# Chapter 4: ON-ROAD HEAVY-DUTY VEHICLES

This chapter describes the minimum criteria and requirements for Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) on-road heavy-duty vehicle projects, excluding Fleet Modernization and On-Road Voucher Incentive Program (On-Road VIP) projects (see Chapter 5 and the On-Road VIP Guidelines for more information about these programs). Local air quality management or air pollution control districts may set more stringent requirements based upon local priorities.

## A. Projects Eligible for Funding

The Air Resources Board (ARB) has adopted many fleet rules that affect on-road heavy-duty diesel-fueled vehicles (see Section E of this chapter). There are limited funding opportunities for vehicles subject to these rules and regulations.

**Table 4-1**
**Summary of On-Road Heavy-Duty Funding Opportunities**

| Vehicle Type | Subject to ARB Fleet Rule | Moyer Funding Opportunities[1] |
|---|---|---|
| Urban Buses<br>Transit Fleet Vehicles | Fleet Rule for Transit Agencies[2] | Very limited opportunity |
| Solid Waste Collection Vehicles, excluding transfer trucks | Solid Waste Collection Vehicle Regulation[3] | Very limited opportunities for oxides of nitrogen (NOx) |
| Transport Refrigeration Units (TRU) | TRU Air Toxic Control Measure (ATCM)[4] | Very limited opportunity |
| Auxiliary Power Units (APU) | Idling ATCM[5] | Very limited opportunity; zero emission projects only |
| Municipal Vehicles and Utility Vehicles | Fleet Rule for Public Agencies and Utilities[6] | Low-population counties - some opportunity through 2017<br>High-population counties – very limited opportunity |
| Drayage Trucks | Drayage Truck Regulation[7] | Very limited opportunity |
| Most other On-Road Heavy-Duty Vehicles | Statewide Truck & Bus Regulation[8] | Limited opportunity |

[1] Limited opportunities means a fleet's compliance status with the ARB regulation must be determined. Contact air district Carl Moyer Program staff or consult fleet rule Carl Moyer Implementation Charts at: http://www.arb.ca.gov/msprog/moyer/guidelines/supplemental-docs.htm in addition to these guidelines.
[2] Fleet Rule for Transit Agencies: http://www.arb.ca.gov/msprog/bus/bus.htm
[3] Solid Waste Collection Vehicle Regulation: http://www.arb.ca.gov/msprog/SWCV/SWCV.htm
[4] TRU Air Toxic Control Measure (ATCM): http://www.arb.ca.gov/regact/trude03/fro1.doc
[5] Idling ATCM: http://www.arb.ca.gov/regact/hdvidle/frorev.pdf
[6] Fleet Rule for Public Agencies and Utilities: http://www.arb.ca.gov/msprog/publicfleets/publicfleets.htm
[7] Drayage Truck Regulation: http://www.arb.ca.gov/msprog/onroad/porttruck/porttruck.htm
[8] Statewide Truck & Bus Regulation: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm

Project Types: Taking the above table into consideration, the following categories may be eligible for funding:

1. Truck Replacement Projects (Fleet Modernization and On-Road VIP): The replacement of an older, dirtier truck with a newer, cleaner one. Most funding opportunities for on-road heavy-duty trucks are available for trucks in small fleets of three or fewer trucks through Fleet Modernization or On-Road VIP. Please see Chapter 5 for Fleet Modernization guidelines or the On-Road VIP Guidelines at www.arb.ca.gov/msprog/moyer/voucher/voucher.htm .

2. New Vehicle Purchase: The purchase of new vehicles with engines cleaner than those required by law. Funding opportunities in this source category will be limited due to the lack of availability of new vehicles with engines certified below the 0.20 grams per brake horsepower (g/bhp-hr) NOx emissions standard.

3. Repower Existing Vehicle: Repower with an engine cleaner than that currently in the vehicle. Due to technological constraints presented with newer engines fitting into older chassis, funding opportunities are limited.

4. Retrofit Purchase: The installation of a verified diesel emission control strategy. Diesel particulate filters are required for most on-road heavy-duty diesel vehicles in California, either as original equipment manufacturer (OEM) equipment in new trucks or through phased compliance schedules for older trucks complying with ARB rules and regulations. Funding is limited to retrofits that provide early or extra emission reductions to the regulations.

5. Transport Refrigeration Units (TRU): Due to the Air Toxic Control Measure (ATCM) that sets in-use performance standards for TRUs, projects available for funding are limited.

6. Idling Reduction: Idling reduction projects include electric auxiliary power units (APU), as well as truck stop electrification for both on-board and off-board infrastructure. Funding is limited to projects that provide emission reductions beyond what is required by regulation, such as zero emission technologies.

Please see Section D (Project Criteria) for detailed minimum eligibility requirements.

## B. Maximum Eligible Funding Amounts

Table 4-2 summarizes the maximum eligible funding for each project type. All projects are also subject to the cost-effectiveness threshold defined in Appendix G.

**Table 4-2**
**Maximum Funding Amounts for Carl Moyer On-Road Vehicle Projects**

| Project Type | Maximum |
|---|---|
| New Vehicle Purchase | 25 percent |
| Repower | $30,000 |
| Retrofit: Highest Level particulate matter (PM)+ NOx | $10,000 |
| Retrofit: 2007 Engine Standard Equivalent* | $20,000 |
| TRU Retrofit | 100 percent |
| Idling Reduction Retrofit | 100 percent |

* Including ARB verified selective catalytic reduction retrofits

## C. Emission Standards

Table 4-3 lists the NOx and PM emission standards for new on-road heavy-duty engines. Urban buses have a separate set of emission standards which are now aligned with those for heavy-duty vehicles.

**Table 4-3**
**Emission Standards for On-Road Heavy-Duty Diesel Engines (g/bhp-hr[1])**

| Model Year | NOx | PM |
|---|---|---|
| 2007-2009 | 1.20[2] | 0.01 |
| 2010 and later | 0.20 | 0.01 |

[1] gram per brake horsepower-hour
[2] Between 2007-2009, U.S. EPA requires 50 percent of heavy-duty diesel engine family certifications to meet the 0.20 g/bhp-hr NOx standard. Averaging is allowed, and it is expected that most engines will conform to the fleet NOx average of approximately 1.20 g-bhp/hr.

## D. Project Criteria

The minimum qualifications for on-road heavy-duty vehicles are listed below. All projects must also conform to the requirements in Chapter 2: General Criteria and in Chapter 3: Program Administration. Participating air districts retain the authority to impose additional requirements in order to address local concerns.

1. General On-Road Heavy-Duty Vehicle Project Criteria

(A) Maximum project life for on-road projects:

| | |
|---|---|
| (1) Buses ≥ 60,001 gross combined weight or gross vehicle weight (GVW) – New | 12 years |
| (2) School buses ≥ 33,001 GVW – New | 20 years |
| (3) Other On-road - New | 10 years |
| (4) Repower Only (No Retrofit) | 7 years |
| (5) Repowers + Retrofits | 5 years |

| | |
|---|---|
| (6) Retrofits | 5 years |
| (7) Fleet Modernization | See Chapter 5 |

A longer project life may be approved on a case-by-case basis if applicants provide justifying documentation.

The maximum project life does not consider regulatory requirements that may reduce actual project life below these maximum values.

(B) On-road heavy-duty diesel vehicles with a gross vehicle weight rating (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.

(C) On-road heavy heavy-duty (HHD) vehicles (with GVWR over 33,000 pounds) must be powered by an engine certified to the HHD intended service class as shown on the engine certification Executive Order. Engines certified to the medium heavy-duty (MHD) service class (over 14,000 pounds and up to 33,000 pounds) may not be installed in HHD vehicles. However, MHD engines may be installed in a vehicle with a GVWR up to 39,601 pounds (20 percent higher than 33,000 pounds GVWR) with written warranty verification by the engine and chassis manufacturer. A copy of the written warranty verification must be maintained in the air district project file.

(D) To receive funding for a retrofit, a fleet owner/operator must have the retrofitted vehicle that is eligible for a low NOx software upgrade (reflash) reflashed within 60 days of receipt of payment. The fleet owner/operator may self-certify to the air 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 air district. Most HHD, and some MHD 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.

(E) Except as provided below, on-road calculations shall be based on projected annual mileage instead of fuel usage or engine hours, due to the fact that the mileage-based exhaust emission factors are more robust. Fuel-based calculations may be used only if documentation of previous fuel use and mileage records submitted to the air district with the application show the project to be at least 30 percent 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. Fuel-based analyses are

appropriate for projects that involve extended idling, including but not limited to street sweepers and solid waste collection vehicles.

(F) The emission factors in Appendix D, Tables D-3 and D-4 are based on in-use dynamometer testing data. All other on-road emission factors in Appendix D are converted emissions standards based on the engine certification level. On-road cost-effectiveness calculations shall use the same quantification methodology for the baseline calculation and the reduced emission calculation.

(1) Mileage-based calculations must use mileage-based emission factors in Appendix D, Tables D-3 and D-4, for the baseline and reduced emission calculation.

(2) Fuel-based calculations must use converted emissions standards for the baseline and reduced emission calculation. Converted emissions standards are found in Appendix D, Tables D-1a, D-1b, D-2a, D-2b, D-5 and D-6.

(3) Other calculation methods will be considered by ARB on a case-by-case basis.

(G) Cost-effectiveness calculations for projects with power take-off (PTO) will be considered by ARB on a case-by-case basis. Hours of PTO operation must be documented through hour meter records or data from the emission control module.

(H) The engine model year, not the vehicle model year, must be used to determine the appropriate emissions factors.

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

(J) Refuse vehicles and street sweepers often have two engines, one for motive power and one for auxiliary operations. Since only the main engine is eligible for funding, 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 eligible surplus emissions reductions can be determined. The estimate must include factors such as fuel economy, typical operating loads, and hours of operation for each engine.

(K) Surplus requirements are determined by the regulation to which a project is subject. Any vehicle with an off-road engine that is subject to an on-road regulation must comply with the on-road surplus requirements described in this chapter. For example, a yard truck with an off-road engine that is subject to the Statewide Truck & Bus Regulation must comply with all off-road eligibility and funding criteria described in Chapters 7 and/or 9, as well as all on-road surplus criteria described in Section E.(2) of this Chapter.

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

(M) Case-by-case projects must receive approval from ARB prior to contract execution. These projects must follow the requirements as described in Chapter 3, Section Y.

2. Compliance Check

After the district receives an application for any on-road project but before contract execution, the district must submit information regarding the project to ARB to check for outstanding violations and previous project funding.

(A) The district shall email its ARB district liaison the registered owner's name, vehicle identification number, California Highway Patrol number, Department of Transportation number or Interstate Commerce Commission number for each vehicle to be repowered or retrofitted in the project, as well as all other vehicles in the applicant's fleet. Due to the large number of vehicles that could require compliance checks, air districts are encouraged to submit this data as soon as possible after receipt of the application.

(B) The liaison will forward that information electronically to the responsible parties at ARB. The liaison will email the air district the results of the compliance check within 10 business days.

(C) If the compliance check indicates that the vehicle has already received funding and is still under contract, the air district will be notified and the application must be rejected.

(D) If the compliance check indicates there is an outstanding violation with any truck in the applicant's fleet, the air district shall inform the engine owner in writing that no disbursement may be made until the owner provides proof that each violation has been corrected and each fine has been paid.

(E) If the outstanding violation is based on problems with the baseline engine (e.g., gross polluter), then a new engine must be installed instead of fixing the old engine. The engine owner must pay the fine for each violation and

submit documentation of violation correction with, or before submitting, the invoice.

3. New Purchase: New purchase projects must be 30 percent cleaner than the current NOx emissions standard. Based on the 2010 NOx standard of 0.20 g/bhp-hr, engines that are certified to a NOx standard of 0.14 g/bhp-hr or lower and a PM standard of 0.01 g/bhp-hr or lower are eligible for new purchase funding. Vehicles with engines certified to a family emissions limit (FEL) are not eligible for new purchase funding. The maximum grant amount is 25 percent of the new purchase cost. Due to tighter emissions standards, new purchase projects are not a common funding category.

4. Repower

A replacement engine for a repower project must be an ARB certified engine meeting emissions levels of 0.50 g/bhp-hr NOx and 0.01 g/bhp-hr PM or lower. Repowers with replacement FEL engines that meet these emissions levels must be based on emission factors for model year 2007-2009 engines.

However, due to technological constraints presented with the limited feasibility of newer engines with advanced emissions control equipment fitting into older chassis and maintaining durability, single vehicle repower projects are not eligible for Moyer funding, except as described below.

There are a limited number of cases where the technical repower constraints described above do not apply. The economics of repower projects involving a large quantity of the same chassis and engine combination may allow compliance with the engine manufacturer quality assurance process that is equivalent to an OEM package. In these cases, a prototype vehicle (or vehicles) is thoroughly reviewed and tested to ensure that the installation meets OEM requirements, and the successful prototype installation is then replicated in other vehicles with the same chassis and engine combination. Air districts may approve repower projects that meet the above described OEM quality assurance process, subject to the following:

(A) Carl Moyer Program funding may not be used for any costs associated with the prototype vehicle or vehicles.

(B) Repower contracts may not be executed until the prototype testing specified by the engine manufacturer is successfully completed.

(C) Written documentation from the engine manufacturer confirming that the prototype was successful must be maintained in the project file.

5. Retrofits

A list of currently verified retrofits may be found at http://www.arb.ca.gov/diesel/verdev/verdev.htm. A searchable database of verified retrofits is available at http://arb.ca.gov/diesel/verdev/vdb/vdb.php. Please refer to Appendix E for more details on retrofit verification.

(A) The maximum retrofit grant amount is:

(1) $10,000 or the total retrofit cost, whichever is less, for the highest level retrofit verified to achieve Level 3 PM reductions of 85 percent, and NOx reductions if available for the specific engine.

(2) $20,000 or the total retrofit cost, whichever is less, for retrofit devices verified to reduce NOx and PM emissions equivalent to 2007 engine standards of 1.20 g/bhp-hr NOx and 0.01 g/bhp-hr PM.

(B) Only ARB-verified retrofits are eligible for funding.

(C) 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.

(D) Retrofit projects must use the highest level technically feasible technology verified for the engine 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.

(E) Fleets/agencies affected by 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.

(F) If the retrofit device reduces both NOx and PM emissions and is being installed to comply with a PM requirement, only the costs of the NOx reductions are eligible for Carl Moyer Program funding.

(G) The full cost of a retrofit kit, up to the maximum incentive amount described above, and maintenance of the retrofit during the project life may be funded subject to the weighted cost-effectiveness limit.

(H) Only the minimum ARB verified levels of NOx and PM emission reductions will be used to calculate cost-effectiveness for retrofit projects.

## E. Funding Eligibility for Projects Subject to In-Use Regulations

Most on-road vehicles are subject to an in-use regulation. Funding is available for emissions reductions that are early or extra to regulatory requirements. In addition, fleets that have achieved compliance with the final regulatory deadline may be eligible for funding. For detailed information on eligible emissions reductions and calculation methodology, please see the 2011 on-road supplemental guidance located at: http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm.

1. Drayage Trucks

   (A) Current Drayage Trucks: Carl Moyer Program funding is available for the incremental NOx benefit between 1.20 g/bhp-hr and 0.20 g/bhp-hr for all drayage trucks, as defined in California Code of Regulations, title 13, section 2027(c)(15). Beginning on January 1, 2017, drayage trucks will be subject to, and must be surplus to, the Statewide Truck and Bus Regulation. No other funding opportunities are available for drayage trucks that access the Ports of Long Beach or Los Angeles. Drayage trucks outside the Ports of Long Beach or Los Angeles with model year 2006 or older engines in fleets of 1-3 vehicles are eligible for limited funding through December 31, 2011.

   (B) Former Drayage Trucks: The following requirements apply for vehicles that previously operated as a drayage truck, as defined in California Code of Regulations, title 13, section 2027(c)(15):

      (1) Vehicles that operated one or more times as a drayage truck in the previous two years, but no longer operate as a drayage truck, are not restricted by drayage truck surplus criteria.

      (2) Vehicles that previously operated as a drayage truck must be contractually prohibited from drayage operations that are regulated by California Code of Regulations, title 13, section 2027 throughout the contract term.

      (3) To help ensure that the replacement vehicle does not operate as a drayage truck during the contract term, replacement vehicles will be added to the Drayage Truck Registry as non-compliant until the contract end date.

2. Private Fleets (Statewide Truck & Bus Regulation)

For vehicles that are subject to the Statewide Truck & Bus Regulation (Regulation), the following final funding deadlines apply. Please note that the following sections include final funding dates for all engine model years. The actual final funding date for specific projects will vary depending on fleet size, regulatory compliance status, GVWR, engine model year, pollutant type, and other factors.

(A) Fleet size of 1-3 trucks: Funding for the first, second, and third vehicle must be provided no later than two years before the applicable compliance deadline for each pollutant. The final funding date for PM and NOx is January 1, 2021.

**Table 4-4**
**Final Funding Dates for Fleets of 1-3 Vehicles**

| Fleet Type | PM | NOx |
|---|---|---|
| 1-3 vehicles | 1/1/2021 | 1/1/2021 |

(B) Fleet size of 4-10 vehicles: Funding is available for fleets with 4-10 vehicles subject to the Regulation. Funding must be provided no later than three years before the applicable compliance deadline. The final PM funding date for trucks with a GVWR over 26,000 pounds is January 1, 2014, and for trucks from 14,001 through 26,000 pounds the final PM funding date is January 1, 2020. The final NOx funding date is January 1, 2020. Projects that receive funding for retrofits are not eligible for the compliance extension to meet the 2010 model year emission equivalent requirement as described in California Code of Regulations, title 13, sections 2025 (f)(4) and (g)(4).

**Table 4-5**
**Final Funding Dates for Fleets of 4-10 Vehicles**

| Fleet Type | GVWR | PM | NOx |
|---|---|---|---|
| 4-10 vehicles | over 26,000 | 1/1/2014 | 1/1/2020 |
| | 14,001 - 26,000 | 1/1/2020 | 1/1/2020 |

(C) Agricultural Vehicles: Eligibility for agricultural vehicles as defined in California Code of Regulations, title 13, section 2025(d)(5) depends on annual mileage accrual and engine model year. Funding for agricultural vehicle projects must be provided no later than three years before the applicable compliance deadline. The final funding date for PM and NOx is January 1, 2020.

**Table 4-6**
**Final Funding Dates for Agricultural Vehicles**

| Fleet Type | PM | NOx |
|---|---|---|
| Agricultural Fleets | 1/1/2020 | 1/1/2020 |

(D) Low-Mileage Construction Trucks & Vehicles That Operate Exclusively in NOx Exempt Areas: Low-mileage construction trucks, as defined in California Code of Regulations, title 13, section 2025(d)(40), and vehicles that operate exclusively in NOx exempt areas of the state as defined in California Code of Regulations, title 13, section 2025(d)(46) are eligible for

PM funding through January 1, 2014 and NOx funding through January 1, 2020. Funding must be provided no later than three years before the applicable compliance deadline. Participant contracts for NOx exempt vehicles must include a provision that requires the vehicle to operate exclusively in NOx exempt areas of the state as defined in California Code of Regulations, title 13, section 2025(d)(46).

**Table 4-7**
**Final Funding Dates for Low-Mileage Construction Trucks and Vehicles in NOx Exempt Areas**

| Fleet Type | PM | NOx |
|---|---|---|
| Low-Mileage Construction and NOx Exempt Vehicles | 1/1/2014 | 1/1/2020 |

(E) Log Trucks: Log trucks as defined in California Code of Regulations, title 13, section 2025(d)(39) are eligible for funding through January 1, 2020. Funding for log trucks must be provided no later than three years before the applicable compliance deadline. Log truck fleets do not have a fleet size eligibility limit for funding. No more than 10 log trucks under common ownership may be funded per year.

3. Public Agency and Utility Fleets

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

(A) 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 rule requirements.

(B) Fleets that have achieved all applicable final compliance requirements are eligible for NOx and ROG funding for retrofit, repower, and new purchase projects.

(C) Low-Population County fleets must declare with submittal of their application which compliance schedule they will follow. Fleets that follow the regular compliance path have limited PM funding opportunities through December 31, 2014 with a three year surplus life. Fleets that follow the accelerated turn-over compliance path have limited PM funding opportunities through December 31, 2022.

4. School Buses

Public school buses are eligible for Carl Moyer Program funding if they meet the general program criteria above; however, their relatively low annual miles usually allow only for minimal grant amounts.

(A) School buses are eligible only for NOx and ROG reductions.

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

5. Solid Waste Collection Vehicles (SWCV)

Solid waste collection vehicles are eligible for limited funding opportunities, but emission benefits are generally low because older vehicles have already been replaced or retrofitted to comply with regulatory requirements.

(A) SWCV fleets that have achieved compliance with the final regulatory deadline are eligible for NOx and ROG funding.

(B) Solid waste transfer trucks are subject to the Statewide Truck & Bus Regulation, and must meet applicable eligibility criteria identified above.

6. Transit Vehicles (Urban Buses and Transit Fleet Vehicles)

Transit vehicles are eligible for limited funding opportunities, but emission benefits are generally low because most older vehicles have already been replaced or retrofitted to comply with regulatory requirements.

(A) Transit Fleet Vehicles: Transit Fleet vehicles that have achieved compliance with the final regulatory deadline are eligible for funding.

(B) Urban Buses: Urban Bus fleets that have achieved compliance with the final regulatory deadline are eligible for funding.

(C) The Federal Transit Administration (FTA) provides up to an 80 percent grant for new urban bus purchases and repowers. For projects receiving FTA or other public funding, the incremental cost must be reduced by the publicly funded grant amount. See Chapter 2: General Criteria for more information.

7. Idling Reduction

Idling reduction projects are eligible for limited funding opportunities, but emission benefits are generally low because heavy-duty trucks are already required by regulation to limit idling emissions.

(A) 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 diesel emission control strategy.

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

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

(D) Advanced truck stop electrification - Carl Moyer Program funds may be used for installing advanced truck stop electrification, such as external systems that provide heating, cooling, and other energy needs. 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.

(E) Other idling reducing projects may be considered on a case-by-case basis.

8. Transport Refrigeration Units (TRU)

Transport refrigeration units projects are eligible for limited funding opportunities, but emission benefits are generally low because many older TRUs have already been replaced to meet regulatory requirements.

(A) Funding opportunities may exist for a zero emission new purchases or repowers on a case-by-case basis.

(B) 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.

(C) 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 air district upon request.