

California Clean Air Programs for Federal Fleets

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AIR RESOURCES BOARD

Presentation Outline

- Diesel Risk Reduction Plan
- Regulations to reduce diesel PM emissions from on-road and off-road diesel vehicle fleets
- Biodiesel

Significant Health Impacts Attributed to Diesel PM



- **Annual Health Impacts - 2001**
 - 2,900 premature deaths
 - 3,600 hospital admissions
 - 240,000 asthma attacks or respiratory symptoms
 - 600,000 lost days of work
- **By comparison – 2001**
 - 3,700 deaths from car accidents
 - 2,000 homicides

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Diesel Risk Reduction Plan

- **Adopted 2000**
 - 75 percent risk reduction by 2010
 - 85 percent risk reduction by 2020
- **Multiple Strategies:**
 - Stringent new engine standards
 - Cleaner diesel fuel (<15 ppm sulfur)
 - Ensure in-use emissions performance
 - Aggressive reductions from in-use engines

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Why Reduce In-use Diesel Emissions?

- Diesel Engines are Long Lived
- New Engine Standards Offer Long Term Reductions
- In-use Emission Rules Provide Near-Term Reductions
- Control Technology is Available

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Adopted In-Use Regulations

- | | |
|--|------|
| • Urban Buses | 2000 |
| • Idling School Buses | 2002 |
| • Solid Waste Collection Vehicles | 2003 |
| • Truck Idling | 2004 |
| • Intrastate Locomotive and Harbor Craft Fuel | 2004 |
| • Transit Fleet Vehicles | 2005 |
| • On-road Fleet Rule for Public Agencies and Private Utilities | 2005 |

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Future Regulations

- Harbor Craft
- Off-road equipment
- On-road privately owned fleets
- Agricultural off-road equipment

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Best Available Control Technology Approach

- Retrofit
 - Highest applicable level
- Repower
 - Newer engine
- Replace
 - New diesel or alternative fuel vehicle
- Retire old vehicles
 - Reduce diesel fleet size

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California's Fleet Rule For Public Agencies and Utilities

California's Fleet Rule For Public Agencies and Utilities

- Adopted by ARB December 2005 with modifications
- Modifications will be available in June for a 15-day period for public comment

Outline of Public Fleets Rule

- Applicability
- Best Available Control Technology (BACT)
- Implementation Schedule
- Compliance Flexibility
- Recordkeeping Requirements

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Applicability

- Vehicles owned and operated (includes leased vehicles) by municipality or utility
 - Utility provides same or similar services for water, natural gas, or electricity as a municipality
- Diesel vehicles over 14,000 GVWR
- Model year engines 1960 to 2006

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What is a Municipality?

- **Defined in Title 13, section 2020(b)**
 - A city, county, city and county, special district, or
 - a public agency of the United states of America or the State of California,
 - any department, division, public corporation, or public agency of this State or the United States, or
 - two or more entities acting jointly, or
 - the duly constituted body of an Indian reservation or rancheria

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Exempt Vehicles

- **Emergency Vehicles are exempted from the rule by California Vehicle Code Section 27156.2**
- **Military Tactical Vehicles are exempted from the rule by Title 13, California Code of Regulations Section 1905**

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Applicability of Public Fleets Rule to Federal Fleets

- All non-tactical federal vehicles may be subject to the Public Fleets rule
 - Congress waived its sovereign immunity with respect to state or local air pollution laws
- U.S. Postal Service
 - ARB staff's legal opinion announced
(www.arb.ca.gov/msprog/publicfleets/publicfleetsmemo2004.pdf)

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Federal Vehicles Subject to California's Public Fleets Rule

- Estimate of 2,770 vehicles subject to the rule as of 2006
 - The USPS, several military bases, and the federal GSA responded to ARB staff survey
- Exact number of vehicles is unknown
 - Most are not required to register with the DMV

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Major Elements of the Public Fleets Rule

- Apply BACT to each engine in engine model year group
- Follow specific implementation schedule
- Keep records for and label each vehicle
- Remain in compliance

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Best Available Control Technology (BACT)

- Engine certified to 0.01 g/bhp-hr PM standard (2007 engine) or
- Engine certified to 0.10 g/bhp-hr PM plus retrofit with highest level verified DECS or
- Alternative-fuel, gasoline, or heavy-duty pilot ignition engine certified to lowest optional PM standard or
- Existing engine retrofit with highest level verified DECS

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ARB Verification Program

- Verification procedure adopted in 2003
- Protects the end user
 - by ensuring after-market diesel emission control strategies obtain claimed emission reductions, and
 - by providing specific warranty requirements
- Manufacturers are listed on website:
<http://arb.ca.gov/diesel/verdev/home/home.htm>

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Diesel Emission Control Strategy Verification Levels

- PM reduction
 - Level 1 - 25% to 49 % (DOC)
 - Level 2 - 50% to 84% (Fuel)
 - Level 3 - 85% or greater or <0.01 g/bhp-hr (DPF)
- Optional NOx reduction,
 - 15% minimum

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Apply Highest Level DECS

- Level 3 DECS
- Provide explanation if Level 2 or Level 1 DECS used
- Limits on Level 1 use

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Limits on Use of Level 1 DECS

- Group 1 engines (MY 1960 – 1987)
 - Level 1 allowed only in low population counties
- Group 2 engines (MY 1988 – 2002)
 - Ten-year limit on Level 1 use
 - Replace with higher than Level 1
- Group 3 engines (MY 2003 – 2006)
 - Five-year limit on Level 1 use
 - Replace with higher than Level 1

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Regular Fleet Implementation Schedule

Group	Model Years	BACT %	Deadline as of December 31 st
1 ^a	1960 - 1987	20%	2007
		60%	2009
		100%	2011
2	1988 - 2002	20%	2007
		60%	2009
		100%	2011
3	2003 – 2006 (Includes dual fuel and bi-fuel engines)	50%	2009
		100%	2010

^a An owner may not use a Level 1 technology as BACT on Group 1 engines

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Compliance Extensions Provided

- With compliance with one or more of the early implementation schedules
- If no verified DECS
- If an engine is dual-fuel or bi-fuel
- If an engine is near retirement
- If an engine is participating in a DECS experiment or demonstration

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Compliance Extensions Based on No Verified DECS

- Executive Officer issues blanket one-year extension, or
- Executive Officer approves municipality's or utility's application for extension
- Time limits on all extensions
- Before requesting an extension, the applicant must demonstrate compliance or intent to comply with applicable deadlines for remaining engines

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Low Usage Vehicles

- Driven less than 1,000 miles annually, and engine hours less than 50 hours based on a five-year rolling mileage and engine hour average
- Exempt from BACT if vehicle qualifies
- Must be labeled as low usage vehicle
- Keep records to document five-year rolling mileage and engine hours

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Retirement of Vehicles

- Exempt from BACT if retired within one year of compliance date,
- Label vehicle with retirement date
- Keep records to document retirement on schedule
- May be sold outside California, scrapped, converted to use as a low usage vehicle

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Records to Be Kept in the Vehicle

- Each vehicle must have a label by December 31, 2007
- Affix to lower end of inside of window on driver's side
 - Engine model year and planned compliance date
 - DECS information
 - Low usage designation as applicable
 - Retirement information as applicable
 - Information for vehicles claiming an extension on any other basis

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Records to be Kept For Inspection at the Terminal

- Beginning December 31, 2007, maintain the required records until vehicle is sold out of state or no longer owned by the municipality or utility
 - Vehicle ID information
 - DECS information including maintenance records
 - For fuel strategies, the most recent two years' worth of purchase records
 - Other records as applicable (low usage status compliance extension plans, and retirement)

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Additional Compliance Requirements

- Required for any contract for services that the municipality or utility would normally provide that has an effective date of December 31, 2006 or later,
- Contract must include language requiring the contractor to be in compliance with all federal, state and local air pollution control laws and regulations applicable to the contractor

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Compliance Statement

- Statement certifying that engines are in compliance as required
- Start December 31st of 2007 and renew each December 31st until December 31, 2012
- Low population counties continue reporting until 2018

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Implementation Workshops

- Fall 2006
- Detailed Regulation Overview
- One-on-One with BACT suppliers

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Off-Road In-Use Equipment



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Off-road Equipment Rule Applicability

- Off-road mobile diesel equipment ≥ 25 hp
 - Including construction/mining, industrial, and airport ground support equipment
 - Excludes equipment used at ports and intermodal rail yards or in agriculture

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Off-Road Equipment Rule Proposed Regulatory Concepts

- **Rule Structure:**
 - Fleets must meet PM fleet average or install BACT
 - Four milestone years 2010, 2013, 2017, and 2020
 - Special provisions for low-use equipment and small fleets
 - Idling restrictions
- **Workgroup meeting planned for July**

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Off-Road Equipment Rule Public Process

- **Workshop process has already started**
- **Further workshops planned for Summer '06**
- **Tentative Board consideration
December 2006**
- **For more information, contact:**
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 - Kim Heroy-Rogalski, Lead staff
(916) 327-2200
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Biodiesel



Biodiesel

- Fuel from vegetable oils and animal fats
- Sale allowed if CARB fuel and DMS standards met
 - DMS: B20 meets diesel criteria
- Non-retail not regulated

Biodiesel and EPA Act Compliance

- Biodiesel used for compliance with the Energy Policy Act (EPA Act)
- SB975 allows use of B20 with verified DECS
 - Announced in ARB advisory letter MSC 05-21 (http://www.arb.ca.gov/msprog/mailouts/mouts_05.htm)
- Johnson-Matthey CRT DPF is verified on B20; others likely to follow
- ARB Working Group

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Summary of Suggested ARB Biodiesel Policy

- Consider B20 as a California diesel fuel
 - Biodiesel portion meets the ASTM 6751 (15 ppm sulfur)
 - Diesel fuel portion complies with CARB diesel fuel regulations
- Allow use of B20 with technologies verified with CARB diesel
- Not address potential NO_x increase
- Not address higher blends of biodiesel

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ARB Biodiesel Working Group

- Draft suggested ARB biodiesel policy available for public comments
- For more information on the draft:
 - www.arb.ca.gov/fuels/diesel/altdiesel/altdiesel.htm
- Written comments due by June 26, 2006
- Contact
 - Robert Okamoto
 - Phone: (916) 327-2953
 - E-mail: rokamoto@arb.ca.gov

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Questions ?



For More Information

- **Public Agencies and Utilities web page**
 - www.arb.ca.gov/msprog/publicfleets/publicfleets.htm
- **Join List Serves:**
 - diesel-retrofit and ms mailing
- **Contacts:**
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