

Proposed In-Use Heavy-Duty Diesel Vehicle Regulation

Public Workshop

April 11, 2007 in Sacramento
April 17, 2007 in El Monte

Workshop Outline

- Need for Emission Reductions
- Emissions Inventory
- Proposed Regulatory Concept
- Additional Information Needed

Need for Emission Reductions



Need for Emission Reductions

- Reduce Diesel Particulate Matter (PM) to reduce deaths from cancer, heart disease, etc.
 - Diesel PM responsible for 70% of known cancer risk from all air toxics
- Reduce oxides of nitrogen (NO_x)
 - NO_x leads to ozone and secondary PM
- Federal Clean Air Act - must attain ozone and PM standards

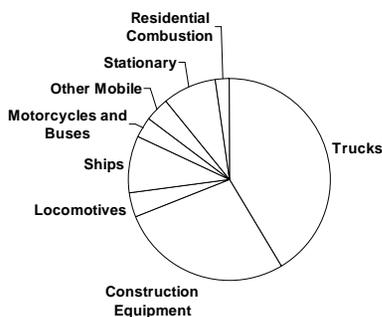
Diesel Risk Reduction Plan

- Established goals
 - Reduce PM emissions from all diesel-fueled engines in California
 - 75% reduction by 2010
 - 85% reduction by 2020
- Four-pronged approach
 - New engine standards
 - Cleaner diesel fuel - <15 ppm sulfur content
 - Retrofit of existing engines
 - Ensure in-use emissions maintained

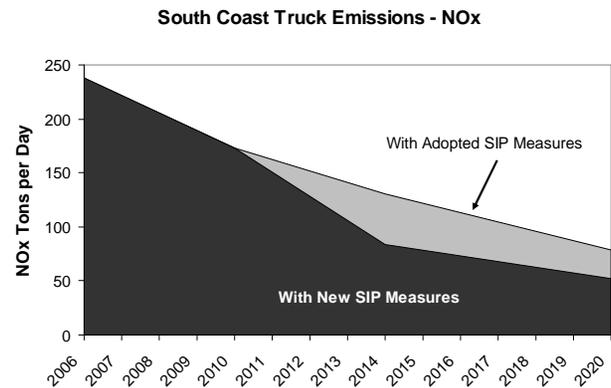
Air Pollution Reductions Needed for Clean Air Plan

- 15 local areas violate the federal 8-hour ozone standard
- 2 areas violate the federal annual PM2.5 standard
- ARB and districts are currently developing new State Implementation Plans (SIP)
 - A SIP is a master plan that identifies how we will meet federal clean air deadlines

South Coast 2006 NOx



State Implementation Plan Reductions



Emissions Inventory

Estimating Private Fleet Emissions

- Previous approach based on EMFAC
- EMFAC2007 treats out-of-state vehicles same as in-state
 - Assumes same age distribution as in-state trucks
 - Assumes out-of-state trucks drive 25% of all Heavy Heavy-Duty Diesel Truck (HHDDT) miles traveled in CA
- Private fleet emissions are all HHDDT and Medium-Heavy Duty Diesel Trucks (MHDDT) except those subject to other regulations:
 - Public Fleet Rule
 - Refuse Truck Rule
 - Port Truck Rule

Approach in Development

- Work is currently in progress
- Reviewing new data sources
 - IRP (International Registration Plan)
 - MCP (Motor Carrier Permit)
 - VIUS (Vehicle Inventory and Use Survey)
- Improving population estimates
- Updating MHDDT emission factors

Revised Private Fleet Inventory

- Anticipated completion – Summer 2007
- Continue to be based upon EMFAC2007
- Our goal is to separate California in-state, California-IRP and out-of-state trucks
 - For MHDDT and HHDDT
 - Separate model year distributions
 - Separate accrual rates by model year
 - Accounting only for mileage accrual within California

Fleet Surveys

Industry Surveys

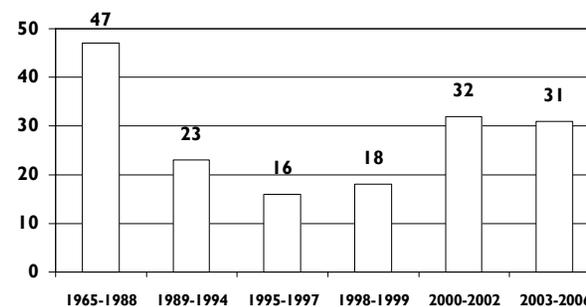
- Designed to obtain more information about fleet operation, truck age, purchasing patterns, and vehicle use
 - Model year
 - GVWR
 - Region of operation
 - Annual mileage
 - Season of use
 - Type of operation

Current Surveys

- Agricultural vehicle survey
 - Working with Nisei Farmers League and others
 - Working with the California Farm Bureau Federation
 - Data collection in progress
- Dump truck survey
 - Working with California Dump Truck Owners Association
 - Still collecting data
 - Responses to date
 - 48 responses; 174 trucks

Dump Truck Survey

Preliminary Results



Future Surveys

- Online survey
- Need to expand business characterizations
 - Scalable with other available information
- Assistance with outreach

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Proposed Regulatory Concepts

Overall Goals

- By 2014, emissions no higher than a 2004 model year engine with a diesel particulate filter
- By 2020, emissions no higher than a 2007 model year engine

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Proposed Regulation: Scope

- On-road medium & heavy-duty diesel vehicles (>14,000 lbs GVWR)
 - Trucks
 - Motor homes
 - Federal fleets
 - Buses
 - Specialty vehicles
- Vehicles not covered under a current ARB regulation for heavy-duty diesel-fueled vehicles
 - Trash trucks
 - Public fleets
 - Transit buses

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Proposed Regulation: Scope Continued

- Any heavy-duty vehicle traveling within California
- Originally equipped with safety equipment to drive on the road
- May or may not be registered though DMV

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Proposed Regulation: Exemptions

- Military tactical vehicles
- Emergency vehicles
- Vehicles that drive 1,000 miles or less per year
- Vehicles with 2007 or newer engines

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Proposed Regulation: Regulatory Concept

- 2 Options
 - Fleet Averaging Method
 - BACT Phase-in
- Reduce PM and NO_x
 - Retrofit with highest level PM/NO_x device
 - Switch to alternative fuel
 - Use 2007 engine
 - Retire vehicle

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Proposed Regulation: Fleet Average

- Allows fleets to determine the best path to compliance
- Declining PM and NO_x averages to meet PM and NO_x targets
- Must have 5 or more vehicles
- Report annually

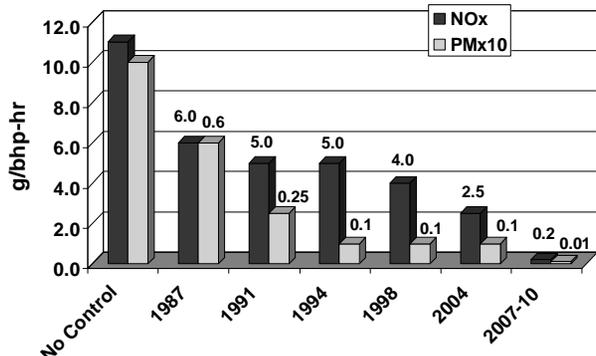
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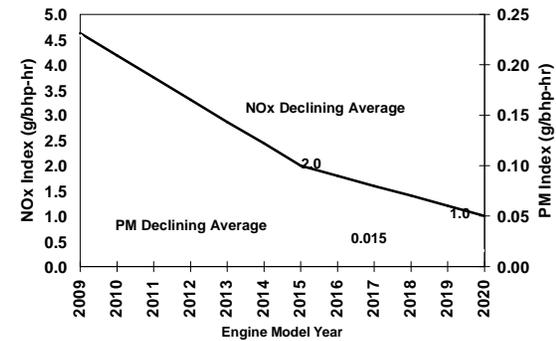
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PM & NOx Certification Standards



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Fleet Average – Declines Over Time



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Proposed Regulation: BACT

- Emissions equivalent to 2004 model year or newer by 2014
 - Apply highest level PM/NOx BACT available
 - 5 model year groups (engine model year)
 - Phase-in starting in 2009 with oldest model group
- Emissions equivalent to 2007 model year engine or better by 2020
 - Beginning in 2014, phase-out pre-2007 model year engines (or equivalent) by 2020 (20% per year)

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BACT Schedule

| Model Years | Compliance Date |
|-------------|-----------------|
| 1965-1994 | Dec 2009 |
| 1995-1997 | Dec 2010 |
| 1998-1999 | Dec 2011 |
| 2000-2002 | Dec 2012 |
| 2003-2006 | Dec 2013 |

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Rule Development Issues

- BACT
 - NOx levels
 - Phase-in schedule
- Low use definition
- Business characterization
- Specialty vehicles
- Greenhouse gases

Next Steps

- Inventory refinements
- Additional surveys
- Characterize financial impact on businesses
- Develop regulatory language
- Next workshops – June/July 2007

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