

IV. Project Criteria

The project criteria listed below for on-road heavy-duty vehicles provide the districts, fleet operators, transit agencies, and applicants with the minimum qualifications for the Carl Moyer Program. On-road 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 requirements in order to address local concerns.

(a) General On-Road Heavy-Duty Vehicle Project Criteria

(1) Maximum project life for on-road projects are as follows:

- (A) Buses > 33,000 GVWR - New 12 years
- (B) Other On-road - New 10 years
- (C) Repower Only (No Retrofit) 7 Years
- (D) Repowers + Retrofits 5 years
- (E) Retrofits 5 years

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

(2) On-road heavy-duty diesel vehicles with a GVWR between 8,501 and 14,000 pounds may be considered for Carl Moyer Program funding for new, repower and retrofit projects on a case-by-case basis.

(3) Emission reduction technologies must be certified/verified by the ARB for sale in California 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.

(4) To receive funding through the Carl Moyer Program, all engines in the fleet that are eligible for a low NOx software upgrade (reflash) must be reflashed within 60 days of receipt of payment. The fleet owner/operator may self-certify to the local district that the reflash has been performed by submitting receipts of reflash completed or a picture of the "Low NOx Reflash Label" from the reflashed engine to the district. Most heavy heavy-duty, and some medium heavy-duty engines manufactured between 1993 through 1998 are eligible for reflash. A list of engines eligible for reflash is available at:

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

(5) On-road calculations shall be based on projected annual mileage instead of fuel usage, due to the fact that the exhaust emission factors are more robust. Fuel based calculations may be used only if documentation of previous fuel use and mileage records are submitted to the district with the application that show the project to be at least 30% more cost-effective when using fuel based calculations. If using the fuel based calculations, usage must be based on two years of historical fuel usage documentation specific for the equipment being funded. Documentation may include fuel logs, purchase receipts or ledger entries.

(6) When the model year of the vehicle chassis (or glider kit) and the model year of the existing engine are different, the newer of the two model years, either the vehicle or the engine, shall be used to determine the baseline emissions for calculations.

(7) Glider kits are not an eligible expense for Carl Moyer Program funding.

(8) Although electronic monitoring units are not required by the ARB, when an EMU is required by a district, it is an eligible expense for any category.

(9) Refuse vehicles and street sweepers often have two engines, one for motive power and one for auxiliary operations. Emission benefits are calculated individually for each engine using fuel consumption rates for each unit if available. If individual engine fuel consumption information is not available, the applicant must provide and document an estimate for the typical activities of each engine based on best engineering judgment so that emissions can be determined. Factors such as fuel economy, typical operating loads, and hours of operation for each engine must be provided.

(10) 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) Compliance Check

After the district receives an application for any on-road repower or retrofit project but before the district pays for a project, the district must submit information regarding the project to ARB to check for outstanding violations. For compliance check requirements, please see Chapter 4 (Fleet Modernization), Section I.

(c) New Purchase

Non-fleet modernization new vehicle purchases are not a common funding category. Due to tighter standards, new purchase projects are only eligible for minimal grant amounts. Currently, most engines certified for use in California are certified as FEL (family emission limit) engines and are not eligible for funding for new vehicle purchases. New purchase will be considered only on a case-by-case basis.

(1) The maximum percent of new purchase cost eligible for Carl Moyer Program funding is: 25 percent

(2) The contract for funding 2008 – 2009 projects must be fully executed by December 31, 2009 and the equipment must be in service by June 30, 2010, 6 months after the new 2010 0.2 g/bhp-hr NO_x emission standard takes effect.

(d) Repower

A repower is the replacement of an in-use engine with an emission-certified engine instead of rebuilding the existing engine to its original specifications. To help ensure funds will not pay for non-compliant engines, the Carl Moyer guidelines are aligned with the proposed private on-road fleet regulation, which would require vehicles meet Model Year 2007 1.2 g/bhp-hr NO_x and 0.01 g/bhp-hr PM emissions standards by December 31, 2013. Therefore, replacement engines for repower projects must be an ARB certified engine meeting at least or equivalent to the Model Year 2007 1.2 g/bhp-hr NO_x and 0.01 g/bhp-hr PM

emissions standards. Due to technological constraints presented with the newer technology engines fitting into older chassis, staff has determined that funding opportunities will be limited. Repower projects will be evaluated on a case-by-case basis. The maximum percent of repower cost eligible for Carl Moyer Program funding is: 80 percent

(e) Retrofit

Retrofit is the installation of a verified diesel emission control system on an existing engine. The Carl Moyer guidelines are aligned with the proposed private on-road fleet regulation to ensure retrofit projects reduce emission in excess of that which will be achieved by the proposed regulation. Please refer to Appendix F for more detailed discussion on retrofits. More information on retrofits, including a list of currently verified retrofits, may be found at <http://www.arb.ca.gov/diesel/verdev/verdev.htm>.

- (1) The percent of retrofit cost eligible for Carl Moyer Program funding is: 100 percent
- (2) Retrofits for on-road heavy-duty vehicles not subject to a current on-road fleet regulation are eligible for funding up to and no later than December 31, 2008. After December 31, 2008, projects may be considered on a case-by-case basis.
- (3) Only ARB-verified retrofits are eligible for funding.
- (4) Retrofit projects that reduce NOx emissions must be verified by ARB to a NOx reduction level of at least 15 percent from the baseline engine to claim NOx reductions from the project.
- (5) Retrofit projects that control PM must use the highest level technically feasible technology available for the equipment being retrofitted. ARB considers the retrofit device that achieves the highest level of PM reductions (level 3 - 85 percent) and the highest level of NOx reductions to be the highest level retrofit.
- (6) Fleets/agencies affected by upcoming fleet regulations may be able to use Carl Moyer Program funding for retrofit projects if the project life expires prior to the final compliance date or achieves reductions beyond the regulatory requirements. See applicable criteria below for each fleet regulation.
- (7) If the retrofit device reduces both NOx and PM emissions and is being installed to comply with a PM requirement, only the cost of the NOx reductions are eligible for Carl Moyer Program funding. For retrofit projects that only take credit for NOx reductions from a Level 3 DECS, the baseline cost is ½ the cost of the retrofit project.
- (8) From 2008 to 2009, retrofits of urban buses and transit fleet vehicles will be considered on a case-by-case basis. Applicants must provide documentation that the retrofit will not be used to off-set a new diesel urban bus purchase.
- (9) The full cost of a retrofit kit and maintenance of the retrofit during the project life may be funded subject to the weighted cost-effectiveness limit.
- (10) Only the minimum ARB verified levels of NOx and PM10 emission reductions will be used to calculate cost-effectiveness for retrofit projects.
- (11) The baseline cost for retrofit projects claiming both PM and NOx is zero (\$0). The full cost of a retrofit is potentially eligible for funding.

(f) Fuel

(1) Carl Moyer Program funds cannot be used for fuel projects, however funds under a district's budgetary authority or fiduciary control (i.e. match funds) may be used to pay for the incremental cost of liquid or gaseous fuel, other than standard gasoline or diesel, which is integral to a project receiving grant funding under the Program. If all Carl Moyer Program criteria are met and the project is not a "fuel only" project, the incremental cost of alternative fuel can be considered a qualified matching contribution from a district.

(g) Port and Drayage Trucks

(1) The ARB adopted the fleet rule for in-use heavy-duty diesel-fueled vehicles that operate at port and intermodal rail yards in December 2007. Because of compliance requirements, there are limited opportunities available for port and drayage trucks and for minimal grant amounts. Projects may be available and considered on a case-by-case basis. Proposition 1B funding may be a more suitable funding source for this category.

(h) Private Fleets

(1) Currently, most in-use heavy-duty trucks, or heavy-duty vehicles designed to carry an entire load such as long-haul, short-haul, delivery, and construction trucks, are not subject to any fleet rules. The ARB is developing a fleet rule for in-use heavy-duty diesel-fueled vehicles that is tentatively scheduled to be presented to the Board in late 2008. If approved, it will affect project criteria for in-use heavy-duty diesel-fueled vehicle projects.

(i) Public Agency and Utility Fleets

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

(2) All public agency and utility vehicle projects must submit total fleet compliance records as described in the Fleet Rule for Public Agencies and Utilities showing that the funds will not be used to meet the rule's requirements.

(3) Due to low mileage, public agency and utility vehicle projects are generally only eligible for minimal grant amounts.

(4) For counties that have a population greater than 125,000: Due to the regulatory compliance deadlines, few funding opportunities remain for technologies that reduce diesel particulate matter in vehicles powered by 1960 through 2006 MY engines, and will expire completely after 12/31/2008.

(5) Low-Population County fleets (counties with a population of less than 125,000) or those that have qualified for Low-Population County status, have two options for compliance: accelerated turnover option or BACT implementation schedule for Low-Population Counties. Low-Population County fleets must declare with submittal of their application which compliance path they will follow. Funding opportunities exist for all model year vehicles in agencies following the Low-Population County BACT implementation schedule until at least 2013. For agencies following the accelerated turnover option, Carl Moyer funding for repower projects are available through 2017 and for installing verified diesel emission control strategies through 2022.

(6) NOx reductions may be available for funding in retrofit projects, repower projects, and new purchases.

(7) For more information on eligibility for public fleet, please see the On-Road Fleet Carl Moyer Program Implementation Chart available through your local district or at <http://www.arb.ca.gov/msprog/moyer/guidelines/supplemental-docs.htm>.

(j) School Buses

(1) Currently, school buses are not subject to any fleet rules. ARB is developing a fleet rule for in-use heavy-duty diesel-fueled vehicles that is tentatively scheduled to be presented to the Board in late 2008. If approved, it will affect project criteria for school bus projects. Until board adoption however, the following apply:

(2) School buses are eligible for Carl Moyer Program funding if they meet the general program criteria above; however, their relatively low annual miles traveled usually allows for minimal grant amounts.

(3) School bus calculations shall use the MHD vehicle emission factors and conversion factors to calculate cost-effectiveness.

(k) Solid Waste Collection Vehicles

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

(2) All MY 1960 – 2006 SWCVs are required to comply with the regulation by December 31, 2010. No funding opportunities for diesel particulate matter reductions remain for these vehicles.

(3) All SWCV projects must submit compliance records as described in the SWCV rule to show that funds will not be used to meet the rule's requirements. The companies must also identify out of which terminal the vehicles potentially receiving Carl Moyer Program funds operate. This information must be submitted with the application. The district and/or ARB will notify applicants if any additional documentation is required.

(4) NOx reductions may be available for funding in retrofit projects, repower projects, and new purchases.

(5) For more information on eligibility for SWCVs, please see the SWCV Fleet Carl Moyer Program Implementation Chart available through your local district or at <http://www.arb.ca.gov/msprog/moyer/guidelines/supplemental-docs.htm>.

(l) Transit Vehicles (Urban Buses and Transit Fleet Vehicles)

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

(2) Projects will be considered on a case-by-case basis. Transit agencies are required to submit annual documentation of compliance with the transit fleet rule to ARB. Districts will work with ARB to determine if applicants are in compliance with the regulatory requirements and to ensure that Carl Moyer Program funds will not be used to meet these requirements. Transit agencies are not required to submit any additional regulatory compliance information with the Carl Moyer Program application and will be notified if districts and/or ARB require additional documentation.

(3) Transit Fleet Vehicles: The Fleet Rule for Transit Agencies specifies compliance dates for those fleets established before January 1, 2005 and for those established after January 1, 2005. If the fleet provides documentation that demonstrates compliance with regulatory requirements, Carl Moyer Program funds for purchases of new vehicles, repower and retrofit projects may be available.

(4) Urban Buses: The Fleet Rule for Transit Agencies specifies compliance dates for those urban bus fleets established before January 1, 2002 and for those established after January 1, 2002. If the fleet provides documentation that demonstrates compliance with regulatory requirements, Carl Moyer Program funds for purchases of new vehicles, repower and retrofit projects may be available. These projects may have the default project life.

(5) FTA provides up to an 80 percent grant for new urban bus purchases. For these projects the incremental cost would be the difference between the FTA grant amount and the cost of the reduced technology or baseline technology.

(6) For more information on funding eligibility, please see the On-Road Fleet Carl Moyer Program Implementation Chart available through your local district or at <http://www.arb.ca.gov/msprog/moyer/guidelines/supplemental-docs.htm>.

(m) Idling Reduction

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

(2) Heavy-duty trucks with the primary engine model year 2006 and older are eligible for ARB verified retrofit APU funding.

(3) Retrofit projects that control PM must use the highest level technically feasible technology available for the APU.

(4) Heavy-duty trucks are eligible for zero-emission technologies for APUs. The baseline for these projects would be an ARB certified Tier 4 engine with a level 3 DECS.

(5) If an internal combustion engine APU is available with an electric plug-in option, the incremental cost of the plug-in option is eligible for Carl Moyer Program funding.

(6) An hour-meter or other means to measure usage must be installed with an idle reducing project to track operation. The participant shall provide this information to ARB or the district upon request during the life of the project.

(7) The installation of electric power infrastructure at truck stops and distribution centers is eligible for funding through air districts' Carl Moyer Program match funds.

(8) Advanced truck stop electrification - Carl Moyer Program funds may be used for installing advanced truck stop electrification systems (e.g., IdleAire systems). In these cases, a partial payment would be made upfront to help offset the initial capital investment. The remainder of the grant amount would be paid out in installments based on system utilization. The amount of the initial payment and subsequent installments will be determined on a case-by-case basis.

(9) Other idle reducing projects may be considered on a case-by-case basis.

(n) Transport Refrigeration Units (TRU)

- (1) Projects are subject to the general program criteria listed above.
- (2) The participant shall install an hour-meter or other means to measure usage on the TRU to track operating hours, and shall provide this information to ARB or the district upon request.
- (3) Alternative technologies such as electric standby and pure cryogenic systems are not required to be verified, but ARB must review and approve such systems in writing on a case-by-case basis.
- (4) Funding opportunities may exist for a zero emission new purchases or repowers on a case-by-case basis.
- (5) Funding opportunities may exist to retrofit to a ULETRU level. For more information on funding eligibility for TRUs please see the TRU Carl Moyer Program Implementation chart available through your local district or at <http://www.arb.ca.gov/msprog/moyer/guidelines/supplemental-docs.htm>.

(o) Cost-Effectiveness Calculation Specific Criteria

- (1) Sample calculations that illustrate the methodology for determining emission reductions and cost-effectiveness are included in Appendices C and E.