IOWA'S 2024

DIESEL EMISSION REDUCTION ACT (DERA)

GRANT PROGRAM INFORMATION GUIDE

IOWA DOT
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Local Systems Bureau
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Summary

The Iowa Department of Transportation (Iowa DOT) is soliciting proposals from eligible entities for participation in the State of Iowa's fiscal year (FY) 2024 Diesel Emissions Reduction Program (DERA) in Iowa. This document provides information on who is eligible to apply for funding, eligible vehicles, projects, funding and match requirements, information on how to apply, the timeline of events, and evaluation criteria and scoring.

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DERA Grant Program Overview

The DERA in the Energy Policy Act of 2005 authorizes the U.S. Environmental Protection Agency (EPA) to support grant, rebate, and loan programs administered by eligible states and territories that are designed to achieve significant reductions in diesel emissions. In accordance with DERA, EPA makes 30 percent of the annual allocation available to eligible states and territories in the form of assistance agreements under the State Clean Diesel Grant Program.

Two-thirds of the state portion of funding is provided to participating states and territories, while the remaining third is used as an incentive to those states and territories that provide a voluntary match equal to the base funding. If a state/territory provides a voluntary match equal to the base allocation offered by EPA, EPA will provide a matching incentive equal to 50 percent of the base allocation.

In FY 2024, Iowa received a base allocation of $396,060. Iowa is voluntarily matching the base amount with monies from the Iowa Volkswagen Settlement Environmental Mitigation Trust program. Therefore, the EPA provided an additional 50 percent to the base allocation, bringing Iowa's total 2024 DERA allocation to $990,150.

FUNDING SOURCES	AMOUNT
EPA Base Allocation	$396,060
Iowa's Voluntary Match for Bonus	$396,060
EPA Matching Incentive Bonus	$198,030
TOTAL	**$990,150**

Eligible Entities

FY 2024 DERA grant funding is available for profit, nonprofit, and public entities that own or operate diesel fleets and equipment in any of the 99 counties in the state of Iowa.

Ineligible Entities

Federal and state government agencies and employees are not eligible to receive funding from Iowa's 2024 DERA Grant Program. Ineligible applicants also include entities or individuals that are currently suspended or debarred by the State of Iowa or the federal government.

Eligible Projects

A broad range of diesel emission reduction solutions are eligible for DERA grant funding. Projects must include one or more of the following diesel emission reduction solutions that utilize a certified engine configuration and/or a verified technology:

1. Vehicle and Equipment Replacements
2. Engine Replacement
3. Certified Remanufacture Systems
4. Idle Reduction Technologies
5. Verified Retrofit Technologies
6. Clean Alternative Fuel Conversions
7. Verified Aerodynamic Technologies Verified Low Rolling Resistance Tires

Eligible on-road or non-road vehicles and equipment may include:

- School buses (of Type A, B, C, and D);
- Medium-duty and Heavy-duty Transit Buses (defined as Class 5 through Class 8);
- Medium-duty or Heavy-duty Trucks (defined as Class 5 through Class 8);
- Marine Engines (operating at least 1000 hours per year);
- Locomotives (operating at least 1000 hours per year);
- Nonroad engines, equipment, or vehicles used in:
    - Construction;
    - Handling of cargo (including at a port or airport);
    - Agriculture;
    - Mining; or
    - Energy production (including stationary generators or pumps)

Engine, vehicle, and equipment replacement projects are eligible for funding on the condition that the following criteria are satisfied:

1. To be eligible for replacement, the replaced vehicle, engine or equipment must be fully operational and in current, regular service.
2. The replacement vehicle, engine, or equipment will continue to perform similar function and operation as the vehicle, engine, or equipment that is being replaced.
3. The replacement vehicle, engine, or equipment will be of similar type and gross vehicle weight rating or horsepower as the vehicle, engine, or equipment being replaced.
    a. Nonroad: Horsepower increases of more than 25 percent will require specific approval by EPA prior to purchase, and the applicant may be required to pay the additional costs associated with the higher horsepower equipment.
    b. Highway: The replacement vehicle must not be in a larger weight class than the existing vehicle. The engine's primary intended service class must match the vehicles weight class

4. The vehicle, equipment, and/or engine being replaced must be scrapped and rendered permanently disable within ninety (90) days of being replaced. (See Scrapping of Vehicles and Equipment for more information)

Ineligible Projects

Funding is not available for the following projects:

- Emissions testing: No funds awarded under this program shall be used for emissions testing and/or air monitoring activities (including the acquisition cost of emissions testing equipment), or research and development.
- Fueling infrastructure: No funds awarded under this program shall be used for fueling infrastructure, such as that used for the production and/or distribution of biodiesel, compressed natural gas, liquefied natural gas, or other fuels.
- Mandated measures: No funds under this program shall be used to fund the costs of emissions reductions that are mandated under federal law.
- Fleet expansion: Funding under this program cannot be used for the purchases of vehicles, engines, or equipment to expand a fleet.
- Single Wide Wheels: No funds awarded under this program shall be used for the purchase of single-wide wheels except where a fleet is retrofitting from standard dual tires to SmartWay-verified single-wide low rolling resistance tires.
- Auxiliary Power Units: No funds awarded under this program shall be used for the purchase of APUs or generators for vehicles with engine model year 2007 or newer.
- Replacement technologies: No funds awarded under this program shall be used for the purchase of engine retrofits, idle reductions technologies, low rolling resistance tires or advanced aerodynamic technologies if similar technologies have previously been installed on the truck or trailer.
- Non-road operating hours: No funds awarded under this program shall be used to retrofit, replace, or upgrade agricultural pumps that operate less than 250 hour per year or retrofit, replace, or upgrade a non-road engine that operates less than 500 hours per year.
- Locomotive and marine operating hours: No funds awarded under this program shall be used to retrofit, replace, upgrade, or install idle reduction technologies locomotive or marine engines that operate less than 1,000 hours per year.

A comprehensive list of eligible and ineligible projects can be found in Appendix A.

Funding and Cost-Share Requirements

The Iowa DOT anticipates awarding approximately $990,150 during the FY 2024 DERA grant program and will be providing participant support costs (e.g., rebate) to fund participating project partners equipment and installation costs. The participating project partners will own the new vehicle, engine, or technology.

Costs Eligible for Reimbursement

Costs directly incurred by a participating project partner through the purchase and/or installation of eligible technologies, equipment, and vehicles after the execution of a project funding agreement are eligible for reimbursement. These costs may include the procurement of goods and services from vendors and contractors as well as labor costs incurred by the applicant's employees for installation. All costs must be supported by appropriate documentation. The Iowa DOT retains the sole authority to determine eligible project costs.

Costs Ineligible for Reimbursement

Funds awarded by this program cannot be used for administrative costs, lobbying, or for the intervention in federal regulatory or adjudicatory proceedings. Costs incurred prior to the execution of the project funding agreement are also ineligible project costs and will not be reimbursed.

Participating project partners will receive reimbursement for eligible equipment and installation costs incurred up to the maximum dollar amount or percentage of total costs listed in the project funding agreement. No costs to be reimbursed may be incurred prior to the execution of the project funding agreement. A cost is considered incurred if it has been ordered, contracted, purchased, or installed. Requests for reimbursement shall be in a manner as required by the Iowa DOT and must include documentation to show that the technology and/or equipment has been received, installed, and accepted by the project sponsor; that vehicle and/or engine scrapping (if required according to this guidance) has occurred, all requirements of the project funding agreement have been met, and that the costs have been incurred and paid by the project sponsor.

Cost-Share Requirements

Mandatory cost-shares are required for all projects that are not eligible for 100 percent reimbursement. Projects involving engine upgrades, certain idle reduction technologies, shore connection systems, electrified parking space technologies, certified engine replacements, or certified vehicle /equipment replacements (as defined in Appendix A) are subject to the DERA funding limits and mandatory cost-hare requirements shown in the table below.

The "DERA Funding Limits" (percentages) shown below represent the maximum portion of the equipment costs (parts and labor) that can be covered with a combination of EPA DERA funds and any non-federal voluntary matching funds provided by Iowa DOT. The portion of the costs that exceed the DERA funding limits is referred to as the "mandatory cost-share" and is provided by the participating project partner (e.g. fleet owner). Mandatory cost-shares must be

monetary and federal funds for other federal grants may not be used. The Iowa DOT will reimburse organizations, dependent on their project, up to the percentages outlined in the following table:

DERA Funding Limits and Mandatory Cost-Share Requirements for Eligible Activities

DERA ELIGIBLE ACTIVITIES	DERA FUNDING LIMITS	MINIMUM COST-SHARE (FLEET OWNER CONTRIBUTION)
Drayage Truck Replacement	50%	50%
Vehicle or Equipment Replacement with EPA Certified Engine	25%	75%
Vehicle or Equipment Replacement with CARB Certified Low NOx Engine	35%	65%
Vehicle or Equipment Replacement with Zero-tailpipe Emission Power Source	45%	55%
Engine Replacement with EPA Certified Engine	40%	60%
Engine Replacement with CARB Certified Low NOx Engine	50%	50%
Engine Replacement with Zero-tailpipe Emission Power Source	60%	40%
EPA Certified Remanufacture Systems	100%	0%
EPA Verified Highway Idle Reduction Technologies when combined with new or previously installed exhaust after-treatment retrofit	100%	0%
EPA Verified Highway Idle Reduction Technologies without new exhaust after-treatment retrofit	25%	75%
EPA Verified Locomotive Idle Reduction Technologies	40%	60%
EPA Verified Marine Shore Connection Systems	25%	75%
EPA Verified Electrified Parking Space Technologies	30%	70%
EPA Verified Exhaust After-treatment Retrofits	100%	0%
EPA Verified Engine Upgrade Retrofits	100%	0%
EPA Verified Hybrid Retrofit Systems	60%	40%
EPA Verified Fuel and Additive Retrofits when combined with new retrofit, upgrade, or replacement	Cost differential between conventional diesel fuel	Cost of conventional diesel fuel
EPA Verified Aerodynamics and Low Rolling Resistance Tires when combined with new exhaust after-treatment retrofit	100%	0%
Alternative Fuel Conversion	40%	60%

*Low NOx = Certified to CARB's Optional Low-NOx Standards. Certified engines may be found by searching CARB's Heavy-Duty Low NOx website at: https://ww2.arb.ca.gov/our-work/programs/heavy-duty-low-nox/about

Funding Restrictions

Funds awarded by the Iowa DOT cannot be used to:

- Match federal funds: No funds awarded under this program shall be used for matching funds for other federal grants. Likewise, a recipient may not use federal funds as matching or cost-share funds for the DERA program, including funds received under EPA's National Clean Diesel Emissions Reductions Programs and federal Supplemental Environmental Project funds.
- Cover expenses incurred prior to the project period. No funds awarded under this program shall be used to cover expenses incurred prior to the project period set forth in the project funding agreement. Additionally, expenses incurred prior to the project period set forth in the project funding agreement are not eligible as a cost-share.

Disqualification from Funding

The applicant shall not receive reimbursement if complete and truthful information has not been submitted to the Iowa DOT. The applicant will be disqualified and shall not receive reimbursement if the applicant has:

- Not scrapped the engine replaced by engine repowers or vehicle replacement as required by this guidance and the executed project funding agreement,
- Not submitted a claim for reimbursement and all required documentation by the deadline included in the project funding agreement,
- Altered equipment or vehicles in such a way that results in the release of more diesel exhaust than the original condition of the equipment or vehicles, or
- Incurred costs prior to the execution of the agreement.
- Not used a competitive process for obtaining contracts for products and services as applicable to federal, state, local, or internal procurements requirements.

Evaluation of Applications

The Iowa DOT will evaluate applications on a competitive basis. While the scoring criteria provided below are the primary means of determining a selected project, Iowa DOT may also consider other factors not included in these scoring criteria in making the final selection of projects. The following criteria, in no particular order, may be used to evaluate projects:

- Completeness of application;
- Number of registered Volkswagen vehicles in the county of the project (due to Iowa's choice to use monies from the Volkswagen Environmental Mitigation Trust Fund to match EPA's base allocation);

- Mobile source air pollution in areas of concern;
- Emission reduction estimates for nitrogen oxides, particulate matter, volatile organic compounds, and carbon monoxides;
- Impacts of diesel emissions on sensitive populations related to human health (rate of asthma and rate of heart disease), environment (ozone), global climate (carbon dioxides) and areas of vulnerable populations;
- Priority county locations as noted in the 2021 Priority County List (air quality concerns);
- Cost effectiveness of nitrogen oxide emission reduction (dollars per amount of nitrogen oxide emissions reduced)
- Applicants demonstration of previous efforts to reduce air pollution and existing policy and procedures;

Award Timeline and Requirements

All applicants will be notified regarding their award status at the conclusion of the funding cycle. Applicants selected to receive funding will be required to execute a project funding agreement with the Iowa DOT. Execution of the agreement is expected to be completed in May 2025. If the apparent successful applicant fails to deliver an executed agreement within 30 days of receipt, the Iowa DOT, at its sole discretion, may cancel the award and award the funds to another applicant.

Upon execution of the agreement by the Iowa DOT, a copy of the fully executed agreement will be returned to the applicant, at which time the funding will be considered awarded. The project, including the purchase of technology, may not occur prior to the execution of the agreement.

Agreement Terms

Applicants interested in applying for funding should consider the following items that will be part of the requirements addressed in the agreement:

- All projects must be completed by August 31, 2026. All services or work must be completed within the scope, time frame, and funding limitation specified by the agreement.
- Applicants will be required to submit quarterly and final reports to the Iowa DOT.
- The claim for reimbursement of costs and all required documentation is due to the Iowa DOT within one month after the completion of the project. The Iowa DOT will not reimburse the applicant until all requirements are met. Under no circumstances will reimbursement be made for costs incurred prior to the execution of the agreement. Applicants should expect to allow a minimum of 90 days for reimbursement processing.
- Applicants will be required to complete pre-testing of all vehicles being considered for exhaust control devices to verify that the technology can indeed be placed on the vehicle.

    - If pre-testing has been completed for other reasons prior to the start of the project, pre-testing requirements will be waived if the applicant can provide results showing that the vehicle passed.
    - If a diesel particulate filter (DPF) is the exhaust control technology being used, all vehicles will be required to have the exhaust temperature data logged on the vehicle.
- Applicants will be required to use an open and fair competitive process for obtaining products and services. Copies of the process and documents will be provided to the Iowa DOT.
- Receipts for reimbursement are due to the Iowa DOT by August 31, 2026. The Iowa DOT will reimburse the approved expenses after the entire project has been completed as outlined in the contract. Under no circumstances will reimbursement payments be issued for expenses incurred prior to the date of the execution of the agreement. Allow a minimum of 90 days for reimbursement processing.
- A vehicle, equipment, and/or engine being replaced must be scrapped or rendered permanently disabled.

Scrapping of Vehicles or Equipment

The vehicle, equipment, and/or engine being replaced must be scrapped or rendered permanently disabled within ninety (90) days of being replaced. Scrapping requirements are:

- Cutting a three-inch by three-inch hole in the engine block (the part of the engine containing the cylinders) is the preferred scrapping method.
- Disabling the chassis may be completed by cutting through the frame/frame rails on each side at a point located between the front and rear axles
- Evidence of appropriate disposal is required to be submitted to the Iowa DOT and includes digital photos of the engine tag (showing vehicle identification number (VIN), serial number, engine family number, and engine model year), the destroyed engine block, and cut frame rails or other cut structural components as applicable. Evidence also includes a signed certificate of destruction.
- Equipment and vehicle components that are not part of the chassis or engine may be salvaged or scrapped. If scrapped or salvaged engines, vehicles, equipment, or parts are to be sold, program income requirements apply.
- For tire replacement projects, the original tires should be scrapped according to local or state requirements, or the tires can be salvaged for reuse or retreading. If salvaged tires are sold, program income requirements apply

How to Apply

Applicants may apply for funds for more than one DERA project. However, no applicant may request funds for more than one reduction strategy in a single grant application, unless the reduction strategy cannot be funded as a stand-alone project, such as cleaner fuels and additives or aerodynamic technologies and verified low rolling resistance tires. To be

considered for this funding opportunity, please submit the following application materials, which can be found at http://www.iowadot.gov/DERA.

- DERA 2024 Application Form
- DERA 2024 Fleet Description Form
- DERA 2024 Project Costs Form
- DERA 2024 Certification Form
- Minority Impact Statement

Complete applications are due by email, before 4:00 pm on May 9, 2025. Applications received after the deadline will be deemed ineligible and not reviewed. Incomplete applications may be disqualified from consideration. The Iowa DOT is not responsible for any errors or delays by technical difficulties resulting from the emailing of applications.

Submit the signed, completed application packet (application form, signed certification, fleet description form, project costs form, and minority impact statement) in the Word or Excel format downloaded, to Jared.Smith@iowadot.us with the subject line: "**DERA GRANT 2024.**"

Application Questions

Questions or requests for clarification about the grant program may be submitted in writing to Jared Smith via email at Jared.Smith@iowadot.us; with the subject line "**DERA 2024 Question**." If the questions or requests for clarification pertain to a specific section of this guidance document, please reference the page number and section.

The Iowa DOT reserves the right to amend this guidance at any time using an addendum. If the addendum occurs after the closing date for receipt of applications, the Iowa DOT may, in sole discretion, allow applicants to amend their project applications in response to the Iowa DOT's addendum, if necessary.

Amendment or Withdrawal of an Application

Applicants may withdraw or amend and resubmit project applications at any time before the deadline. The amended proposal or application withdrawal must be in writing, signed by the applicant and received **before 4:00 pm on May 9, 2025**.

Iowa DOT Discretion

The Iowa DOT may select part of an application for funding and/or may offer to fund less than the dollar amount requested in an application. The Iowa DOT reserves the right to reject any or all applications, in whole or in part, any time prior to the execution of a project funding agreement.

The Iowa DOT is not obligated to fund an application from an applicant that has demonstrated marginal or unsatisfactory performance on previous grants or contracts with the Iowa DOT or other state agencies.

The Iowa DOT reserves the right to verify information contained in the application. This may include utilizing publicly available information and other outside sources to evaluate the applicant's performance under other contracts.

Disqualification of Applications

The Iowa DOT may reject outright and may not evaluate applications for any one of the following reasons:

- The applicant fails to deliver the application by the due date and time.
- The applicant acknowledges that a requirement of the application cannot be met.
- The applicant's proposal materially changes a requirement of this guidance or the proposal is not compliant with the requirements of this guidance.
- The applicant's proposal limits the rights of the Iowa DOT.
- The applicant fails to timely respond to the Iowa DOT's request for information, documents, or references.
- The applicant fails to include an original signature.
- The applicant presents the information requested by this guidance in a format inconsistent with the instructions of the guidance or otherwise fails to comply with the requirements of the guidance.
- The applicant provides misleading or inaccurate responses.
- There is insufficient evidence (including evidence submitted by the applicant and evidence obtained by the Iowa DOT from other sources) to satisfy the Iowa DOT that the applicant is properly qualified to satisfy the requirements of the guidance or application.
- The proposed project(s) are not in compliance with applicable state and federal statutes and rules.

Process for Clarification of Application Information

The Iowa DOT reserves the right to contact an applicant after the submission of an application for the purpose of clarifying the application to ensure mutual understanding. The Iowa DOT will not consider information received if the information materially alters the content of the application or alters the type of project the applicant is proposing. Failure to comply with requests for additional information may result in rejection of the application as non-compliant.

Disposition of Applications and Copyrights

All applications become the property of the Iowa DOT and shall not be returned to the applicant at the conclusion of the selection process. The contents of all applications will be in the public domain and be open to inspection by interested parties subject to exceptions provided in Iowa Code Chapter 22 or other applicable laws.

The applicant agrees that the Iowa DOT may copy the application for purposes of facilitating the evaluation of the application or to respond to requests for public records. By submitting an application, the applicant consents to such copying and warrants that such copying will not violate the rights of any third party.

Appendix A: Eligible Projects

Additional information regarding the diesel emission reduction solutions listed below can be found at nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100WK7X.pdf

A. Project and Budget Period: The project and budget period for 2024 funds will be December 1, 2024 to September 30, 2026.

B. Eligible Diesel Vehicles, Engines and Equipment: Projects may include the diesel emissions source type defined in Table 2, below:

Table 2: Eligible Diesel Vehicles, Engine and Equipment

School Bus	Includes diesel powered school buses of Type A, B, C and D. To be eligible as a school bus a vehicle should meet the definition of a school bus as defined by the National Highway Transportation Safety Administration. This definition includes but is not limited to: 1) A bus that is used for purposes that included carrying students to and from school or related events on a regular basis; 2) Be identified with the words "School Bus"; and 3) Be painted National School Bus Glossy Yellow.
Transit Bus	Includes Class 5+ diesel powered medium-duty and heavy-duty transit buses.
Medium-duty Or heavy-duty trucks	Includes diesel powered medium-duty and heavy-duty highway vehicles with gross vehicle weight rating (GVWR) as defined below: Class 5 (16,001 -19,500 lbs GVWR); Class 6 (19,501 - 26,000 lbs GVWR); Class 7 (26,001 - 33,000 lbs GVWR); Class 8 (33,001 lbs GVWR and over)
Marine Engines	Includes diesel powered Category 1, 2, and 3 marine engines and vessels.
Locomotives	Includes diesel powered line-haul, passenger, and switch engines and locomotives.
Nonroad engines, Equipment or vehicles	Includes diesel powered engines, equipment and vehicles used in construction, handling of cargo (including at ports and airports), agriculture, mining, or energy production (including stationary generators and pumps).

1. Drayage Trucks: Eligible heavy-duty trucks include drayage trucks. A "drayage truck" means any Class 8 highway vehicle operation on or transgressing through port or intermodal rail yard property for the purpose of loading, unloading or transporting cargo, such as containerized, bulk or break-bulk goods. If a state is

funding drayage trucks, the state will be required to establish guidelines to ensure that any existing truck replaced with grant funds has a history of operating on frequent basis over the prior year as a drayage truck, and to ensure any new truck purchased with grant funds is operated in a manner consistent with the definition of drayage truck, as defined above. Sample drayage truck guidelines can be found at www.epa.gov/dera/state.

2. **Transport Refrigeration Units:** Eligible nonroad equipment includes transport refrigeration units (TRUs). Please see the TRU Factsheet found at www.epa.gov/dera/state for information on TRUs and eligible TRU projects.

C. **Eligible Diesel Emissions Reduction Solutions:** Projects must include one or more of the following diesel emissions reduction solutions that use a certified engine configuration and/or a verified technology.

1. **Vehicle and Equipment Replacements:** Nonroad and highway diesel vehicles and equipment, locomotives, and marine vessels can be replaced with newer, cleaner vehicles and equipment. Eligible replacement vehicles and equipment include those powered by diesel or clean alternative fuel engines (including gasoline), electric generators (gensets), hybrid engines, and zero tailpipe emissions power sources (grid, battery or fuel cell).

   To be eligible for funding, vehicles and equipment must be powered by engines certified by EPA and, if applicable, CARB emission standards. Zero tailpipe emissions vehicles and equipment do not require EPA or CARB certification. EPA's annual certification data for vehicles, engines, and equipment may be found at: www.epa.gov/compliance-and-fuel-economy-data/annual-certification-data-vehicles-engine-and-equipment. EPA's engine emission standard may be found at: www.epa.gov/emission-standards-reference-guide/all-epa-emission-standards. Engines certified by CARB may be found by searching CARB's Executive Orders for Heavy-duty Engines and Vehicles, found at: www.arb.ca.gov/msprog/onroad/cert/cert.php. Please see the Low-NOx Engine Factsheet found at www.epa.gov/dera/state for guidance on identifying engines certified to meet CARB's Optional Low NOx Standards.

2. **Engine Replacement:** Nonroad and highway diesel vehicles and equipment, locomotives, and marine vessels can have their engines replaced with newer, cleaner engines. Eligible replacement engines include those certified for use with diesel or clean alternative fuel (including gasoline), electric generators (gensets), hybrid engines, and zero tailpipe emissions power sources (grid, battery or fuel cell).

To be eligible for funding, replacement engines must be certified to EPA or, if applicable, CARB emission standards. However, zero tailpipe emissions engine replacements do not require EPA or CARB certification. EPA's annual certification data for vehicles, engines, and equipment may be found at: www.epa.gov/compliance-and-fuel-economy-data/annual- certification-data-vehicles-engines-and-equipment. EPA's engine emission standards may be found at: www.epa.gov/emission-standards-reference-guide/all-epa-emission-standards. Engines certified by CARB may be found by searching CARB's Executive Orders for Heavy-duty Engines and Vehicles, found at: www.arb.ca.gov/msprog/onroad/cert/cert.php. Please see the Low-NOx Engine Factsheet found at www.epa.gov/dera/state for guidance on identifying engines certified to meet CARB's Optional Low NOx Standards.

3. **Certified Remanufacture Systems:** Generally, a certified remanufacture system is applied during an engine rebuild and involves the removal of parts on an engine and replacement with parts that cause the engine to represent an engine configuration which is cleaner than the original engine. Some locomotives and marine engines can be upgraded through the application of a certified remanufacture system (i.e. kit). Engine remanufacture systems may not be available for all engines, and not all remanufacture systems may achieve an emissions benefit. Applications for certified remanufacture systems should include a discussion of the availability of engine remanufacture systems and indicate the pre- and post-project emission standard levels of the engines to demonstrate that the upgrade will result in a PM and/or NOx emissions benefit. If a certified remanufacture system is applied at the time of rebuild, funds under this award cannot be used for the entire cost of the engine rebuild, but only for the cost of the certified remanufacture system and associated labor costs for installation of the kit.

   To be eligible for funding, remanufacture systems for locomotives and marine engines must be certified by EPA at the time of acquisition. List of certified remanufacture systems are available at: www.epa.gov/compliance-and-fuel-economy-data/engine-certification-data, and additional information on remanufacture systems is available at: www.epa.gov/vehicle-and- engine-certification/remanufacture-systems-category-1-and-2-marine-diesel-engines.

4. **Verified Idle Reduction Technologies:** An idle reduction project is generally defined as the installation of a technology or device that reduces unnecessary idling of diesel

engines and/or is designed to provide services (such as heat, air conditioning, and/or electricity) to vehicles and equipment that would otherwise require the operation of the main drive or auxiliary engine(s) while the vehicle is temporarily parked or remains stationary.

The eligible idle reduction technologies by associated vehicle type are below. To be eligible for funding under (a) through (d) below, these technologies must be on EPA's SmartWay Verified Technologies list (www.epa.gov/verified-diesel-tech/smartway-technology) at the time of acquisition.

a. Long haul Class 8 trucks equipped with sleeper cabs:

1) Auxiliary power units and generators set
2) Battery air conditioning systems
3) Thermal storage systems
4) Fuel operated heater (direct fired heaters)
5) Electrified parking spaces (truck stop electrification)

b. School buses: Fuel operated heaters (direct fired heaters)

c. Transport refrigeration units: Electrified parking spaces

Please see the TRU Factsheet found at www.epa.gov/dera/state for information on TRUs and eligible TRU projects.

d. Locomotives:

1) Automatic engine shut down/start-up systems
2) Auxiliary power units and generators sets
3) Fuel Operated heaters (direct fired heaters)
4) Shore power connection systems

No funds awarded under this grant shall be used for locomotive shore connection system project that are expected to be used less than 1,000 hours/year

e. Marine vessels: Shore power connection systems

Funding may support new installations, or expansions of existing shore power systems. More information on marine shore power connection systems may be found at www.epa.gov/verified-diesel-tech/learn-about-marine-technology. To

be eligible for funding, marine shore power projects must meet the following criteria:

1) Applicants must attest to compliance with international shore power design standards (ISO/IEC/IEEE 80005-1:2012 High Voltage Shore Connection Systems or the IEC/PAS 80005-3:2014 Low Voltage Shore Connection Systems).
2) Shore power connection systems must be supplied with electricity from the local utility grid.
3) Demonstration that the proposed system has the capacity, demand, and commitment to be used for more than 1,000 megawatt-hours per year. Smaller projects will be considered if the applicant can demonstrate cost effectiveness.
4) Due to the unique nature and custom design of marine shore power connection systems, EPA will review and approve marine shore power connection systems on a case-by-case basis. If the project application is selected for funding, the final design of the marine shore power connection system will require specific EPA approval prior to purchase and installation.
5) Applicants must commit to reporting usage information to EPA for five years after the system is operational.
6) Shore power capable vessels docked at a berth where shore power is available must be required to turn off the vessel's engines and use the shore power system, with limited exceptions for extreme circumstances.
7) Applicants proposing marine shore power connection systems will need to include the following information:
    a) the annual number of ship visits to berth where the shore power system is to be installed;
    b) average hoteling (or idling) time per visit; and
    c) information about the fleet of vessels that has, or will have, the ability to use the shore-side connection system, including:
        - the estimated annual number of ship visits to the shore power enabled berth that will use the shore power system;
        - estimated annual hoteling hours using shore power system;
        - fuel type and average sulfur content of fuel used in the auxiliary engines for each vessel;
        - auxiliary engine and boiler information for each vessel;
        - estimated annual hoteling load requirements (megawatt-hours);
    d) Any documented commitment of visits and hours by the fleet of vessels that has, or will have, the ability to use the shore-side connection system; and

e) Estimated emissions reductions. Applicants can use the calculator tool found here: calculator tool can be found here: www.epa.gov/ports-initiative/shore-power- technology-assessment-us-ports

5. **Verified Retrofit Technologies:** Diesel engine retrofits are one of the most cost-effective solutions for reducing diesel engine emissions. Retrofits include engine exhaust after-treatment technologies, such as diesel oxidation catalysts (DOCs), diesel particulate filters (DPFs), closed crankcase filtration systems (CCVs), and selective catalytic reduction systems (SCRs). Manufacturer engine upgrades which achieve specific levels of emission reductions by applying a package of components have been verified as retrofits for some nonroad and marine engines. Several systems which convert a conventional diesel engine configuration to a hybrid-electric system have been verified as retrofits for some nonroad and marine engines. Some cleaner fuels and additives have been verified as retrofits by EPA and/or CARB to achieve emissions reductions when applied to an existing diesel engine. Older, heavy-duty diesel vehicles that will not be retired for several years are good candidates for verified retrofit technologies. EPA suggests that fleets proposing to install verified retrofit technologies consult with suppliers to confirm that the proposed vehicles/engines and their duty-cycles are good candidates for the technology.

   To be eligible for funding, verified retrofit technologies must be on EPA's (www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel) or CARB's (https://ww2.arb.ca.gov/verification-procedure-currently-verified) Verified Technologies lists at the time of acquisition, must be used only for the vehicle/engine application specified on the lists, and must meet any applicable verification criteria. EPA will not fund stand-alone cleaner fuel/additive use. To be eligible for funding, verified fuels and additives must be for new or expanded use, and must be used in combination, and on the same vehicle, with a new eligible verified engine retrofit or an eligible engine upgrade or an eligible certified engine, vehicle, or equipment replacement funded under this grant.

6. **Clean Alternative Fuel Conversions:** Existing highway diesel engines can be altered to operate on alternative fuels such as propane and natural gas by applying an alternative fuel conversion kit.
   To be eligible for funding, alternative fuel conversion systems must be certified by EPA and/or CARB or must be approved by EPA for Intermediate-Age engines. EPA's lists of "Certified Conversion Systems for New Vehicles and Engines" and

"Conversion Systems for Intermediate-Age Vehicles and Engines" are available at www.epa.gov/vehicle-and-engine- certification/lists-epa-compliant-alternative-fuel-conversion-systems; CARB's list of "Approved Alternate Fuel Retrofit Systems" are available at: www.arb.ca.gov/msprog/aftermkt/altfuel/altfuel.htm.

To be eligible for funding, conversion systems for engine model years 2006 and earlier must achieve at least a 30% NOx reduction and a 10% PM reduction from the applicable certified emission standards of the original engine. To be eligible for funding, conversion systems for engine model years 2007 and newer must achieve at least a 20% NO_x reduction with no increase in PM from the applicable certified emission standards of the original engine. Applications for clean alternative fuel conversions should include a discussion of the availability of conversion systems and indicate the pre- and post-project emission standard levels of the engines to demonstrate that the conversions result in the required emissions benefit.

7. **Verified Aerodynamic Technologies and Verified Low Rolling Resistance Tires:** To improve fuel efficiency, long haul Class 8 trucks can be equipped with aerodynamic trailer fairings and/or low rolling resistance tires.

   To be eligible for funding, technologies must be on EPA's verified aerodynamic technologies list (www.epa.gov/verified-diesel-tech/smartway-verified-list-aerodynamic- devices) and verified list for low rolling resistance new and retread tire technologies list (www.epa.gov/verified-diesel-tech/smartway-verified-list-low-rolling-resistance-lrr-new- and-retread-tire) at the time of acquisition, must be used only for the application specified on the lists, and must meet any applicable verification criteria. EPA will not fund stand-alone aerodynamic technologies or low rolling resistance tires. To be eligible for funding, these technologies must be combined on the same vehicle with the new installation of an exhaust after-treatment retrofit funded under this grant.

D. Project Eligibility Criteria: Existing engines and new vehicles, engines, and technologies must meet the eligibility criteria defined below to be eligible for funding.

Table 3: Medium and Heavy-Duty Trucks, Transit Bus, and School Bus Project Eligibility

Current Engine Model Year (EMY)	DOC +/- CCV	DPF	SCR	Verified Idle Reduction, Tires, or Aero-dynamics	Vehicle or Engine Replacement: EMY 2019+ (2015+ for Drayage)	Vehicle or Engine Replacement: EMY 2019+, Zero Emission[2], or Low-NO [3]	Clean Alternative Fuel Conversion
Older - 2006	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2007 - 2009	No	No	Yes	Yes[1]	Yes	Yes	Yes
2010 - newer	No	No	No	Yes[1]	No	Yes	Yes

[1]Auxiliary power units and generators are not eligible on vehicles with EMY 2007 or newer.

[2]Eligible fuel cell projects are limited to hydrogen fuel cell engine replacements for eligible urban transit buses, shuttle buses and drayage trucks, and hydrogen fuel cell engine replacements for eligible urban transit buses, shuttle buses, and drayage trucks.

[3]Please see the Low-NOx Engine Factsheet found at www.epa.gov/dera/state for guidance on identifying engines certified to meet CARB's Optional Low NOx Standards.

Table 4: Nonroad Engine Project Eligibility

Current Engine Tier	Vehicle/Equipment Replacement					Verified Retrofit
	Compression Ignition			Spark Ignition	Zero Emission[3]	
	Tier 0-2	Tier 3-4i	Tier 4	Tier 2		
Unregulated – Tier 2	No	Yes[1]	Yes	Yes	Yes	Yes
Tier 3	No	No	Yes	Yes	Yes	Yes
Tier 4	No	No	No	No	Yes	No
Current Engine Tier	**Engine Replacement**					**Verified Engine Upgrade**
	Compression Ignition			Spark Ignition	Zero Emission[4]	
	Tier 0-2	Tier 3-4i	Tier 4	Tier 2		
Unregulated – Tier 2	No	Yes[2]	Yes	Yes	Yes	Yes
Tier 3	No	No	Yes	Yes	Yes	Yes
Tier 4	No	No	No	No	Yes	No

[1]Tier 3 and Tier 4 interim (4i) allowed for vehicle/equipment replacement only when Tier 4 final is not yet available from OEM for 2021 model year equipment under the Transition Program for Equipment Manufacturers (TPEM).

[2]Tier 3 and Tier 4i engines may be used for engine replacement only if Tier 4 is demonstrated to not be available or feasible through a best achievable technology analysis.

[3]Eligible fuel cell projects are limited to hydrogen fuel cell equipment replacements for eligible terminal tractors/yard hostlers, stationary generators, and forklifts.

[4]Fuel cell engine replacement is not eligible.

Table 5: Marine Engine Project Eligibility

Engine Category	Engine Horsepower	Current Engine Tier	Engine & Vessel Replacement					Certified Remanufacture System[3]	Verified Engine Upgrade
			Compression Ignition			Spark Ignition	Zero Emission[2]		
			Tier 1-2	Tier 3	Tier 4				
C1, C2	<803	Unregulated – Tier 2	No	Yes	No	Yes	Yes	Yes	Yes
C1, C2	≥804	Unregulated – Tier 2	No	Yes[1]	Yes	Yes	Yes	Yes	Yes
C1, C2	<803	Tier 3	No	No	No	Yes	Yes	No	No
C1, C2	≥804	Tier 3	No	No	Yes	Yes	Yes	No	No
C1, C2	≥804	Tier 4	No	No	No	No	No	No	No
C3	All	Unregulated - Tier 2	No	Yes	No	No	No	No	No
C3	All	Tier 3	No	No	No	No	No	No	No

[1]Tier 3 engines may be used for engine replacement only if Tier 4 is demonstrated to not be available or feasible through a best achievable technology analysis as defined in Section VIII.D.1 below. Over 800 HP, Tier 3 engines are not eligible for full vessel replacement.

[2]Fuel cell engine and vessel replacements are not eligible.

[3]Some marine engine projects may be subject to the restriction on mandated measures.

Table 6: Locomotive Engine Project Eligibility

Current Locomotive Tier	Engine & Locomotive Replacement				Verified Retrofit	Idle-Reduction[2] Technology	Certified Remanufacture System[4]
	Tier 0–2+	Tier 3	Tier 4	Zero Emission[1]			
Unregulated - Tier 2+	No	Yes[3]	Yes	Yes	Yes	Yes	Yes
Tier 3	No	No	Yes	Yes	Yes	Yes	Yes
Tier 4	No	No	No	No	No	Yes	No

[1]Fuel cell engine and locomotive replacements are not eligible.

[2]Automatic engine start-stop technologies are only eligible to be installed on locomotives currently certified to Tier 0 or unregulated, subject to the restriction on mandated measures.

[3]Tier 3 engines may be used for engine replacement only if Tier 4 is demonstrated to not be available or feasible through a best achievable technology analysis as defined in Section VIII.D.1 below. Tier 3 is not eligible for locomotive replacement.

[4]Some locomotive engine projects may be subject to the restriction on mandated measures.

Note: Tier 0+, Tier 1+, Tier 2+, Tier 3, and Tier 4 represent locomotives manufactured or remanufactured under the more stringent Tier standards promulgated under the 2008 (current) locomotive and marine rule. Tier 0, Tier 1, and Tier 2 represent locomotives originally manufactured or remanufactured under the less stringent Tier standards promulgated in 1997.

- **Best Achievable Technology (BAT):** All new nonroad and locomotive engines are now manufactured to meet the EPA Tier 4 standards. All new Category 1 and 2, 804 horsepower and above marine engines are now manufactured to meet the EPA Tier 4 standards.

  Recipients replacing these nonroad, marine, and locomotive engines must demonstrate that their projects commit to using Tier 4 engines if Tier 4 engines with the appropriate physical and performance characteristics are available. Recipients anticipating the use of Tier 3 engines should discuss their rationale for proposing lower tiered engine replacements.

  If selected for funding, recipients must submit a best achievable technology analysis to EPA for approval before Tier 3 or Tier 4i vehicles, equipment, or engines can be purchased, as defined below. The following analysis is not required at the time of project development.

E. Ownership, Usage and Remaining Life Requirements

1. The existing vehicle, engine, or equipment must be fully operational. Operational equipment must be able to start, move, and have all necessary parts to be operational.

2. The participating fleet owner must currently own and operate the existing vehicle or equipment and have owned and operated the vehicle during the two years prior to upgrade.

3. The existing vehicle, engine, or equipment must have at least three years of remaining life at the time of upgrade. Remaining life is the fleet owner's estimate of the number of years until the unit would have been retired from service if the unit were not being upgraded or scrapped because of the grant funding. The remaining life estimate is the number of years of operation remaining even if the unit were to be rebuilt or sold to another fleet. The remaining life estimate depends on the current age and condition of the vehicle at the time of upgrade, as well as things like usage, maintenance, and climate

4. **Highway Usage:** The mileage of multiple units may be combined to reach the thresholds below where those units will be scrapped and replaced with a single unit.
   a. **School Buses:** To be eligible for funding, the existing vehicle must have accumulated at least 7,000 miles/year during the two years prior to upgrade, or during calendar year (Jan-Dec) 2019.
   b. **All Other Highway Engines:** To be eligible for funding, the existing vehicle must have accumulated at least 7,000 miles/year during the two years prior to upgrade.

5. **Nonroad, Locomotive and Marine Usage:** The engine operating hours of multiple units may be combined to reach the thresholds below where those units will be scrapped and replaced with a single unit.
   a. **Agricultural Pumps:** To be eligible for funding, agricultural pumps must operate at least 250 hours/year during the two years prior to upgrade.
   b. **All Other Nonroad Engines:** To be eligible for funding, nonroad engines must operate at least 500 hours/year during the two years prior to upgrade.
   c. **Locomotive and Marine Usage:** To be eligible for funding the exiting locomotive and marine engines must operate at least 1,000 hours/year during the two years prior to upgrade.