

IV. Project Criteria

These criteria provide the minimum requirements for Carl Moyer Program Large Spark Ignition projects. Such projects must also conform to general criteria of Chapter 2, as well as the project application, contract, reporting, and other requirements as described in Part III: Program Administration. Participating districts retain the authority to impose additional regulations in order to address local concerns. See applicable criteria for LSI fleet requirements in E below.

(a) General Off-Road LSI Equipment Project Criteria

(1) Maximum project life:

(A) New electric purchase 10 years

(B) Retrofit 5 years

A longer project life may receive case-by-case approval if applicants provide justifying documentation. The maximum project life does not consider regulatory requirements and may be shorter.

(2) Funding is available for propulsion engines of LSI equipment greater than 25 horsepower or electric equipment that is greater than 19 kilowatts (kW). Auxiliary engines on mobile equipment and portable engines are not eligible for funding.

(3) LSI equipment with an engine displacement of less than or equal to one liter may be eligible for funding on a case-by-case basis only with prior ARB approval.

(4) Emission reduction technologies must be certified/verified by the ARB and must comply with durability and warranty requirements. For the purposes of the Carl Moyer Program, a technology granted a conditional certification/verification by ARB is considered certified/verified.

(5) Future annual hours of equipment operation for determining emission reductions must be based only on readings from an installed and fully operational hourmeter.

(6) The following industries are not eligible for funding under this chapter: food retail stores, cold storage, and confined space operations (such as freezers).

(7) The certification emission standard must be determined from the Executive Order issued for that LSI engine family, not by the engine model year. Executive Orders for off-road engines may be found at:

http://www.arb.ca.gov/msprog/offroad/cert/cert.php?eng_id=LSIE

(8) Projects that include leased-to-own equipment are eligible provided the signed contract with the air district specifies that the applicant will keep and use the equipment for the entire project life.

(9) Case-by-case projects must receive approval from ARB prior to funding.

These projects must follow the requirements as described in Part III, Section 28.

(b) Retrofits

Retrofit is the installation of a verified emission control system on an existing engine. For LSI equipment, this generally involves the addition of a stoichiometric air/fuel controller and a three-way catalyst. ARB has verified retrofit systems that reduce HC and NOx emissions of LSI engines. The reductions are stated as absolute emissions. Information on LSI verified retrofit systems, may be found at:

<http://www.arb.ca.gov/msprog/offroad/orspark/verdev.htm>

- (1) Forklifts in Classes 4, 5, and 6 are eligible for retrofit project funding. All other LSI equipment for which there are verified retrofit systems would be eligible for funding.
- (2) The retrofit kit must be verified by ARB to the highest level available for the engine being retrofitted.
- (3) Eligible costs include purchase and installation of a verified retrofit kit and an hour meter if none exists on the equipment.
- (4) The maximum percent of retrofit costs eligible for Carl Moyer Program funding are: 100 percent.

(c) New Purchase

Electric Equipment

Electric equipment does not have exhaust emissions; therefore it provides greater emission reduction benefits compared to equipment with internal combustion engines.

Past Carl Moyer Program funding was generally used for electric forklift purchases, now other electric equipment will be included.

- (1) Eligible new electric forklift purchases would be in Class 1, lift codes 4, 5, or 6.
- (2) For eligible projects, applicants must sign a declaration that old electric equipment is not being replaced with new electric equipment and the applicant wouldn't normally purchase electric equipment.
- (3) Eligible projects must include evidence of a plan to install either the number of battery chargers corresponding to the number of pieces of equipment purchased or fast charging units for use with multiple pieces of equipment.
- (4) Costs for battery chargers and necessary peripheral equipment associated with electric equipment projects may be included in determination of the grant award amount. These costs are considered infrastructure and can only be paid for with district match funds.
- (5) The maximum percent of electric equipment new purchase costs eligible for Carl Moyer Program funding are: 30 percent.
- (6) Purchase of new zero-emission equipment other than electric is eligible on a case-by-case basis only with prior ARB approval (i.e. fuel cell equipment).

LSI Equipment

Current LSI regulations allow manufacturers to certify engines to optional standards that are below the required emission standards. There are new LSI engines certified to an optional standard as low as 0.6 g/bhp-hr available for use in a variety of types of equipment. It is likely, due to market demand driven by current regulations, that the price differential between equipment certified to the standard and equipment certified to the optional standard may be rather small. As such, new LSI equipment certified to the optional standard and at least 30% below the current applicable emission standard may be eligible on a case-by-case basis only with prior ARB approval.

(d) Repower

A repower is the replacement of the in-use engine with an emission-certified engine instead of rebuilding the existing engine to its original specifications. Repowers in LSI equipment are not typical, due to relative low value of the equipment by the time an engine repower is needed. Repowers of forklifts and other LSI equipment would be considered on a case-by-case basis only with prior ARB approval.

(e) Off-Road Large Spark-Ignition Fleet Requirement

The regulation requires reductions in fleet average HC+NO_x emissions. The fleet size is determined by aggregating an operator's equipment in the state of California. The regulation impacts owners of fleets of four or more LSI forklifts and/or four or more LSI sweepers/scrubbers, industrial tow tractors, and/or pieces of airport ground support equipment.

(1) Projects are subject to the general program criteria listed above.

(2) Funding is available for achieving reductions required by the regulation at least three years prior to regulatory compliance deadlines and for reductions not required by the regulation.

(3) Large and Medium Forklift Fleets and Fleets of 4 or More

Sweeper/Scrubbers, Ground Support Equipment, and/or Industrial Tow Tractors: Regulatory compliance dates for these fleets are January 1, 2009, January 1, 2011, and January 1, 2013. Only fleets that have met the 2011 fleet average can apply for Carl Moyer funding for projects that will be installed and in operation three years prior to the January 1, 2013, compliance deadline (i.e., January 1, 2010). To ensure that projects are surplus to regulatory requirements, fleets are only eligible to receive funding once prior to meeting the final compliance deadline.

(4) Agricultural Crop Preparation Forklift Fleets Model Year 1990 and Newer:

These fleets are required to either retrofit or repower 20% of their fleet, or meet a 3.0 g/bhp-hr fleet average HC + NO_x level, by January 1, 2009. If complying using the retrofit/repower path, the rest of the fleet must be retrofit or repowered by January 1, 2012. Fleets that have met the 3.0 g/bhp-hr fleet average can apply for funding. Additionally, fleets that have met the 2009 regulatory requirements can apply for Carl Moyer funding for projects that will be installed and in operation three years prior to the January 1, 2012, compliance deadline (i.e., January 1, 2009).

(5) Fleets with equipment not subject to the off-road LSI in-use fleet regulations are eligible for funding.

(A) Agricultural crop preparation non-forklift equipment and pre-1990 forklifts

(B) Non-forklift LSI equipment such as aerial lifts, lawn & garden tractors, commercial turf equipment, mining and construction equipment, industrial equipment

(C) Small fleets (1-3 forklifts and/or 1-3 sweepers/scrubbers, industrial tow tractors or pieces of airport ground support equipment)

(6) For more detailed information on potential funding opportunities, see Carl Moyer Program Implementation chart for the LSI Fleet Requirement available through your local district or at

<http://www.arb.ca.gov/msprog/moyer/guidelines/supplemental-docs.htm>.