>
<th>#Grp</th>
<th>Name</th>
<th>Qty</th>
<th>Vehicle Name</th>
<th>Engine</th>
<th>Fuel</th>
<th>DECS Family Name</th>
<th>Eng Cert</th>
<th>PM Std</th>
<th>PM Emission</th>
<th>NOx Std</th>
<th>NOx Emission</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>2004 TFV 2004 Ford 6.8L</td>
<td>LPG or Propane</td>
<td>HDE</td>
<td>-</td>
<td>2.2</td>
<td>6.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>2005 TFV 2005 Cummins ISBG</td>
<td>LPG or Propane</td>
<td>HDE</td>
<td>-</td>
<td>2.2</td>
<td>15.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### TFV PM Emissions Summary
- Total PM Emissions: 0 (g/bhp-hr)
- 2005 PM Baseline: (g/bhp-hr)
- PM Reduction: %

#### TFV NOx Emissions Summary
- Total NOx Emission: 22 (g/bhp-hr)
- Total Number of (NOx) Engines: 10 units
- Total Number of 1997 or Earlier Engines: 0 units
- NOx Fleet Average (total NOx/# Engines): 2.2 (g/bhp-hr / unit)
- 12/31/2007 Compliance Status: Compliant

#### Vehicles Equipped with DECSs
None Reported

#### Low Usage Vehicles - Low Mileage(LM) or Emergency Contingency(EC)
None Reported

#### Retired Vehicles
None Reported
Hybrid Buses?

• Urban Bus Hybrid Certification Procedures
  – Medium Heavy-duty engine can not be used in Urban Bus service unless certified to the Urban Bus Service Class
  – One-Party Certification

• Other Hybrid-engines
  – No modification of engine, including computer settings, otherwise must be a part of the engine certification
Biodiesel

• **Advisory on Biodiesel Use**
  - Up to 20% Biodiesel (B20) with CARB diesel
  - Biodiesel must meet ASTM D975

• **Biodiesel Advisory Committee**
  - Developing standards and conducting research
  - [www.arb.ca.gov/fuels/diesel/altdiesel/altdiesel.htm](http://www.arb.ca.gov/fuels/diesel/altdiesel/altdiesel.htm)

• **ARB Fleet and Fuel Regulations**
  - Not an alternative fuel, an alternative diesel fuel
  - Check DECS verification for B20 use
  - Check with your engine manufacturer
Other Regulations You Need to be Aware of
Fleet Rule for Public Agencies and Utilities

(Title 13, California Code of Regulations, sections 2022 and 2022.1)
Fleet Rule for Public Agencies and Utilities

- Own, operate, or lease
- Model year 1960 through 2006
- Greater than 14,000 GVWR
- Medium or heavy heavy-duty on-road diesel-fueled engines
- Apply Best Available Control Technology (BACT)
What is BACT?

• Retire
  – low-usage, scrap, sale out-of-state

• Repower
  – Engine meeting 0.01g/bhp-hr PM, clean gasoline, alternative fuel
  – Existing Alternative Fuel OK (2004-2006 MY must meet 1.8g/bhp-hr NOx Optional Standard or less)

• Retrofit
  – Highest level Diesel Emission Control Strategy
Excluded from Regulation

- Vehicles with GVWR less than 14,000 lbs
- Emergency vehicles
- School Buses
- Vehicles regulated under the Fleet Rules for Transit Agencies & SWCV
## Implementation schedule

<table>
<thead>
<tr>
<th>Group</th>
<th>Engine Model Years</th>
<th>Applies to All Fleets</th>
<th>Option for Fleets Located in a Low Population County or Granted Low-Population County Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Percentage(^1) of Group to use BACT</td>
<td>Compliance Deadline, as of December 31</td>
</tr>
<tr>
<td>1</td>
<td>1960–1987</td>
<td>20%</td>
<td>2007</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60%</td>
<td>2009</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100%</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>60%</td>
<td>2009</td>
</tr>
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<td></td>
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<td>100%</td>
<td>2011</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2003–2006 (Includes dual-fuel and bi-fuel engines)</td>
<td>50%</td>
<td>2009</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100%</td>
<td>2010</td>
</tr>
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Statewide Truck & Bus Regulation

- Concrete Mixer
- Dump Truck
- Drill Rig
- Water Truck
- Hay Squeeze
- Tow Truck
- Reefer Van
- Fuel Tank Truck
- Passenger Bus
Statewide Truck & Bus Regulation Scope

- Diesel vehicles operating in California
  - Trucks, buses, yard trucks, other
  - Interstate, intrastate, international
- Shuttle Vehicles - Any GVWR which transports passengers for hire
- Vehicles greater than 14,000 GVWR
- Any person, business, or government agency who owns or sells a vehicle in California
Excluded from Scope of Regulation

• Pickups and other vehicles with GVWR less than 14,000 lbs except shuttle buses
  – Regardless of towing capability or combined weight rating
• Emergency vehicles
• Tactical military vehicles
• Personal use motor homes
Statewide Truck & Bus Regulation

• Upgrade requirements phase-in 2010-2021
  – 2007 model year engine emissions (2010-2013)
  – 2010 model year engine emissions (2017-2021)
• Exhaust retrofits if equivalent emissions
• Compliance options
  – Best available control technology schedule or
  – Fleet average
• Certain special provisions
Upcoming Public Workshops

- To discuss revised proposed regulatory language, preliminary results from vehicle surveys, economic impacts, inventory, and additional outreach efforts
- Six Rounds of Workshops
  - Twenty-Four meetings since April 2006
- Next Workshops
  - Late May/Early June & July

Statewide Truck and Bus Regulation
www.arb.ca.gov/msprog/onrdiesel/workshops.htm
www.arb.ca.gov/dieseltruck
Hotline #: 1-866-6Diesel
Diesel Programs and Activities
www.arb.ca.gov/diesel/diesel.htm

Kathleen Mead
Manager, Retrofit Implementation Section
(916) 324-9550; kmead@arb.ca.gov

Eric Bissinger, Urban Bus Requirements
(916) 324-9424; ebissing@arb.ca.gov

Adam Gerber, TFV Requirements
(916) 323-5445; agerber@arb.ca.gov


Tony Brasil, Manager
In-Use Control Measures Section
(916) 323-2927; abrasil@arb.ca.gov

Statewide Truck and Bus Regulation - www.arb.ca.gov/dieseltruck
Hotline # : 1-866-6Diesel
# ARB Listserver Website

www.arb.ca.gov/listserv/listserv.php

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Questions ?