



West

California Air Resources Board

In-Use Off-Road Diesel Vehicle Regulation



Quick Reference Guide

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Scope of Off- Road Regulation

- Adopted by CARB on July 26, 2007
- Applicability:
 - Commercial Off-Road Diesel Vehicles >25 Horsepower
 - Impacted industries include: Construction, Mining, Industrial, Airport Ground Support Equipment
- Exemptions:
 - Locomotives, Commercial Marine Vessels, Recreational Vehicles, Military, and ***Agricultural Operations***



What is considered Agricultural Operations?

- From the regulation: Section 2449 (c) (1)
 - (1) *growing or harvesting crops from soil and the raising of animals for the primary purpose of making a profit, providing a livelihood or for instruction at an educational institution.*
 - or
 - (2) *agricultural crop preparation services such as packinghouses, cotton gins, nut hullers and processors, dehydrators, and feed and grain mills. Crop preparation includes **only the first processing** after harvest, not subsequent processing or canning.*

Are vehicles used for forestry considered agricultural?

- Agricultural crop preparation is exempt
- From the regulation: *Section 2449 (c) (1)*
 - *“For forest operations, agricultural crop preparation services include milling, peeling, producing particleboard and medium density fiberboard, and producing woody landscape materials”*
- A vehicle is considered agricultural only if **over half** of its operating hours are for agricultural operations



Rule Requirements

- The rule varies by the size of the fleet
- Fleet sizes are determined by the total Horsepower of the fleet

Fleet Type	Total Hp
Small*	< 2500
Medium	2501-5000
Large	>5000

- *Small fleets are NO LONGER required to meet the definition of a small business in California



Initial Fleet Reports

- All fleets are required to file initial fleet reports to CARB in 2009

Fleet Type	Total Hp	Initial Fleet Report due:
Small	< 2500	August 1, 2009
Medium	2501-5000	June 1, 2009
Large	>5000	April 1, 2009

- Report will reflect each fleet as of March 1, 2009



Annual Compliance Report

- Annual Compliance Report will indicate if a fleet is in compliance to the rule
- If a fleet is in compliance, CARB will issue a "Certificate of Reported Compliance"

Fleet Type	Total Hp	Initial Fleet Report due:	First Annual Compliance Date
Small	≤ 2500	August 1, 2009	August 1, 2014
Medium	2501-5000	June 1, 2009	June 1, 2012
Large	>5000	April 1, 2009	April 1, 2010

- Fleets report fleet information as it was on March 1



What is Required for Compliance?

- CARB has given fleets two options for compliance
- Option 1: Meet NOx and PM Fleet Average Targets
- Option 2: Utilize the “Best Available Control Technology (BACT) Off-Ramp”



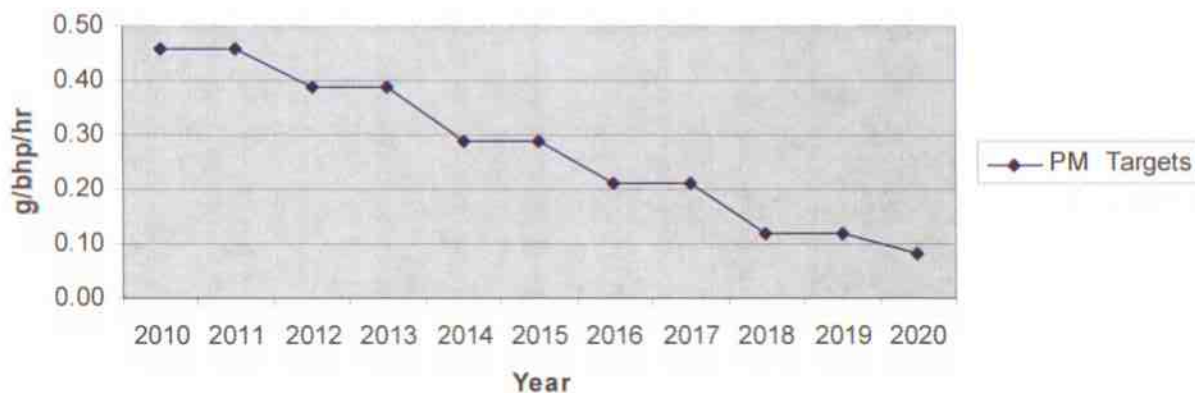
Compliance Option 1: Fleet Averaging

- Large and Medium Fleets must meet NOx and PM Average Targets
 - Fleets must meet targets every year throughout regulation
 - Targets decline over time
- Small Fleets are exempt from the NOx requirements
- Fleets that operate exclusively within attainment counties are exempt from the NOx requirements
- Attainment Counties:
 - Alpine, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Monterey, Plumas, San Benito, San Luis Obispo, Santa Cruz, Shasta, Sierra, Siskiyou, Trinity, Tehama, Yuba.



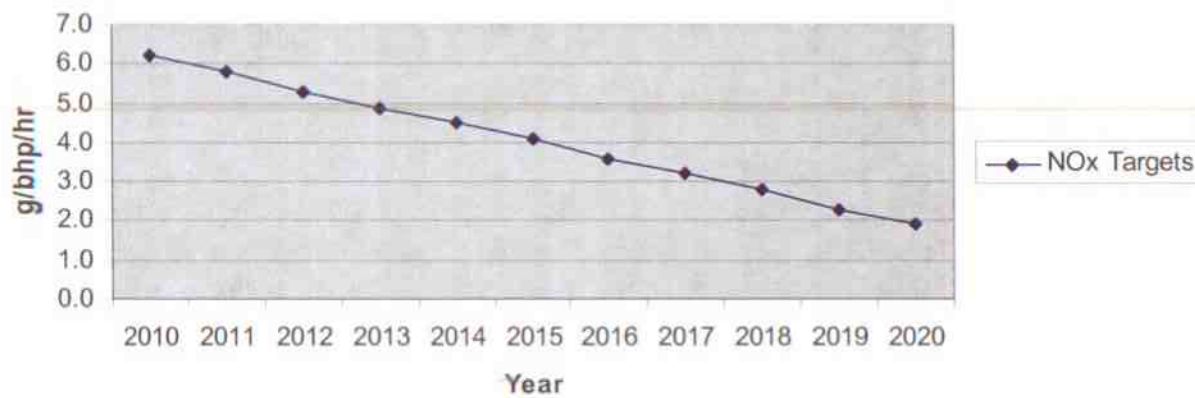
Compliance Option 1: Fleet Averaging

Annual PM Fleet Average Targets



PM Targets for Medium and Large Fleets

Annual NOx Fleet Average Targets



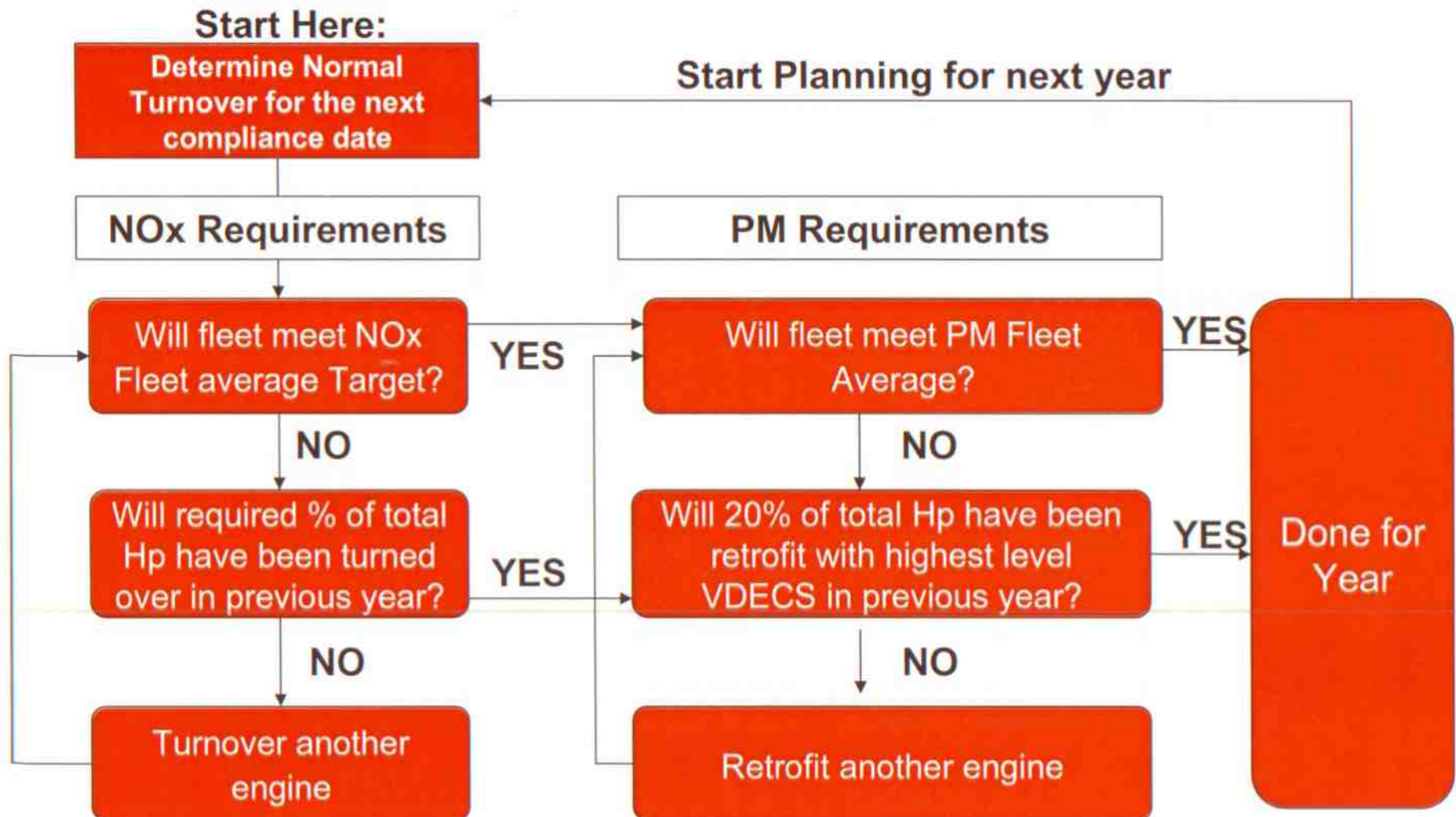
NOx Targets for Medium and Large Fleets



Compliance Option 2: BACT

- If a fleet cannot meet the fleet averages in a compliance year they may take the “BACT Off-Ramp”:
 - To meet NOx requirements: a fleet must turnover 8% of their Hp (10% after 2015)
 - Turnover means – Replace, Repower, Retire
 - To meet PM requirements: a fleet must retrofit 20% of its fleet with Verified Diesel Emission Control Systems

A Road Map to Annual Compliance





Credit for Early Action

■ Early Repowers

- If a fleet repowers a Tier 0 engine to a Tier 1 or higher engine prior to March 1, 2009 they will receive credit towards the NOx turnover requirements

■ Early Retirement

- If you retire Tier 0 vehicles at a rate greater than required between March 1, 2006 and March 1, 2009 you receive credit towards both the NOx and PM requirements of the rule

■ Early Retrofit

- Large Fleets that retrofit with the highest level VDECS before March 1, 2009 receive **double credit** towards PM requirements



Other Provisions

- Fleets cannot add any Tier 0 equipment after March 1, 2009
- Order of Turnover:
 - All Tier 0 machines must be turned over before you can get credit for turning over Tier 1, 2 or 3
- Low Usage
 - Vehicles operated under 100 hours are exempt (3 yr rolling avg)
- Turnover Exemptions
 - No machine needs to be turned over if it is less than 10 years old
- Retrofit Exemptions
 - No machine less than 5 years old needs to be retrofit

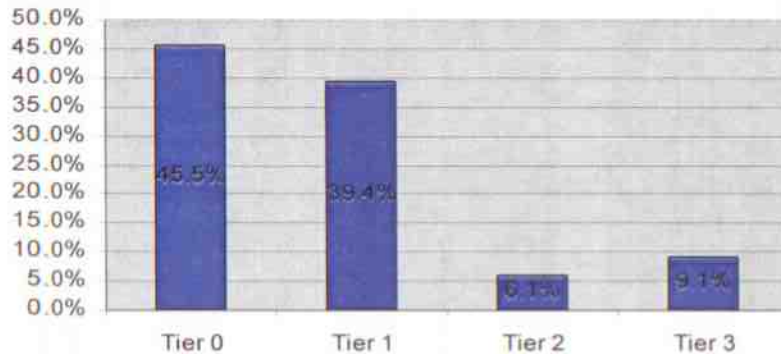


Vehicle Labeling

- After Submitting the initial fleet report, CARB will assign an Equipment Identification Number (EIN)
 - Labeling must occur within 30 days of receiving the number
 - EIN must be white letters on a red background
 - Must be in clear view on right (starboard) side of vehicle
 - Label must be 5 feet above ground
 - Letters to be 3" high and 1.5" wide

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Fleet Calculator Examples

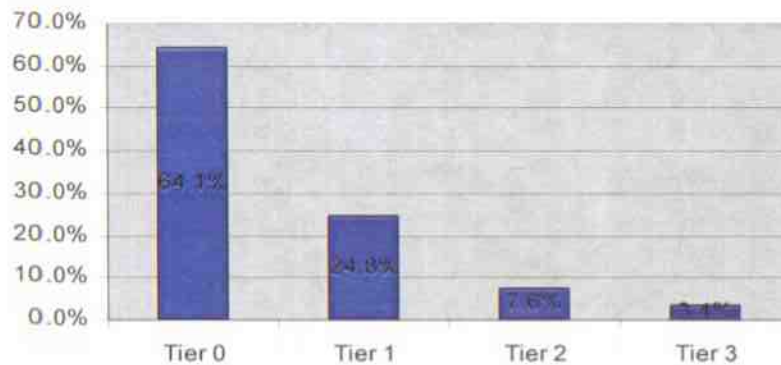


Total Hp = 6,803

Can't make fleet avg for NOx or PM in 2010

Needs 544 Hp of turnover to meet 2010

Needs 1360 Hp of Retrofits to meet 2010
(roughly 7 retrofits)

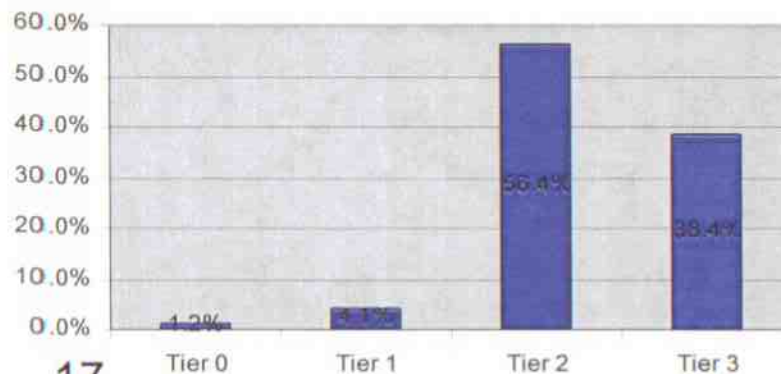


Total Hp = 23,152 (with 12 early repowers)

Can't make fleet avg for NOx or PM in 2010

Meets NOx BACT in 2010

Needs 4630 Hp of Retrofits to meet 2010 PM
(roughly 30 retrofits!!)



Total Hp = 30,890

Meets fleet average for NOx thru 2016

Meet fleet average for PM thru 2013

Maximum horsepower	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015+
<11	Exempt from Regulation																				
11≤hp<25																					
25≤hp<50	-					7.1/4.1/0.60			5.6/4.1/0.45			5.6/4.1/0.22			3.5/4.1/0.02						
50≤hp<75										5.6/3.7/0.30			3.5/3.7/0.22 ^c			3.5/3.7/0.02 ^c					
75≤hp<100					- / 6.9 / - / - ^b					4.9/3.7/0.22			3.5/3.7/0.30		0.14/2.5/3.7/0.015 ^{b,d}			0.14/3.7/0.015 ^b			
100≤hp<175													3.0/3.7/0.22								
175≤hp<300					1.0/6.9/8.5/0.40 ^b			4.9/2.6/0.15		3.0/2.6/0.15 ^a			0.14/1.5/2.6/0.015 ^{b,c}			0.14/3.0/2.2/0.015 ^b					
300≤hp<600	-					4.8/2.6/0.15															
600≤hp<750										4.8/2.6/0.15			0.30/2.6/2.6/0.07 ^b			0.14/5.0/2.6/0.02 ^b					
Mobile Machines > 750hp																					
750hp<GEN≤1200hp					1.0/6.9/8.5/0.40 ^b					4.8/2.6/0.15			Tier 4 Interim			0.14/5.0/2.6/0.02 ^b					
GEN>1200 hp																	Tier 4 Final				
	18	Tier 1				Tier 2				Tier 3											



“OK...What do I need to do?”

1. Document your fleet
 - Equipment Name
 - Engine Model Year
 - Horsepower
2. Document any changes to your fleet since March 2006
3. Put your fleet in the CARB fleet Calculator
4. Determine your fleet size (small, medium, large)
5. Using the Fleet Calculator start to think about compliance options – EVERY FLEET IS DIFFERENT
6. In 2009 – file your initial fleet report with CARB
7. File your annual compliance reports with CARB in 2009
8. Complete written anti idling policy by March 1, 2009.



– $< 2,500$ Hp

- Meet Small Business Requirements (does not have to be a certified small business)

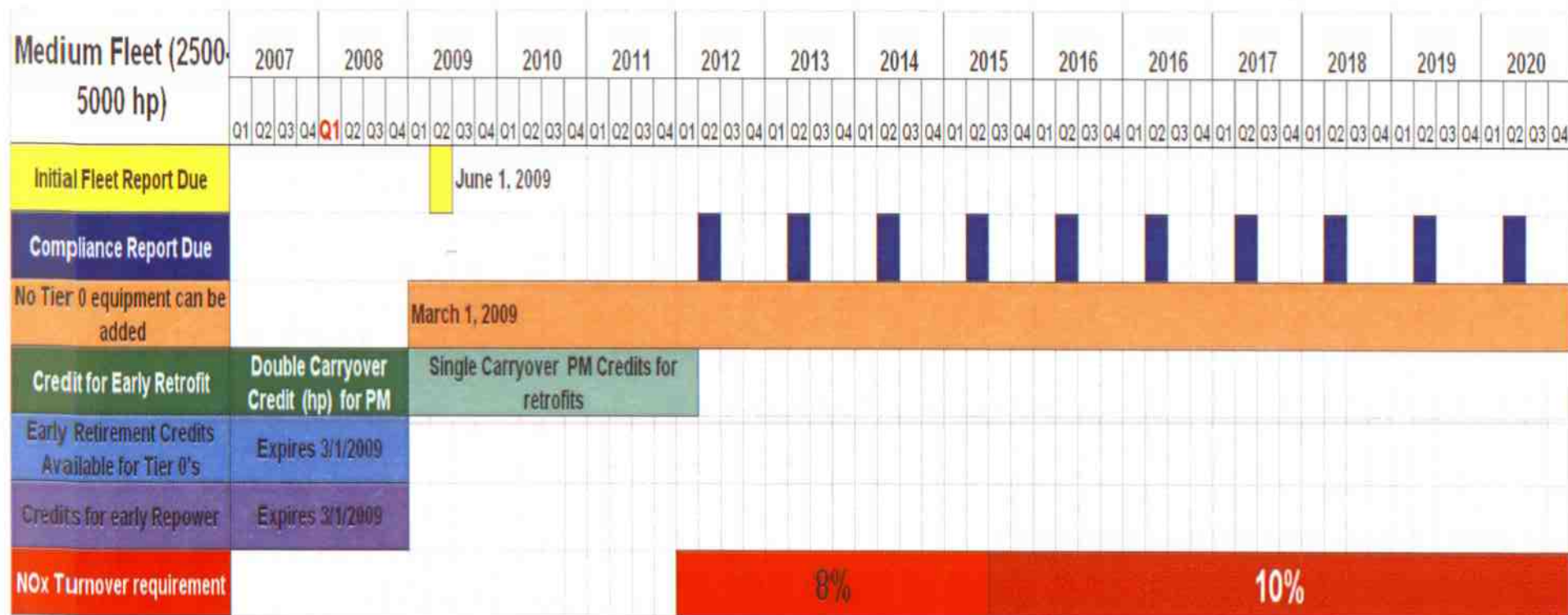
- Subject to PM requirements only

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Compliance Timeline for Medium Fleets

- Medium Fleets:
– 2,501- 5,000 Hp





Large Fleet (>5000 Hp)	2007				2008				2009				2010				2011				2012				2013				2014				2015				2016				2016				2017				2018				2019				2020															
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																				
					Q1																																																																			
Initial Fleet Report Due									April 1, 2009																																																															
Compliance Report Due																																																																								
No Tier 0 equipment can be added									March 1, 2009																																																															
Credit for Early Retrofit	Double Carryover Credit (hp) for PM																																																																							
Early Retirement Credits Available for Tier 0's	Expires 3/1/2009																																																																							
Credits for early Repower	Expires 3/1/2009																																																																							
Nox Turnover requirement									8%																10%																																															



Contact Information



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