

Training Seminar: 2010 Off-road Diesel Vehicle Regulation for Large Fleets



March 18, 2010

California Environmental Protection Agency

Air Resources Board



Outline

- Regulation Status
- Overview of Requirements
- Reduced Horsepower and Activity Credit
- 2010 Compliance Summary
- BACT Changes
- Retrofit Visibility and Exemptions



Regulation Status



Regulation Status

- Severe economic recession
- Relief granted via AB 8 2X
- Additional changes to off-road regulation being considered

AB 8 2X

- Signed by Governor in February, 2009
- Directed ARB to amend regulation to address impacts of recession:
 - More retirement credits
 - New reduced activity credits
 - Delay a portion of 2011-2012 requirements to 2013
- Board approved in July 2009



AGC Petition

- Petition
 - Filed on January 11, 2010
 - Requested ARB:
 - Delay fleet average targets for 2 years
 - Withdraw request for authorization from U.S. EPA
- ARB Response
 - Enforcement delay
 - March 1, 2010 BACT and fleet average requirements
 - Adding vehicle restrictions
 - March 11 Executive Officer hearing

Summary of March 11, 2010, Hearing

- Industry provided information
 - Economic growth forecast
 - Recession's impact on fleets
 - Inventory estimate
- Many fleets requested 2 to 5 year delay
 - Other potential changes identified

Timeline

- **April 22, 2010** Report to Board
 - Summary of the March 11 hearing
 - Effect of the recession
 - Progress toward meeting the federal requirements
 - Summary of potential revisions to both rules
- **May/June 2010:**
 - Workshops on revised emission inventories and proposed amendments
- **July 2010:** Staff proposal released
- **Aug 2010** Special Board Hearing
 - Revisions to both the truck and bus and off-road reg

Overview of Requirements



Current Requirements (Enforceable)

- Reporting and Labeling
- Idling Restriction and Idling Policy
- Disclosure with Vehicle Sales

Regulation Background

By March 1, 2010:

- Meet the fleet average for NO_x,
or
- Turn over 8% of fleet horsepower (or use credits)

- Meet the fleet average for PM
or
- Retrofit 20% of fleet horsepower (or use credits)

Fleet Averages

Calculated in DOORS, fleet average calculators, alternate compliance planning tools

Target Year	2009	2010	2011	2012	2013	2014
Nox Target	0.0	6.8	6.4	6.1	5.7	5.3
Nox Average (2009)	6.6					
PM Target	0.00	0.27	0.27	0.22	0.22	0.20
PM Average (2009)	0.37					

BACT: NOx and PM

NOx BACT: Turnover

- Sell / Retire (or Replace)
- Repower
- Verified NOx retrofits,
- Designate permanent low use

PM BACT

- Level 2 or 3 retrofits (currently all verified retrofits are level 3)
- Tier 0 retirements in shrinking fleet

Additional Provisions

- Alternative fuels
- Electric vehicles
- Delay Tier 1 turnover to 2013
- Yearly low-use designation
- Specialty vehicles
- Adding vehicle requirements

Reduced Horsepower



Reduced Horsepower Credit

- If total fleet horsepower reduced from March 1, 2006, to March 1, 2010, credit is granted for the difference.

Example: A fleet has 10,000 horsepower on March 1, 2006, and has 7,000 horsepower on March 1, 2010.

$$10,000 - 7,000 = 3,000 \text{ Hp Credit}$$

Reduced Horsepower Credit

- Credit applied to both NOx (turnover requirements) and PM (retrofit requirements)
- Credit does not expire (lasts until used)
- Age or Tier of vehicles retired does not affect credit

Reporting Reduced Horsepower

Include all vehicles the fleet owned since March 1, 2006, in the fleet report in DOORS

Line #	EIN	Veh serial num	Your veh num	Type	Manufacturer
10				Bore/Drill Rigs	A&L

Edit	Delete	Sell/Retire	Line #	EIN	Veh serial num	Your veh num	Type	Veh Manufacturer	Veh Model	Veh MY	Purchase
Edit	Delete	Sell/Retire	9	KM0A87	siudhr89479uh	29348	Bore/Drill Rigs	A&L	23423423	2009	1986-0
Edit	Delete	Sell/Retire	8	HL5B79	345345345cgb	4345	Skid Steer Loaders	A&L	869NA005	2003	1999-0
Edit	Delete	Sell/Retire	7	MA8H35	7898jlooooo	4345	Skid Steer Loaders	A&L	869NA005	2003	1999-0

Reporting Reduced Horsepower

Sell/Retire all of the vehicles no longer in the fleet.

Edit	Delete	Sell/Retire	Line #	<u>EIN</u>
<u>Edit</u>	<u>Delete</u>	<u>Sell/Retire</u>	8	SE4F95
<u>Edit</u>	<u>Delete</u>	<u>Sell/Retire</u>	7	SR8T44

Sold vehicles will be shown below the others, in grey.

Reduced Activity



Reduced Activity

- Compare fleet activity from the period **January 1, 2007 to December 31, 2007**, to the period **March 1, 2009 to February 28, 2010**

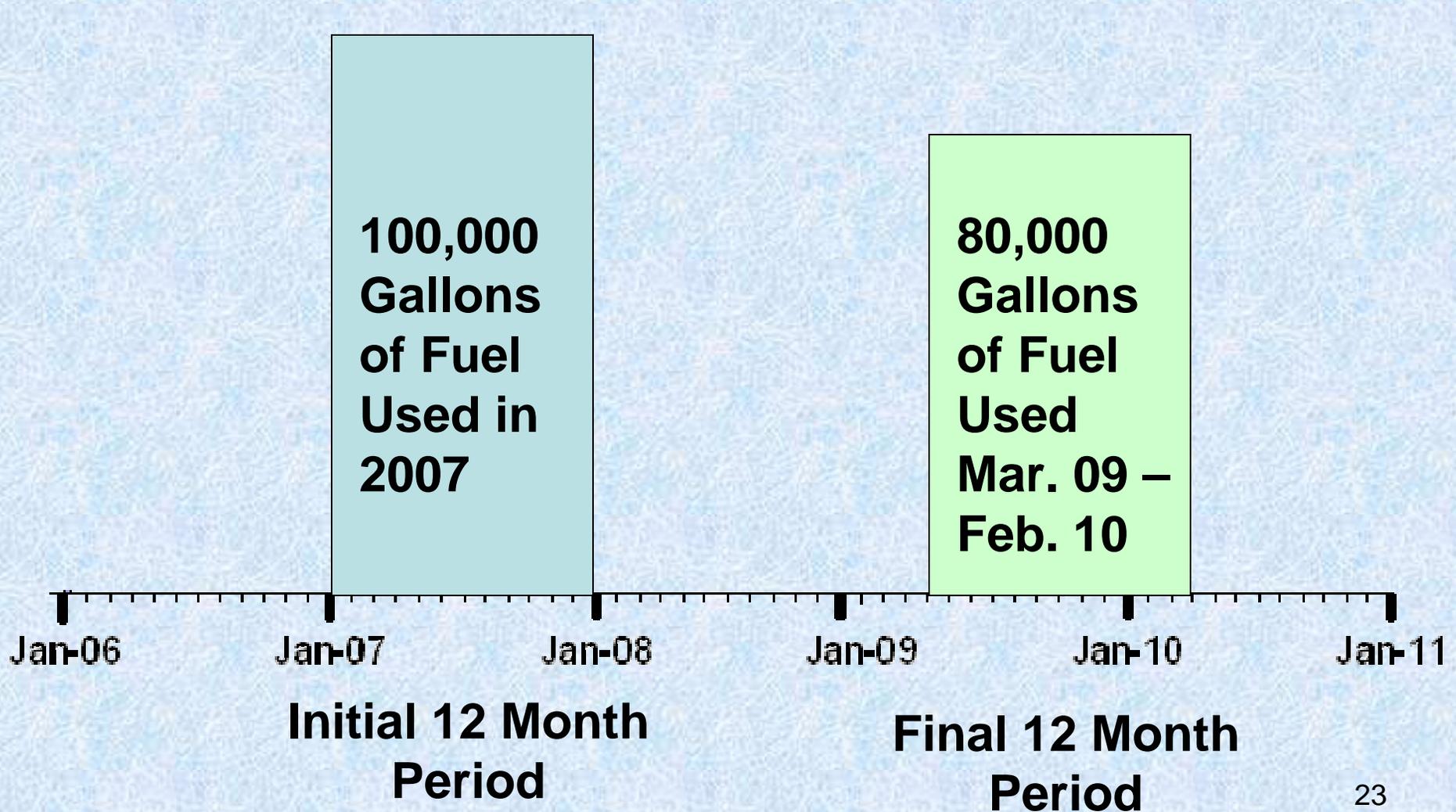
Example: My fleet worked 20 percent less between March 2009 to February 2010 than I did in all of 2007. My fleet on July 1, 2007, was 10,000 hp. I get

$$\underline{20\% \times 10,000 \text{ Hp} = 2,000 \text{ Hp Credit}}$$

Reduced Activity Credit

- Credit applied to both NOx (turnover requirements) and PM (retrofit requirements)
- Good for 2010 and 2011 requirements only (unused credit expires if not used in 2011).
- Percent reduction in activity multiplied by July 1, 2007, horsepower

Reduced Activity Timeline



Uncapped Reduced Activity Indicators

- **Vehicle hours**
 - Records for 95% of the fleet or more (by Hp)
 - Weighted by horsepower
- **Off-road Diesel Fuel Use**
 - Red dye diesel use
 - May include regular diesel if claimed for tax credit
- **Operating Engineer Hours Paid**

Capped Reduced Activity Indicators

Records capped at 20% credit:

- **Total employment**
 - Records of overall employment by the agency or company
- **Production Information**
 - Tons mined, flights ran, acres cleared, etc.
- **Business Revenue**

Reporting Reduced Activity

Three Steps

1. Online in DOORS
2. Complete ARB forms
3. Mail in ARB form with fleet records

<http://www.arb.ca.gov/msprog/ordiesel/activity.htm>

Reporting Reduced Activity: Online

Hours of operation:

Model	MY	2007 Hours	2010 Hours
350G	2002	476	351
456	2009	176	158
140G	1981	190	205

Reporting Reduced Activity: Online

Alternate Indicators

Uncapped or Capped

- Off-road Diesel Fuel Use
- Total Vehicle Operator Hours Paid

- Revenue
- Total Number of employee
- Production
- Other (Specify Below)

Reporting Reduced Activity Forms

Complete ARB form, and include fleet records (paper and/or electronic)

 **AIR RESOURCES BOARD** Reduced Activity Records Application
Fleet Information Form / Cover Sheet

To submit a request for Reduced Activity/Credit, please fill out this form and attach the applicable forms:

Reduced Activity Credit Summary Sheet from DOORS and
Reduced Activity Indicator Records: Only one of sections (A) through (G)

Please send your written request to:

Off-road Diesel Vehicle Registration
Reduced Activity Records Application
Form 7, MCO-D
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

Responsible Party and Contact Information

Please fill out all the fields below. Failure to fill out this page in its entirety may result in a rejected application, and a delay in receiving reduced activity credit.

Company / Agency Name	
DOORS ID Number	
Fleet Owner / Manager	
Contact Phone Number	
Contact Email	
<input type="checkbox"/> Mailing Address	Name
	Address 1
	Address 2
	City, State, Zip



<http://www.arb.ca.gov/msprog/ordiesel/activity.htm>

What Fleet Records are Required?

- Hour meter logs, vehicle tracking software
- Payroll records, tax records for employees
- Fuel receipts, tax records for fuel
- Revenue from tax receipts
- Shipping records for goods / services
- Production / services records

Low Use Vehicles



Low Use Vehicles Must Choose:

- **Year by year**

- Drop out of fleet horsepower / averages
- Enter hours for 12 months prior to March 1, 2010 (or 36 months prior)
- No credits to PM or NOx, just lower requirements

- **Designate permanent low use**

- Vehicle will always be low use in the future
- Enter current hour meter (but not previous)
- Credit towards NOx (turnover credit)

Reporting Low Use

Not Low Use	Year to Year	Year to Year Outside	Designated	Designated Outside	EIN
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	AN8D86
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	gN4G66
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GY9X45
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	HA3T95
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	HL5B79

Inputting Hour Meter Records

Low Use Type	EIN	2007	2009	2010	CA Total
Year to Year	AU7Y86	3410		3610	
Designated	DL3H95			8910	
Year to Year Outside	GX7W84		3000	3450	75

<http://www.arb.ca.gov/msprog/ordiesel/faq/faqlowuse.pdf>

2010 Compliance Summary

Fleet is not 2010 Compliant

Fleet must: Turnover 5,978 Hp or meet the NOx fleet average.
May be met with [early credit](#) or [vehicle turnover](#)

Fleet Size: Large
First Compliance Date: March 1, 2010
Requirements: NOx and PM

2010 NOx Requirements:	Not Met
Nox Fleet Average:	Not Met
Nox BACT Requirements:	Not Met
Required BACT Turnover: (8% of Fleet Horsepower)	10,474 Hp
Current Turnover Credit:	4,496 Hp

2010 PM Requirements:	Met
PM Fleet Average:	Not Met
PM BACT Requirements:	Met
Required BACT Retrofits: (20% of Fleet Horsepower)	26,186 Hp
Current Retrofit Credit:	42,972 Hp

Turnover Requirements: **5,978 Hp**
If you meet the fleet average before accruing this turnover, you have met the 2010 requirements.
For more information on accumulating turnover credit see the [2010 guided to compliance](#) or the [early credit guide](#)

Carryover PM Credit: **16,786 Hp**
Carryover credit is applied to 2011 requirements
Unused Reduced Activity Credit expires if not used in 2010 or 2011.

Compliance Summary

- Official status of the fleet vs. 2010 requirements
- Fleet averages, credits, size, dates
- 2010 only, no future dates
- Released to calculate a single DOORS ID compliance status initially
- Subfleets included in the future

Compliance Summary

Fleet is not 2010 Compliant

Fleet must: Turnover 5,978 Hp or meet the NOx fleet average.

Summary: compliant or not?

Brief summary of outstanding requirements
(if any)

Compliance: NOx

2010 NOx Requirements:	Met
Nox Fleet Average:	Met
Nox BACT Requirements:	NA
Required BACT Turnover: (8% of Fleet Horsepower)	2,112 Hp
Current Turnover Credit:	0 Hp

NOx BACT Credits

Nox Credit

2006-2010 Retirement:	391
Reduced Activity:	6,401
Early Replacement:	0
Repowers	4,931
2009-2010 Turnover:	0
Total:	11,724

BACT Changes 2011-2013



BACT Schedule Changes

- Amendment modifies 2011 to 2013 requirements. Effectively:
 - 2011: Reduce requirements by 40%
 - 2012: Reduce requirements by 40%
 - 2013: Increase requirements by 80%

Retrofit Visibility



Interim Visibility Policy

- The regulation exempts vehicles from retrofitting where a retrofit would be unsafe
- CalOSHA is considering a standard for retrofit visibility (late 2010 or 2011)
- To prevent installs now that would later violate CalOSHA standards, ARB will exempt vehicles that cannot be retrofit without impacting visibility
- See Interim Visibility Policy at <http://www.arb.ca.gov/msprog/ordiesel/documents/interim%20vis%20policy.pdf>

2010 Retrofit Requirements

- For 2010 requirements, select vehicles to retrofit where the retrofit does not block operator visibility
- If no vehicles in the fleet can be retrofit without blocking operator visibility, the fleet will be temporarily exempt from retrofit requirements

Operator Visibility

- Visibility defined by an operator of average height and weight, looking in any direction around a vehicle
- Retrofit installation should not block their view of surroundings in any direction

Installations that Create Masking



Installations that Create Masking 2



Installations without Masking



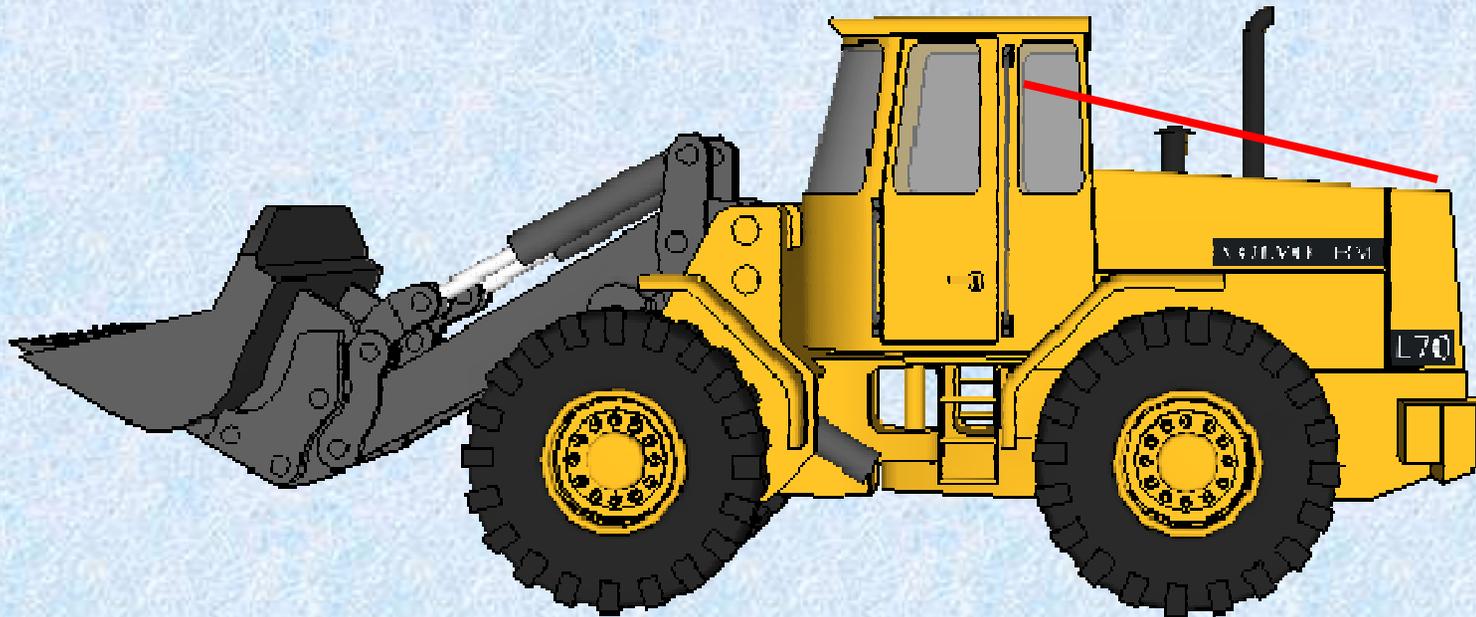
<http://www.arb.ca.gov/msprog/ordiesel/vdecssafety.htm>

Installations without Masking 2



Determining Visibility

- For cases that are unclear, use the guide at www.arb.ca.gov/msprog/ordiesel/vdecssafety.htm



Claiming an Exemption

- Follow exemption guide and application
- Submit paperwork to ARB

Vehicle Profile



Engine Compartment Profile



Rear Views of the Vehicle



Top View of Engine Compartment



Engine compartment with access doors open

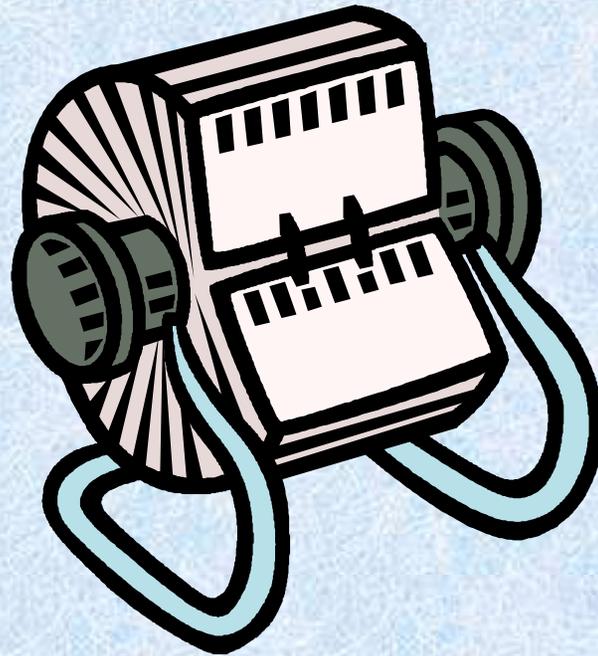


Dimensions of engine components, specifically any muffler components



<http://www.arb.ca.gov/msprog/ordiesel/vdecssafety.htm>

Information and Contacts



California Environmental Protection Agency

Air Resources Board



Information and Contacts

Off-road Diesel Homepage: Reporting, Fleet Average Calculator, Training Information

www.arb.ca.gov/ordiesel

Knowledge Center (FAQs, Advisories)

www.arb.ca.gov/msprog/ordiesel/knowcenter.htm

Help Line: (877) 59-DOORS

doors@arb.ca.gov