Summary
The Iowa Department of Transportation (Iowa DOT) is soliciting proposals from eligible entities for participation in the federal fiscal year (FFY) 2018 Diesel Emissions Reduction Act (DERA) Grant Program 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.

Contents
DERA Grant Program Overview .................................................................................................................... 2
Eligibility........................................................................................................................................................ 3
  Eligible Entities.......................................................................................................................................... 3
  Ineligible Entities....................................................................................................................................... 3
  Eligible Vehicles, Engines, and Equipment................................................................................................ 3
  Eligible Projects......................................................................................................................................... 3
  Ineligible Projects...................................................................................................................................... 4
  Eligible Expenses....................................................................................................................................... 4
Funding and Cost-Share Requirements ........................................................................................................ 4
  DERA Cost Share Requirements for Eligible Activities.............................................................................. 5
Funding Restrictions ..................................................................................................................................... 6
  Disqualification from Funding................................................................................................................... 6
How to Apply................................................................................................................................................. 6
  Application Questions............................................................................................................................... 7
  Amendment or Withdrawal of an Application.......................................................................................... 7
  Iowa DOT Discretion ................................................................................................................................. 7
  Disqualification of Applications ................................................................................................................ 8
  Process for Clarification of Application Information ............................................................................... 8
  Disposition of Applications and Copyrights ............................................................................................. 8
Evaluation Criteria and Scoring ..................................................................................................................... 9
Grant Administration .................................................................................................................................... 9
  Specific Items to Consider ......................................................................................................................... 10
Appendix A: Eligible Projects ...................................................................................................................... 11
DERA Grant Program Overview
As part of the Energy Policy Act of 2005, the DERA appropriates funds for projects to reduce emissions from diesel fleets. Thirty percent of the annual DERA appropriation is made available by the Environmental Protection Agency (EPA) to support grant, loan, or rebate programs administered by states and territories to achieve significant reductions in diesel emissions through the use of certified engine configurations or verified emission control technologies.

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 the state/territory provides a voluntary match that equals or exceeds the base amount, a bonus of half the base amount will be added to the grant total by the EPA.

In FFY 2018, Iowa received a base allocation of $275,123. Iowa is voluntarily matching the base amount with monies from the Volkswagen settlement. Therefore; the EPA granted an additional 50 percent, bringing Iowa’s total 2018 DERA allocation to $712,685.

<table>
<thead>
<tr>
<th>FUNDING SOURCES</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA Base Allocation</td>
<td>$275,123</td>
</tr>
<tr>
<td>Iowa’s Voluntary Match from VW Settlement Funds</td>
<td>$300,000</td>
</tr>
<tr>
<td>EPA Incentive Bonus</td>
<td>$137,562</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>$712,685</strong></td>
</tr>
</tbody>
</table>
Eligibility

Eligible Entities
FFY 2018 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 2018 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 Vehicles, Engines, and Equipment
Eligible on-road or non-road vehicles and equipment include:
- School buses (Type A, B, C, and D)
- Medium-duty and heavy-duty transit buses (Class 5 through Class 8)
- Medium-duty or heavy-duty trucks (Class 5 through Class 8)
- Marine Engines (operating at least 1000 hours per year)
- Locomotives (operating at least 1000 hours per year)
- Non-road engines, equipment, or vehicles used in:
  - Construction
  - Handling of cargo
  - Agriculture
  - Energy production (including stationary generators or pumps)

Eligible Projects
A broad range of diesel engine reduction strategies are eligible for DERA grants, including:
1. Exhaust Control Devices
2. Verified Idle Reduction Technologies
3. Aerodynamic Technologies
4. Low Rolling Resistance Tires
5. Cleaner Fuels
6. Clean Alternative Fuel Conversion
7. Engine Upgrade and Remanufacturing Systems
8. Certified Engine Replacement
9. Vehicle and Equipment Replacement

All projects must use verified technologies or certified engine configurations. A complete list of eligible projects can be found in Appendix A.
Ineligible Projects
Funding is not available for the following projects:

- Vehicle and equipment replacements or upgrades that are mandated under federal law.
- Fueling infrastructure.
- Vehicle and equipment replacements that would have occurred through normal attrition within three years of the project start date.
- Purchases to expand a fleet.
- Replacement of technologies that have been previously installed on the vehicle or equipment.
- Retrofit, replace, or upgrade a non-road engine that operates less than 500 hours per year.
- Emissions testing, air monitoring, or research activities.

Eligible Expenses
Eligible expenses are costs directly incurred through the purchase of eligible technologies, equipment, vehicles, and installation activities. Only eligible costs will be reimbursed.

Funding and Cost-Share Requirements
The Iowa DOT anticipates awarding approximately $700,000 during the FY 2018 DERA Grant Program. The Iowa DOT may select part of a proposal for funding and may offer to fund less than the dollar amount requested in a proposal. The Iowa DOT reserves the right to reject any or all applications, in whole and in part, any time prior to the execution of the written agreement.

Participating organizations will be eligible to receive cost (labor and equipment) reimbursement for their projects. A cost will not be considered incurred until the funded technology and/or equipment has been received and accepted by the organization. Request for reimbursement shall include documentation to show that the technology/equipment has been received and installed, that disablement (if necessary) has occurred, that all agreement requirements have been met, and that the expenses have been incurred and paid by the participating organization.

Cost-Share Requirements
Mandatory cost-shares are required for all projects that are not eligible for 100 percent reimbursement. DERA and the State of Iowa can only fund a portion of eligible projects, with the remaining cost-share typically covered by the fleet owner. Required cost-shares must be monetary and federal funds may not be used. The Iowa DOT will reimburse organizations, dependent on their project, up to the percentages outlined in the following table:
**DERA Cost-Share Requirements for Eligible Activities**

<table>
<thead>
<tr>
<th>DERA ELIGIBLE ACTIVITIES</th>
<th>DERA FUNDING LIMITS</th>
<th>MINIMUM COST-SHARE (FLEET OWNER CONTRIBUTION)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaust Control Retrofit</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Engine Upgrade/Remanufacture</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>Highway Idle Reduction</td>
<td>25%</td>
<td>75%</td>
</tr>
<tr>
<td>Locomotive Idle Reduction</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>Marine Shore Power</td>
<td>25%</td>
<td>75%</td>
</tr>
<tr>
<td>Electrified Parking Space</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>Engine Replacement – Diesel or Alternative Fuel</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>Engine Replacement – Low NOx*</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Engine Replacement – All Electric</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Vehicle/Equipment Replacement – Diesel or Alt.</td>
<td>25%</td>
<td>75%</td>
</tr>
<tr>
<td>Vehicle/Equipment Replacement – Low NOx*</td>
<td>35%</td>
<td>65%</td>
</tr>
<tr>
<td>Vehicle/Equipment Replacement – All Electric</td>
<td>45%</td>
<td>55%</td>
</tr>
<tr>
<td>Clean Alternative Fuel Conversion</td>
<td>40%</td>
<td>60%</td>
</tr>
</tbody>
</table>

*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://arb.ca.gov/msprog/hdlownox/hdlownox.htm](https://arb.ca.gov/msprog/hdlownox/hdlownox.htm).
Funding Restrictions
Funds awarded by the Iowa DOT cannot be used to:

- Match other federal grants, for lobbying, or intervention in federal regulatory or adjudicatory proceedings.
- Cover expenses incurred prior to the project period. Expenses incurred prior to the project period are not eligible as a cost-share for proposed projects.

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 re-imbursement if the applicant has:

- Not disabled or scrapped the engine replaced by engine repowers or vehicle replacement.
- Not used a competitive process for obtaining contracts for products and services as applicable to federal, state, local, or internal procurements requirements.
- Not submitted receipts for reimbursement by the deadline.
- Altered equipment or vehicles in such a way that the result is the release of more diesel exhaust than the original condition of the equipment or vehicles.
- Started the awarded project prior to the execution of the agreement.

How to Apply
Applicants may apply for funds for more than one DERA project; however, if the applicant wants to request funds for multiple reduction strategies then all strategies need to be included on a single grant application. To be considered for this funding opportunity, please submit the following application materials, which can be found at http://www.iowadot.gov/DERA.

- DERA 2018 Application Form
- DERA 2018 Fleet Description Form
- DERA 2018 Expense Form

Compete applications are due, either by email or mail, before 5:00 pm CST on November 9, 2018. Applications received after the deadline will be deemed ineligible and not reviewed. Incomplete applications may be disqualified from consideration.

If emailing the application packet, send to matthew.chambers@iowadot.us with the subject line: “DERA GRANT 2018.” The Iowa DOT is not responsible for any errors or delays caused by technical difficulties.
If mailing, submit one copy of the signed, completed application packet (application, fleet description, and expense forms) to:

Matthew Chambers  
Office of Program Management  
Iowa Department of Transportation  
800 Lincoln Way  
Ames, IA  50010

Applicants must allow ample mail delivery time to ensure applications are received before the deadline. Postmarking by the due date will not substitute for actual receipt of the application.

**Application Questions**
Questions or requests for clarification about the grant program may be submitted through the FAQ section of the website [https://iowadot.gov/dera/frequently-asked-questions](https://iowadot.gov/dera/frequently-asked-questions), or directed in writing to Matt Chambers via email at matthew.chambers@iowadot.us; with the subject line “DERA 2018 Question.” Verbal questions will not be addressed. If the questions or requests for clarification pertain to a specific section of this guidance document— the page number and section must be referenced.

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 5:00 pm CST on November 9, 2018.**

**Iowa DOT Discretion**
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.
**Evaluation Criteria and Scoring**
The Iowa DOT will begin evaluating applications after November 9, 2018. The following criteria, in no particular order, may be used to evaluate projects.

Potential evaluation criteria:
- Completeness of application
- Cost-effectiveness
- Efforts to reduce air pollution
- Engines operating in areas of concern
- Projected emissions reductions
- Public health benefits
- Verified technologies
- Useful life or retrofits to engines
- Conservation of diesel fuels
- Project duration

**Grant Administration**
All applicants will be notified regarding their selection status and the amount of grant funds that may be awarded.

Applicants selected to receive a grant will be required to execute an agreement with the Iowa DOT. Negotiations and execution of the agreement(s) are expected to be completed in mid/late-December 2018, with project start date for the applicant to be no earlier than January 1, 2019. If the apparent successful applicant(s) fails to negotiate and deliver an executed agreement by January 1, 2019 the Iowa DOT in its sole discretion, may cancel the award and award the contract to a remaining applicant.

Upon signature and execution of the agreement by the Iowa DOT, a copy of the executed agreement will be returned to the applicant, at which time the grant will be considered awarded. The project, including the purchase of technology, may not occur prior to the execution of the agreement.
Specific Items to Consider
Applicants interested in participating in Iowa’s 2018 DERA grant, should consider the following specific items that will be part of the requirements addressed in the agreement.

- All projects must be completed by August 30, 2019. All services or work must be completed within the scope, time frame, and funding limitation specified by the agreement.
- 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.
- Along with the requirements (purchase, install, etc.) to ensure the project is completed, the applicant will be required to submit quarterly and final reports. Projects requiring disabling of an engine will require submission of a photo of each disabled or scrapped engine.
- Receipts for reimbursement are due to the Iowa DOT by September 20, 2019. 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 within ninety days of being replaced.
  - A 3-inch diameter hole will need to be cut in the engine block
  - The frame/frame rails on each side between the front and rear axles of the chassis will need to be cut through.
  - Evidence of appropriate disposal is required - digital photos of the engine tag, the destroyed engine block, and chassis.
  - Equipment and vehicle components that are not part of the chassis or engine may be salvaged or scrapped. If sold, program income requirements will apply.
Appendix A: Eligible Projects


1. Exhaust Control Devices
   - Pollution control devices installed in the exhaust system or systems that include crankcase emission control.
     - Diesel oxidation catalyst (DOC)
     - Diesel oxidation catalyst + closed crankcase ventilation (DOC + CCV)
     - Diesel particulate filter (DPF)
     - Partial flow filter (PFF)
     - Selective catalytic reduction (SCR) system
   - The type(s) of exhaust control technology being used must be included on the list of EPA (www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel) or CARB (www.arb.ca.gov/diesel/verdev/vt/cvt.htm) verified technologies at the time of acquisition and used according to the specifications.
   - If DPF is the exhaust control technology being used, it is highly recommended that all vehicles being considered have the exhaust temperature data logged to verify that the technology can be placed on the vehicle.
   - Funding Restrictions: Able to fund up to 100% of the cost (labor and equipment) for an eligible verified emission control.

Table 1: Funding Restrictions for Exhaust Control Devices for Medium and Heavy-Duty Trucks, Transit Buses, and School Buses

<table>
<thead>
<tr>
<th>CURRENT ENGINE MODEL YEAR (EMY)</th>
<th>DOC +/- CCV</th>
<th>DPF</th>
<th>SCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older - 1994</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>1995 - 2006</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2007 - 2009</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2010 - Newer</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
Table 2: Funding Restrictions for Exhaust Control Devices for Locomotives

<table>
<thead>
<tr>
<th>CURRENT LOCOMOTIVE TIER</th>
<th>VERIFIED EXHAUST CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unregulated - Tier 2</td>
<td>Yes</td>
</tr>
<tr>
<td>Tier 2+ switcher</td>
<td>Yes</td>
</tr>
<tr>
<td>Tier 2+ line haul</td>
<td>Yes</td>
</tr>
<tr>
<td>Tier 3 - Tier 4</td>
<td>No</td>
</tr>
</tbody>
</table>

2. Verified Idle Reduction Technologies

- Idle reduction is considered by the EPA to be a “technology or device that reduces unnecessary idling of diesel vehicles or equipment 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 type and use of technology proposed for funding must exist on EPA’s list of eligible verified idle reduction technologies (www.epa.gov/verified-diesel-tech/smartway-technology) at the time of acquisition.

Funding Restrictions:
- **Locomotives**: Able to fund up to 40 percent of the cost (labor and equipment) of verified eligible locomotive idle reduction technologies.
- **Electrified Parking Spaces**: Able to fund up to 30 percent of the cost (labor and equipment) of eligible electrified parking spaces, also known as truck stop electrification, technologies.
- **Marine Shore Power Connection Systems**: Able to fund up to 25 percent of the cost (labor and equipment) of eligible marine shore power connection systems. Eligibility will be established by the EPA on a case-by-case basis.
- **Highway Idle Reduction Technologies**: Able to fund up to 25 percent of the cost (labor and equipment) of eligible verified idle reduction technologies on long-haul trucks and school buses.

Table 3: Funding Restrictions for Idle Reduction Technologies for Locomotives

<table>
<thead>
<tr>
<th>CURRENT LOCOMOTIVE TIER</th>
<th>VERIFIED IDLE REDUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unregulated - Tier 2</td>
<td>Yes*</td>
</tr>
<tr>
<td>Tier 2+ switcher</td>
<td>Yes*</td>
</tr>
<tr>
<td>Tier 2+ line haul</td>
<td>Yes*</td>
</tr>
<tr>
<td>Tier 3 - Tier 4</td>
<td>No</td>
</tr>
</tbody>
</table>
Automatic Engine Start-Stop technologies are only eligible on currently certified Tier 0 or unregulated.

3. Aerodynamic Technologies
   - Long haul Class 8 trucks can be retrofitted with aerodynamic trailer fairings or can be provided as new equipment.
   - Technologies and uses must be specifically named on EPA’s verified technologies list (www.epa.gov/verified-diesel-tech/smartway-verified-list-aerodynamic-devices) at the time of acquisition.
   - Funding Restrictions: Able to fund up to 100% of cost (labor and equipment) for verified aerodynamic technologies installed on long haul Class 8 trucks only if the technology is combined on the same vehicle with a new eligible verified exhaust control as defined above. Stand-alone aerodynamic technologies are not allowed for funding.

4. Low Rolling Resistance Tires
   - Certain tire models can provide a reduction in NOx emissions and fuel savings, relative to the “standard” new tires for long haul Class 8 trucks, when used on all axles.
   - Low rolling resistance tires must be specified on EPA’s verified list www.epa.gov/verified-diesel-tech/smartway-verified-list-low-rolling-resistance-lrr-new-and-retread-tire.
   - Funding Restrictions: Able to fund up to 100% of cost (labor and equipment) for verified low rolling resistance tires installed on long haul Class 8 trucks, only if the technology is combined on the same vehicle with a new eligible verified exhaust control as defined above. Stand-alone low rolling resistance tires are not allowed for funding. Low rolling resistance tires are not eligible for funding if they have previously been installed on the truck.

Table 4: Funding Restrictions for Medium and Heavy-Duty Trucks, Transit Buses, and School Buses

<table>
<thead>
<tr>
<th>CURRENT ENGINE MODEL YEAR (EMY)</th>
<th>VERIFIED IDLE REDUCTION</th>
<th>AERODYNAMIC TECHNOLOGIES</th>
<th>LOW ROLLING RESISTANCE TIRES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older - 1994</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>1995 - 2006</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2007 - 2009</td>
<td>Yes*</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2010 - Newer</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

*Auxiliary Power Units and generators are not eligible on vehicles with EMY 2007 or newer.
5. Cleaner Fuels
   o Cleaner fuels include, but are not limited to biodiesel, diesel fuel additives verified by EPA or CARB, compressed natural gas, propane and other certified alternative fuels.
   o **Funding Restrictions:** Able to fund the cost differential between the cleaner fuel and conventional diesel fuel if that cleaner fuel is used in combination, and on the same vehicle, with a new eligible verified exhaust control or an eligible engine upgrade or replacement, or an eligible certified vehicle/equipment replacement. Stand-alone cleaner fuel use technologies are not allowed for funding.

6. Clean Alternative Fuel Conversion
   o Aftermarket clean alternative fuel conversions involve altering the conventional, original equipment manufacturer (OEM) highway diesel vehicles and engines to operate on alternative fuels such as propane or natural gas.
   o Conversion systems for engine model years 1995-2006 must achieve at least a 30% NOx reduction and a 10% PM reduction from the applicable certified emission standards of the original engine.
   o Conversion systems for engine model years 2007-2009 must achieve at least a 20% NOx reduction with no increase in PM from the applicable certified emission standards of the original engine.
   o **Funding Restrictions:** Able to fund up to 40 percent of the cost (labor and equipment) of an eligible, certified clean alternative fuel conversion.

7. Engine Upgrade and Remanufacturing Systems
   o An engine upgrade involves the removal of parts on a certified engine configuration and replacement with parts to reduce emissions.
   o Some non-road engines and locomotives can be upgraded by applying manufacturer upgrades that are EPA or CARB verified retrofits or a certified remanufacture system.
   o The engine must be currently operating and performing its intended function.
   o Proposals for an upgrade must demonstrate significant emissions benefits.
   o **Funding Restrictions:** Able to fund up to 40 percent of the cost (labor and equipment) of an eligible non-road, marine, or locomotive engine upgrade.
8. Certified Engine Replacement

- Diesel engine replacement includes, but is not limited to:
  - Diesel engine replacement with an engine certified by EPA or CARB for use with diesel or a clean alternative fuel
  - Diesel engine replacement with an electric power source (grid, battery, or fuel cell)
  - Diesel engine replacement with an electric generator
  - Diesel engine replacement with an all-electric engine (does not need EPA or CARB certification).

- Proposals for repowers should include the pre- and post-project standard emission levels of the engines to be repowered, in order to ensure that the replacement will result in a net emissions reduction.

- Repowered vehicle, engine or equipment must continue to perform the same function as before the repower.

- The replacement engine must be of similar horsepower as the engine being replaced. Horsepower increases of more than 25 percent will require specific approval by EPA prior to purchase.

- Early attrition and permanent disablement/scrappage requirements are enforced.

- Funding Restrictions: The eligible cost of engine replacement includes the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional, including related labor expenses.
  - Locomotive and Non-Road Diesel Vehicles and Equipment: Able to fund up to 40 percent of the cost of replacing a diesel engine with a 2017 model year or newer engine certified to EPA’s emission standards (https://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-nonroad-engines-and-vehicles). Able to fund up to 60 percent of the cost of replacing a diesel engine with an electric motor or electric power source.
  - Highway Diesel Vehicles: Able to fund up to 40 percent of the cost of replacing a diesel engine with a 2017 model year or newer engine certified to EPA’s emission standards (https://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-heavy-duty-highway-engines-and-vehicles). May fund up to 50 percent of the cost of replacing a diesel engine with a 2017 model year or newer engine that is certified to CARB’s Optional Low-NOx Standards (https://www.arb.ca.gov/msprog/onroad/cert/cert.php). Able to fund up to 60 percent of the cost of replacing a diesel engine with an electric motor or electric power source.
9. Vehicle and Equipment Replacement

- Non-road and highway diesel vehicles in normal operational condition can be replaced with newer, cleaner vehicles that operate on diesel or alternative fuels and use engines certified by EPA or CARB to meet a more stringent set of engine emission standards.
- Replacement locomotives, non-road diesel vehicles and equipment, as well as highway diesel vehicles and buses, must be powered by a 2017 model year or newer EPA certified engine.
- Drayage vehicles may be replaced by a 2012 model year or newer certified engine. The truck being replaced needs to have been operating on a frequent basis over the prior year as a drayage truck.
- Replacement projects can include the replacement of diesel vehicles with newer, cleaner diesel, electric (grid, battery or fuel cell), hybrid or alternative fuel vehicles. All-electric (i.e. zero emission) vehicles do not require EPA certification.
- The replacement vehicle or equipment must serve the same function and must be of the same type and similar gross vehicle weight rating or horsepower as the vehicle being replaced. Horsepower increases of more than 25 percent will require specific approval by EPA prior to purchase.
- Replacement vehicles cannot be used to increase the size of the organization’s fleet.
- Replacements that would have occurred through normal attrition are considered to be the result of normal fleet turnover and are not eligible for funding.
- The replaced vehicle or engine must be permanently disabled or the engine must be remanufactured to the next EPA standard.
- **Funding Restrictions:** Funding percentages are based on the type of replacement vehicle.
  - **Locomotive and Non-Road Diesel Vehicles and Equipment:** Able to fund up to 25 percent of the cost of the replacement vehicle or piece of equipment powered by a 2017 model year or newer engine certified to EPA’s emission standards ([www.epa.gov/emission-standards-reference-guide/epa-emission-standards-nonroad-engines-and-vehicles](http://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-nonroad-engines-and-vehicles)). Previous model year engines may be used if they are certified to the same emission standards as the 2017 EMY. Able to fund up to 45 percent of the cost of a new, all-electric non-road vehicle or equipment.
  - **Highway Diesel Vehicles and Buses (excludes Drayage):** Able to fund up to 25 percent of the cost of a replacement vehicle powered with a 2017 model year or newer engine certified to EPA’s emission standards ([www.epa.gov/emission-standards-reference-guide/epa-emission-standards-heavy-duty-highway-engines-and-vehicles](http://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-heavy-duty-highway-engines-and-vehicles)). May fund up to 35 percent of the cost of a replacement vehicle with a 2017 model year or newer engine that is certified to CARB’s Optional Low-NOx Standards ([www.arb.ca.gov/msprog/onroad/cert/cert.php](http://www.arb.ca.gov/msprog/onroad/cert/cert.php)). Able to fund up to 45 percent of the cost of an all-electric replacement vehicle.
- **Drayage Vehicles**: Able to fund up to 50 percent of the cost of a replacement drayage truck powered by a 2012 model year or newer certified engine.

**Table 5:** Funding Restrictions for Medium and Heavy-Duty Trucks, Transit Buses, and School Buses

<table>
<thead>
<tr>
<th>CURRENT ENGINE MODEL YEAR (EMY)</th>
<th>CLEAN ALTERNATIVE FUEL CONVERSION</th>
<th>VEHICLE OR ENGINE REPLACEMENT: ELECTRIC</th>
<th>VEHICLE OR ENGINE REPLACEMENT: EMY 2017+ (2012+ FOR DRAYAGE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older - 1994</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>1995 - 2006</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2007 - 2009</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>2010 - Newer</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Table 6:** Non-road Vehicle/Equipment Replacement Funding Restrictions

<table>
<thead>
<tr>
<th>CURRENT ENGINE HORSEPOWER</th>
<th>CURRENT ENGINE MODEL YEAR (EMY) AND TIER</th>
<th>VEHICLE/EQUIPMENT REPLACEMENT: EMY 2017+</th>
<th>VERIFIED EXHAUST CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TIER 0 - 2</td>
<td>TIER 3 - 4i</td>
</tr>
<tr>
<td>0 - 50</td>
<td>2005 and Newer; Unregulated - Tier 2</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>51 - 300</td>
<td>1995 and Newer; Tier 0 - Tier 2</td>
<td>No</td>
<td>Yes*</td>
</tr>
<tr>
<td>51 - 300</td>
<td>1995 and Newer; Tier 3</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>301+</td>
<td>1985 and Newer; Tier 0 - Tier 2</td>
<td>No</td>
<td>Yes*</td>
</tr>
<tr>
<td>301+</td>
<td>1985 and Newer; Tier 3</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

* Tier 3 and Tier 4 interim (4i) allowed for vehicle/equipment replacement only when Tier 4 final is not yet available from OEM for 2017 model year equipment under the Transition Program for Equipment Manufacturers (TPEM).
### Table 7: Non-road Engine Replacement Funding Restrictions

<table>
<thead>
<tr>
<th>CURRENT ENGINE HORSEPOWER</th>
<th>CURRENT ENGINE MODEL YEAR (EMY) AND TIER</th>
<th>ENGINE REPLACEMENT: EMY 2017+*</th>
<th>VERIFIED ENGINE UPGRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TIER 0 - 3</td>
<td>TIER 4</td>
</tr>
<tr>
<td>0 - 50</td>
<td>2005 and Newer; Unregulated - Tier 2</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>51 - 300</td>
<td>1995 and Newer; Tier 0 - Tier 3</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>301 - 750</td>
<td>1985 and Newer; Tier 0 - Tier 3</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>751+</td>
<td>1985 and Newer; Tier 0 - Tier 2</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* Previous engine model year engines may be used for engine replacement if the engine is certified to the same emission standards applicable to EMY 2017.

### Table 8: Marine Engine Funding Restrictions

<table>
<thead>
<tr>
<th>CURRENT ENGINE TIER</th>
<th>ENGINE REPLACEMENT: EMY 2017+*</th>
<th>CERTIFIED REMANUFACTURE SYSTEM</th>
<th>VERIFIED ENGINE UPGRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TIER 1 - 2</td>
<td>TIER 3 - 4</td>
<td>ALL-ELECTRIC</td>
</tr>
<tr>
<td>Unregulated - Tier 2</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Tier 3 - 4</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

* Previous engine model year engines may be used if the engine is certified to the same emission standards applicable to EMY 2017.
<table>
<thead>
<tr>
<th>CURRENT LOCOMOTIVE TIER</th>
<th>LOCOMOTIVE REPLACEMENT OR ENGINE REPLACEMENT: EMY 2017+*</th>
<th>CERTIFIED REMANUFACTURE SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TIER 0+ - 3</td>
<td>TIER 4</td>
</tr>
<tr>
<td>Unregulated - Tier 2</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Tier 2+ switcher</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Tier 2+ line haul</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Tier 3 - Tier 4</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

* Previous engine model year engines may be used if the engine is certified to the same emission standards applicable to EMY 2017.