

In-Use Large Spark Ignited Engine Fleet Regulation

Carl Moyer Program Implementation Charts

This document is for informational purposes only.
ARB/Districts will determine project eligibility

The information provided below is for informational purposes only. ARB will make eligibility determinations for multi-district projects and local air districts will make eligibility determinations for those projects funded with Carl Moyer funds allocated to their district. Eligibility determinations will be based on applicable Guidelines, statute and advisories, which are available at <http://www.arb.ca.gov/msprog/moyer/moyer.htm>.

The Information below can be used in determining project eligibility for funding options when equipment is subject to the ARB LSI Engine Fleet Requirements. Eligibility is directly impacted by pollutant(s) to be claimed by the project and timing of the project. Emission factors, baseline costs and project life are provided for each option described.

For potential projects in which NO_x and ROG are claimed additional charts are provided below to help ARB and Districts ensure that the reductions are at least three years early to the compliance deadline as required by the Guidelines.

Instructions for Reading the Fleet Rule Moyer Implementation Charts

If there are at least three years prior to the first compliance milestone (left of the three solid lines  in charts):

1. The equipment is eligible for funding if it meets all other LSI Engine criteria as described in the Carl Moyer Program Guidelines and advisories
2. The project life would be based on the number of years before the first compliance deadline
3. Applicants do not have to show compliance of the equipment group unless requesting a longer project life

If there are less than three years prior to the first compliance milestone (right of the three solid lines  in charts):

1. An applicant can only receive funding once
2. An applicant must apply for funding at least three years prior to the final compliance deadline
3. Equipment which have at least three years of project life prior to the compliance deadline are eligible for the incremental cost up to the appropriate cost effectiveness limit (green cells in charts)
4. Remaining equipment within the group subject to the regulation with less than three years prior to the compliance deadline are not eligible for funding and must be brought into compliance by the applicant before the Carl Moyer funded project is reimbursed by the district (yellow cells in charts).
5. Work can begin on the Carl Moyer funded projects once the funds have been obligated.

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Example:

If an applicant is subject to the regulation shown in chart below, eligibility would be determined as follows:

Fleet Wide Nox + HC Average	2008	2009	2010	2011	2012	2013
< 1.4 g/bhp-hr Nox + HC	Default					
2.0 – 1.5 g/bhp-hr Nox + HC	4	3				

A) Projects installed and in operation by 1/1/09:

1. Applicant can only apply for funding if they have not received funding for this equipment group within 3 years before the first compliance date.
2. Districts can fund the NOx & ROG of the eligible equipment group (green cells).
3. The equipment will have a 4 year project life.
4. The applicant must agree by contract to show compliance of the equipment in the group before receiving payment by the district (yellow cells). At post inspection documentation for this compliance must be provided to the district.

B) Projects installed and in operation by 1/1/10:

1. Applicant can only apply for funding if they have not received funding for this equipment group within 3 years before the first compliance date.
2. Districts can fund the NOx & ROG of the eligible equipment group (green cells).
3. The equipment will have a 3 year project life.
4. The applicant must agree by contract to show compliance of the equipment in the group before receiving payment by the district (yellow cells). At post inspection documentation for this compliance must be provided to the district.

If the projects are installed and in operation any time on or after 1/1/10 then it is not eligible.

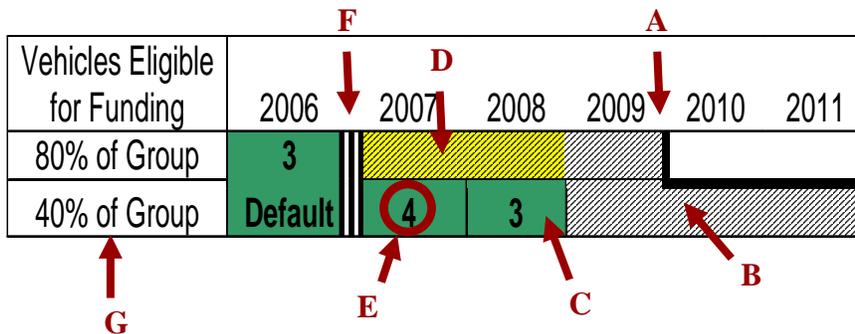
	= Potential Carl Moyer Funding for PM, NOx & ROG
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	= 3 years of Moyer Eligibility
	= Portion to be Paid by Applicant
	= Compliance Deadline
	= Point at which applicants can only receive funding once and is triggered three years prior to the first compliance deadline. The applicant must demonstrate that equipment with less than three years prior to the compliance deadline is in compliance and in operation before payment can be made for the Carl Moyer funded project.
Number in Cell	= Maximum project life applicable if installed and in operation by 12/31 of that year. D = default project life as specified in criteria.

Key:

SAMPLE ELIGIBILITY CHART



- A = Compliance Deadline**
- B = 3 Years of Moyer Eligibility**
- C = Potential Funding**
- D = Portion to be paid by applicant**
- E = Project Life as of 12/31**
- F = One more opportunity line**
- G = % of Group/Fleet Eligible for Funding**

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LARGE SPARK IGNITION (LSI) EQUIPMENT PROJECTS

- *Rule impacts operators of fleets of four or more Forklifts, or fleets of four or more non forklift Sweeper/Scrubbers, Industrial Tow Tractors and/or pieces of Ground Support Equipment (see charts below for compliance dates and required fleet averages)*
- *The LSI rule requires fleet wide control of hydrocarbons plus oxides of nitrogen (HC + NO_x).*
- *Rule requires owners to maintain compliance records on-site and make available to ARB upon request*
- *Statements of compliance or a copy of compliance records must be obtained from applicants and districts are not liable if applicants falsify reports*
- *Compliance will be determined based upon the fleet average standards in CFR 2775.1 (a) or for Fleets used in agriculture crop preparation services, CFR 2775.1 (c)*
- *Regulatory information can be found at:
<http://www.arb.ca.gov/regact/lore2006/fro.pdf>*
- *Questions regarding compliance can be directed to Tom Evashenk of the ARB at (916) 445-8811 or at tevashen@arb.ca.gov.*

Emission factors (refer to the Appendix in applicable Guidelines):

1. New electric purchase
 - a. Baseline emission factors = Table B-15* for what LSI equipment the applicant could have purchased
 - b. Electric equipment emission factor = 0.0 g/bhp-hr
 - c. Project life = up to 10 years
2. Retrofits
 - a. Baseline emission factors = Table B-15* for uncontrolled equipment
 - b. Reduced emission factors = Table B-16*
 - c. Project life = 3 years
3. Equipment replacement (2008 Guidelines only)
 - a. Baseline emission factors = Table B-15 for existing equipment
 - b. Reduced emission factors = Table B-15 or B-17, as applicable.
 - c. Project life = 3 years

*For 2005 Guidelines, refer to Advisory 06-003.

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Fleet Average Emission Level Standards
 hydrocarbons plus oxides of nitrogen
 in grams per kilowatt-hour (brake-horsepower-hour)

Fleet Type	Compliance Dates/Emission Levels		
	1/1/2009	1/1/2011	1/1/2013
Large Forklift Fleet	3.2 (2.4)	2.3 (1.7)	1.5 (1.1)
Medium Forklift Fleet	3.5 (2.6)	2.7 (2.0)	1.9 (1.4)
Non-forklift Fleet	4.0 (3.0)	3.6 (2.7)	3.4 (2.5)

Eligible projects claiming NOx and ROG

1. Equipment that is exempt from LSI regulation

- a. Agricultural Crop Preparation pre-1990 year forklifts
- b. Agricultural Crop Preparation non-forklift equipment
- c. Non-forklift LSI equipment exempt from regulation regardless of fleet size: aerial lifts, lawn and commercial turf equipment, ice surface care equipment, mining and construction equipment
- d. LSI equipment impacted by regulation but in small fleets of 1-3 forklifts and/or 1-3 sweeper/scrubbers, industrial tow tractors, or airport ground support)

2. Agricultural Crop Preparation Forklifts

- Agricultural crop preparation forklifts have an alternative compliance plan in which the fleet is in compliance if it meets a fleet average of 3.0 g/bhp-hr by January 1, 2009. A fleet which has met this compliance level is eligible for funding.

3. Large Fleets (26+ forklifts)

Regulatory Requirements

NOx + HC emissions cannot exceed	Compliance Deadline
2.4 g/bhp-hr	by January 1, 2009
1.7 g/bhp-hr	by January 1, 2011
1.1 g/bhp-hr	by January 1, 2013

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Potential funding

- Once final fleet wide requirements have been met funding opportunities do not expire.

Fleet Wide NOx + HC Average	2008	2009	2010	2011	2012	2013
≤ 1.1 g/bhp-hr NOx + HC	Default					
1.7 – 1.2 g/bhp-hr NOx + HC	4	3				

4. Medium Forklift Fleets (4-25 forklifts)

Regulatory Requirements

NOx + HC emissions cannot exceed	Compliance Deadline
2.6 g/bhp-hr	by January 1, 2009
2.0 g/bhp-hr	by January 1, 2011
1.4 g/bhp-hr	by January 1, 2013

Potential funding

- Once final fleet wide requirements have been met funding opportunities do not expire.

Fleet Wide NOx + HC Average	2008	2009	2010	2011	2012	2013
≤ 1.4 g/bhp-hr NOx + HC	Default					
2.0 – 1.5 g/bhp-hr NOx + HC	4	3				

5. Non-forklift (4 or more Sweeper/scrubbers, Industrial tows, Airport ground support)

Regulatory Requirements

NOx + HC emissions not exceed	Compliance Deadline
3.0 g/bhp-hr	by January 1, 2009
2.7 g/bhp-hr	by January 1, 2011
2.5 g/bhp-hr	by January 1, 2013

Potential funding

- Once fleet wide requirements have been met funding opportunities do not expire.

Fleet Wide NOx + HC Average	2008	2009	2010	2011	2012	2013
≤ 2.5 g/bhp-hr NOx + HC	Default					
2.7 – 2.6 g/bhp-hr NOx + HC	4	3				

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6. Agricultural Crop Preparation Forklifts

Regulatory Requirements

NOx + HC emissions must be controlled

1. 20 % of fleet by January 1, 2009
2. 100 % of fleet by January 1, 2012
 - a. For 1990 and newer uncontrolled forklift equipment; if retrofits are available, the fleets must address that equipment with at least a Level 2 retrofit or a 3 g/bhp-hr NOx + HC repower.

Potential funding

Fleet Wide NOx + HC Average	2008	2009	2010	2011	2012
100% of fleet					
80% of fleet	3				

- b. For 1990 and newer uncontrolled forklift equipment; if retrofits are available, the fleets may meet an alternate compliance of 3 g/bhp-hr NOx + HC fleet average. When forklift fleets meet this, funding opportunities do not expire.

Potential funding

Fleet Wide NOx + HC Average	2008	2009	2010	2011	2012	2013
≤ 3.0 g/bhp-hr	Default					