ARB's In-Use Off-Road Diesel Vehicle Regulation

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Air Resources Board

Outline
- The Air Quality Challenge
- Summary of Regulation
- It's Time to Get Started.....
- Implementation and Outreach
- Technology Demonstration and Pilot Programs
- Contacts and Further Information

What's The Problem???

The Air Quality Challenge
- The two most polluted air basins in the nation are South Coast and San Joaquin Valley
- Significant reductions in pollutants are required to meet the State Implementation Plan (SIP) goals
- SIP goals are driven by Federal air quality laws

NOx Emissions with Full Implementation of California's 8-hour Ozone SIP
(Summer Season SIP Inventory)

Direct PM2.5 Emissions with Full Implementation of California's PM2.5 SIP
(Annual Average SIP Inventory)
Summary of the Regulation

Applicability
- Applies to construction, rental, mining, airport ground support, and other industries
  - Construction ~50% of equipment inventory
- Off-road vehicle engines >=25 horsepower (hp) operating on diesel fuel
  - Excludes vehicles designed to operate on-road regardless of use
  - Excludes vehicle primarily used for agricultural operations

What Does the Regulation Require?
- Starting 2009:
  - Annual reporting and labeling
  - Limits on idling
  - Only cleaner vehicles may be added to fleets
- By 2010 through 2020:
  - Large fleets required to begin and continue retrofitting and turning over older vehicles until fleet meets targets
- By 2013 through 2020
  - Medium fleets required to begin & continue retrofitting and turning over older vehicles
- By 2015 through 2025
  - Small fleets retrofitting only

Annual Compliance Process
Large and Medium Fleets

How Does a Fleet Meet NOx & PM targets?

NOx: up to 8% or 10% hp turn over
PM: retrofit up to 20% of hp

Requirements Vary by Fleet Size

<table>
<thead>
<tr>
<th>Fleet Size Category</th>
<th>Description</th>
<th>Dates and Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>Fleet with &lt;= 2,500 hp, or Municipality fleet in low population county</td>
<td>2015-2025 PM only</td>
</tr>
<tr>
<td>Medium*</td>
<td>Fleet with 2,501 to 5,000 hp</td>
<td>2013-2020 PM and NOx</td>
</tr>
<tr>
<td>Large*</td>
<td>Fleet with more than 5,000 hp, or State or Federal Government fleet</td>
<td>2010-2020 PM and NOx</td>
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</tbody>
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*Some requirements for large and medium fleets, only initial compliance date varies.

Compliance Options
- NOx or PM exhaust retrofits (VDECS)
- Buy new or newer used vehicles
- Engine repowers
- Alternative fuels or electric vehicles
- Remove dirtiest vehicles from fleet or designate them as low-use
- Deducting fleet size earns credits for both NOx and PM
Early Action Can Save Fleets Money

- Credit for early actions prior to March 1, 2009
  - Double credit for PM retrofits
  - Credit for repowers, even to Tier 1
  - Credit for replacement in excess of 8%/year
- Double credit for electric vehicles until 2016
- Early retrofits and repowers can help fleets spread out costs and lower annual costs in early years of implementation

Is Incentive Funding Available?

- Carl Moyer program
- Small fleets
  - 100% eligible if completed by February 28, 2012
  - Eligible based on NOx and Reactive Organic Gas (ROG) reductions thereafter
- Medium fleets
  - 100% eligible if completed by February 28, 2010
  - Early compliance needed after
- Large fleets
  - Early compliance needed to receive funding
  - SOON Program

SOON Program

- Goal of SOON Program is additional emission reductions to meet SIP with incentive dollars
- Key dates:
  - 2009 Voluntary Program for all districts choosing to participate.
  - 2010 South Coast Air District has the ability to opt for mandatory program.
  - 2011 Other Districts have option to make their voluntary program mandatory, remain voluntary or not to participate.
- SOON Program applies to Fleets over 20,000 hp and with >40% Tier 0 & 1 vehicles.
- A clear path for large fleets to access incentive monies.

It's Time to Get Started

Regulation Is In Effect

- Adopted by Board on July 26, 2007
- Effective as of June 15, 2008
- Full regulation cannot be enforced until U.S. EPA grants waiver
  - Waiver recently submitted to U.S. EPA
- Two parts of regulation currently in effect:
  - 5 minute idling limit
  - Seller must provide disclosure of regulation applicability to buyer

5-Minute Idling Limit

- Effective June 15, 2008
- Exemptions from this requirement:
  - normal operation, queuing, testing, repair, etc
- Fines
  - First time offense: $300 per violation
  - Subsequent offenses: Can be $1,000 to $10,000 per violation
- Enforcement Advisory has been issued
Disclosure of Regulation Applicability

- Persons selling in California
- Disclosure records must be kept for 3 years
- Fines
  - First time offense: $500 per violation
  - Subsequent offenses: $1,000 to $10,000 per violation
- Enforcement Advisory has been issued

Implementation and Outreach

Stakeholder Working Group (ORIG)

- Committee of affected fleets, air districts, and industry representatives
- Goal is to help ARB fine tune methods and materials for implementation:
  - Outreach
  - Development of electronic reporting and compliance planning tools
  - Safety
  - Stakeholder participation critical
- Members of the public welcome to attend
- Contact Beth White (bethwhite@arb.ca.gov) or visit http://www.arb.ca.gov/mpro/petsafetyform.htm

Training

- Statewide training sessions
  - 7 training sessions completed in July-August
  - 5 more sessions scheduled for El Monte, Sacramento, San Jose, Ventura, and Oakland during August and September,
  - Made hundreds of calls and sent out 12,000 flyers to advertise the sessions
  - Additional sessions will be scheduled later this fall

Reporting Tool: DOORS

- Diesel Off-road On-line Reporting System (DOORS)
  - Gives fleets a tool to compile and report fleet information
  - Includes compliance planning tools
  - Staff soliciting fleets to use DOORS and get EINs early
    - Email DOORS@arb.ca.gov for information
    - Advantage for larger fleets to receive EINs early and have more than 30 days to label vehicles

Compliance Tools and Assistance

- Fleet average calculator available
  - To run “what-if” scenarios
- Staff is establishing
  - Process for evaluation of safety concerns
  - Working with Cal OSHA
- Staff available to give off-road presentations at the request of fleet owners, industry groups, equipment dealers and manufacturers
Information Available

- Fact sheets and compliance assistance materials
- Multiple ways to obtain updated information
  - Website
  - Email list serve (sign up through the website)
  - Toll-free phone line (1-866-6-DIESEL)

Technology Demonstration and Pilot Programs

Off-Road Showcase Demonstration

- SCAQMD & MSRC have committed 5 million dollars for this pilot program
  - Close coordination with ARB
- Goals
  - Early emission reductions
  - Demonstration of retrofit technology
  - Verification of new devices

Off-Road Showcase Demonstration Continued......

- Overwhelming response to solicitation
  - Sixteen emission control manufacturers
    - 28 systems
      - 11 active and 17 passive systems
      - 8 PM + NOx devices
      - 7 fuel borne catalyst systems
  - Eighteen fleet applications
    - 5 public fleets, 13 private fleets
    - 230 vehicles representing a broad cross section of machine types
- Implementation has been slow
  - Administration Back Log
  - 200 Vehicles have been Data Log

U.S. EPA SEP Program

- U.S. EPA settlement against 2 refiners
  - $700,000 in fines
  - Settlement agreements stipulated money to be spent on retrofit of off-road equipment
- Overall goals similar to Showcase
- 14 vehicles retrofit using 14 systems and investing $300,000

What If....

- There are no retrofits available for a specific piece of equipment for a given year?
- I don’t use a piece of equipment for the year?
- There is a retrofit but it causes a safety issue?
- The engine I ordered is not available or b/o & I won’t meet the compliance deadline?
- A new piece of equipment is back ordered?
- The retrofit or repower solution is not operationally feasible?
Contacts and More Information

Web Site Links
- Off-Road Regulation -
- Verified Devices -
- Carl Moyer Incentive Funding Program -
- Most Carl Moyer funds are distributed by the local air districts -

Contacts
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