# APPENDIX D-4
# Beneficiary Eligible Mitigation Action Certification

**BENEFICIARY ELIGIBLE MITIGATION ACTION CERTIFICATION**

Beneficiary Colorado

Lead Agency Authorized to Act on Behalf of the Beneficiary Colorado Department of Public Health & Environment
*(Any authorized person with delegation of such authority to direct the Trustee delivered to the Trustee pursuant to a Delegation of Authority and Certificate of Incumbency*)

| | |
|---|---|
| **Action Title:** | DERA - Nonroad Equipment Replacements |
| **Beneficiary's Project ID:** | DERA 8X18D |
| **Funding Request No.** | *(sequential)* 1 |
| **Request Type:**<br>**(select one or more)** | ■ Reimbursement ☐ Advance<br>☐ Other (specify): _____ |
| **Payment to be made to:**<br>**(select one or more)** | ■ Beneficiary<br>☐ Other (specify): _____ |
| **Funding Request & Direction (Attachment A)** | ■ Attached to this Certification<br>☐ To be Provided Separately |

## SUMMARY

| | |
|---|---|
| **Eligible Mitigation Action Action Type** | ■ Appendix D-2 item (specify): EMA #10 DERA Option<br>■ Item 10 - DERA Option (5.2.12) (specify and attach DERA Proposal): |
| **Explanation of how funding request fits into Beneficiary's Mitigation Plan (5.2.1):**<br>See attached. | |
| **Detailed Description of Mitigation Action Item Including Community and Air Quality Benefits (5.2.2):**<br>See attached. | |
| **Estimate of Anticipated NOx Reductions (5.2.3):**<br>See attached. | |
| **Identification of Governmental Entity Responsible for Reviewing and Auditing Expenditures of Eligible Mitigation Action Funds to Ensure Compliance with Applicable Law (5.2.7.1):**<br>See attached. | |
| **Describe how the Beneficiary will make documentation publicly available (5.2.7.2).**<br>See attached. | |
| **Describe any cost share requirement to be placed on each NOx source proposed to be mitigated (5.2.8).**<br>See attached. | |
| **Describe how the Beneficiary complied with subparagraph 4.2.8, related to notice to U.S. Government Agencies (5.2.9).**<br>See attached. | |

**If applicable, describe how the mitigation action will mitigate the impacts of NOx emissions on communities that have historically borne a disproportionate share of the adverse impacts of such emissions (5.2.10).**
See attached.

## ATTACHMENTS
## (CHECK BOX IF ATTACHED)

| | | |
|---|---|---|
| ☑ | **Attachment A** | **Funding Request and Direction.** |
| ☑ | **Attachment B** | **Eligible Mitigation Action Management Plan Including Detailed Budget and Implementation and Expenditures Timeline (5.2.4).** |
| ☑ | **Attachment C** | **Detailed Plan for Reporting on Eligible Mitigation Action Implementation (5.2.11).** |
| ☑ | **Attachment D** | **Detailed cost estimates from selected or potential vendors for each proposed expenditure exceeding $25,000 (5.2.6). [Attach only if project involves vendor expenditures exceeding $25,000.]** |
| ☑ | **Attachment E** | **DERA Option (5.2.12). [Attach only if using DERA option.]** |
| ☐ | **Attachment F** | **Attachment specifying amount of requested funding to be debited against each beneficiary's allocation (5.2.13). [Attach only if this is a joint application involving multiple beneficiaries.]** |

## CERTIFICATIONS

**By submitting this application, the Lead Agency makes the following certifications:**

1. **This application is submitted on behalf of Beneficiary** Colorado **, and the person executing this certification has authority to make this certification on behalf of the Lead Agency and Beneficiary, pursuant to the Certification for Beneficiary Status filed with the Court.**

2. **Beneficiary requests and directs that the Trustee make the payments described in this application and Attachment A to this Form.**

3. **This application contains all information and certifications required by Paragraph 5.2 of the Trust Agreement, and the Trustee may rely on this application, Attachment A, and related certifications in making disbursements of trust funds for the aforementioned Project ID.**

4. **Any vendors were or will be selected in accordance with a jurisdiction's public contracting law as applicable. (5.2.5)**

5. **Beneficiary will maintain and make publicly available all documentation submitted in**

**support of this funding request and all records supporting all expenditures of eligible mitigation action funds subject to applicable laws governing the publication of confidential business information and personally identifiable information. (5.2.7.2)**

**DATED:** 4/19/2024

**Garry Kaufman**
**Director, Air Pollution Control Division**

Colorado Department of Public Health & Environment

**[LEAD AGENCY]**

**for**

Colorado

**[BENEFICIARY]**

## Attachment B

## Project Management Plan

## Project Schedule and Milestones – Colorado Clean Diesel Program, DERA Option

| Milestone | Date |
|---|---|
| Project partner provides notice of availability of mitigation action funds | May 2020 |
| Project partner and CDPHE coordination meetings | Monthly |
| Project partner develops program guide | Q2 2020 |
| Rolling application period and outreach to potential applicants | Q3 2020 - Ongoing |
| Application Review Committee application review | Application receipt + 1 month |
| Project partner announces awards funding to eligible entities | Application receipt + 2 months |
| Project partner enters into award agreement with sub awardee (this includes scrappage information). | Project approval + 1 month |
| Vehicles or equipment delivered to awardee. *Note - delivery of new vehicles or equipment varies among technologies and has been significantly delayed due to supply chain issues in recent years. | Project approval + 3-36 months. |
| Project partner submits evidence of scrappage, invoices, proof of payment, emissions reductions estimates, and reimbursement paperwork to CDPHE for filing of D4 and reimbursement. The vehicle or equipment being replaced must be scrapped or rendered permanently disabled within 90 days of being replaced. | Delivery of new vehicle or equipment + 3-4 months |
| Trust acknowledges receipt of Direction for Payment and reimbursement | Within 60 days of D4 submittal |
| CDPHE directs funding to project partners and project partners reimburse sub Awardee. | Monthly |
| CDPHE reports to Trust on status of projects every six months after first disbursement of funds; semiannual reporting. | January 30 and July 30 after first disbursement of funds. |

## PROJECT BUDGET

| EPA Award and Year | Total Budget Funded by the Trust for DERA Option | Administrative Indirect Costs Funded by the Trust for DERA Option) | Share of Total Budget Funded by the Trust for DERA Option Equipment/Vehicle Replacements | EPA Award Contribution (if applicable) | Mandatory Cost Share[2] |
|---|---|---|---|---|---|
| 96845201, FFY18-20 | $604,027 | $5,980.47 | $598,047 | $0 | $730,946 |
| 96859701, FFY19 | $345,855 | $3,424.31 | $342,431 | $272,179 | $751,190 |
| 96845222, FFY21-22 | $709,451 | $7,024.27 | $702,427 | $0 | $858,552 |
| **Total** | **$1,659,334** | **$16,429** | **$1,642,905** | **$272,179** | **$2,340,658** |

1. Per DERA Guidance Indirect Costs are not included in the 15% administrative cap.
2. Mandatory Cost-Share is an estimate based on projected costs.

## PROJECT TRUST ALLOCATIONS

| | 2023 |
|---|---|
| 1. Anticipated Project Funding Request to be paid through the Trust | $663,394.16 |
| 2. Anticipated Annual Cost-Share | $1,143,153.76 |
| 3. Anticipated Total Project Funding to be paid through the Trust by Year (line 1 plus line 2) | $1,806,547.93 |
| 4. Cumulative Trustee Payments Made to Date Against Cumulative Approved Beneficiary Allocation | $0 |
| 5. Current Beneficiary Project Funding to be paid through the Trust (line 1) | $663,394.17 |
| 6. Total Funding Allocated to for Beneficiary, inclusive of Current Action by Year (line 4 plus line 5) | $663,394.17 |
| 7. Beneficiary Share of Estimated Funds Remaining in Trust | $1,659,334* |
| 8. Net Beneficiary Funds Remaining in Trust, net of cumulative Beneficiary Funding Actions (line 7 minus line 6) | $995,939.83 |

*Beneficiary share of estimated funds remaining is based on the total reduction of allocations for EMA #10 – DERA Option and is not inclusive of other EMAs funding.

## Attachment C

Detailed Plan for Reporting on Eligible Mitigation Action Implementation (5.2.11):

The Colorado Department of Public Health and Environment (CDPHE) will work with Clean Energy Economy for the Region (CLEER) to report on the implementation and progress of the Clean Diesel Program in the state of Colorado. CDPHE has developed a specific webpage that will provide information on the application process and status of eligible mitigation actions under the VW Environmental Mitigation Trust Fund. Awarded projects will be posted as well as information on emission reductions based upon awarded projects. CDPHE will submit reports every six months to meet the semiannual reporting requirements under 5.3 of the Trust agreement.

## Attachment D

**Detailed cost estimates from selected or potential vendors for each proposed expenditure exceeding $25,000 (5.2.6).**

DERA Option awards for funding the replacement of eligible heavy duty diesel equipment made by CLEER in 2022-2023. Information is provided in the table below.

| Awardee | Equipment/Vehicle Type | Award Amount (based on projected project costs from vendors at time of application submittal | Status |
|---|---|---|---|
| Mile Hi Foods | 1 Electric Terminal Tractor | $154,723.14 | New equipment delivered and old equipment scrapped Q4 2023. |
| Evraz Steel | 2 Electric Forklifts | $118,460.32 | New equipment delivered and old equipment scrapped Q4 2023. |
| Rocky Mountain Recycling | 1 Electric Material Handler | $614,610 (Trust $342,431 & DERA $272,179) | New equipment delivered and old equipment scrapped Q4 2023. |
| Element Mountain Compost | 1 Electric Skidsteer | $41,211.45 | New equipment delivered and old equipment scrapped Q4 2023. |
| Honey Rock Landing | 1 Electric Agricultural Tractor | $26,100 | Delivery expected Q1 2024 |
| City of Grand Junction | 1 Electric Refuse Hauler | $315,469.80 | Delivery expected in 2025 |
| WCS | 2 Electric Terminal Tractors | $370,516.26 | Equipment expected to be ordered in Q4 2023 |

**Attachment E**

EPA-approved DERA Work Plans for award 96845201 FFY18-20, award 96859701 FFY19, and award 96845222 FFY21-22 are attached below.

# 2020 Diesel Emissions Reduction Act (DERA) State Grants

**Project Title: Colorado Clean Diesel Program**

**Project Manager and Contact Information**

**Organization Name: Colorado Department of Public Health and Environment**

**Project Manager: Richard Coffin**

**Mailing Address: 4300 Cherry Creek Drive South, Denver, CO 80246**

**Phone: 303-692-3127**

**Fax: 303-782-0278**

**Email: Richard.coffin@state.co.us**

**Project Budget Overview:**

| | FY2017 | FY2018 | FY2020 |
|---|---|---|---|
| EPA Base Allocation | $242,124 | $275,991 | $342,431 |
| EPA Match Bonus (if applicable) | | $275,991 | $171,216 |
| State or Territory Voluntary Matching Funds (if applicable) | | $137,996 | $342,431 |
| Mandatory Cost-Share* | $336,540 | $1,216,664 | $1,058,200 |
| **TOTAL Project Cost** | **$578,664** | **$1,906,642** | **$1,914,278** |

*Estimated amount based on potential projects.

**Project Period**

October 1, 2018 – September 30, 2024

**Summary Statement**

Colorado Department of Public Health and Environment (CDPHE) Clean Diesel Program is a sub-grant program designed to reduce diesel emissions in Colorado. The program will be applied broadly across various sectors in the state, employing a variety of diesel reduction strategies. The program will target projects that reduce emissions in economically challenged communities; areas with historical air quality issues; projects that reduce emissions in highly populated areas, areas with sensitive receptor groups such as schools or hospitals, or areas that receive a disproportionate quantity of air pollution from diesel vehicles particulate matter. CDPHE intends

to use Volkswagen Environmental Mitigation Trust funds (VW Trust Funds) to match the federal funds for the fiscal year 2020.

**SCOPE OF WORK**

CDPHE will continue to administer a sub-grant program with Clean Energy Economy for the Region (CLEER), a Colorado based non-profit clean energy consulting firm, to fund projects that reduce on- and non-road diesel engine emissions in the state. This will be accomplished via a solicitation whereby projects are rated based on potential emission reduction, health benefit, location in the state and any ancillary benefits. CDPHE will utilize VW Trust Funds as non-federal voluntary match for the fiscal year 2020 grant pursuant to the "DERA Option"[1] specified in Appendix D-2 of the Volkswagen Partial Consent Decree. Use of all funds will conform to the guidelines and funding restrictions outlines in the FY2020 State Clean Diesel Grant Program Information Guide[2], the VW Environmental Mitigation Trust Agreement for State Beneficiaries, and Colorado's Beneficiary Mitigation Plan.[3]

**STATE/TERRITORY GOALS AND PRIORITIES**:

CDPHE manages a variety of air quality issues including elevated ozone in the nine county Denver Metro/North Front Range which exceeds the 2008 and 2015 ozone National Ambient Air Quality Standards (NAAQS), maintaining attainment in a number of maintenance areas for the $PM_{10}$ and CO NAAQS, and reducing visibility impairment at our national parks and wilderness areas. These issues are often impacted and exacerbated by diesel emissions. Principal pollutants of concern with diesel emissions are fine particulate matter ($PM_{2.5}$), air toxics, greenhouse gases, and oxides of nitrogen ($NO_x$) that contribute to the formation of ground level ozone. There are a variety of diesel emission sources in Colorado including but not limited to diesel highway vehicles, diesel nonroad vehicles and equipment, locomotives, and energy production operations.

The principal objective of the assistance to be awarded under this program is to achieve significant reductions in diesel emissions in terms of tons of pollution produced and reductions in diesel emissions exposure from vehicles, engines and equipment operating in areas designated as poor air quality areas. CDPHE will prioritize projects in counties and areas identified as priority locations in the FY2020 State Clean Diesel Grant Program Guide. In addition, priority will be given to projects based on whether the vehicles/engines/equipment targeted for diesel emissions reductions are located at, or service, goods movement facilities such as: airports, rail yards, terminals, and distribution centers.

**VEHICLES AND TECHNOLOGIES**:

**a) Eligible Applicants and Vehicles**

[1] https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100WKEY.pdf
[2] https://www.epa.gov/sites/production/files/2020-02/documents/420b20018.pdf
[3] https://www.colorado.gov/pacific/cdphe/VW

This solicitation will be open to Colorado municipal and state agencies and departments, and to non-profit and private sector businesses operating in Colorado.

**b) Eligible Diesel Vehicles, Engines, and Equipment**

a. Buses;

b. Medium-duty or heavy-duty trucks;

c. Marine Engines;

d. Locomotives; and

e. Nonroad engines, equipment or vehicles used in:

i. Construction;

ii. Handling of cargo (including at a port or airport);

iii. Agriculture;

iv. Mining; or

v. Energy production (including stationary generators and pumps).

**c) Eligible Diesel Emission Reduction Solutions**

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. **Diesel Engine Retrofit Technologies**: Diesel engine retrofits are one of the most cost-effective solutions for reducing diesel engine emissions. Retrofits include pollution control devices installed in the exhaust system, such as diesel oxidation catalysts (DOCs) and diesel particulate filters (DPFs), or systems that include closed crankcase ventilation (CCV) filtration systems. Older, heavy-duty diesel vehicles not identified for scrappage, retirement or replacement for several years are good candidates for retrofits.

   This funding can cover up to 100% of the cost (labor and equipment) for an eligible verified diesel engine retrofit technology. The eligible cost of retrofits includes the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional, including related labor expenses. Examples of eligible retrofit costs include, but are not limited to: DPF cleaning machines, spare DPFs for maintenance rotation, replacement CCV filters, mechanic training, and filter cleaning contracts.

   A list of eligible, EPA verified diesel engine retrofit technologies is available at: www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel; a list of eligible, California Air Resources Board (CARB) verified diesel engine retrofit technologies is available at: www.arb.ca.gov/diesel/verdev/vt/cvt.htm. If selected for funding, the actual engine retrofit technologies used by the grant recipient must be specifically named on EPA or CARB's Verified Technologies lists at the time of

acquisition and used only for the vehicle/engine applications specified on the list, to be eligible for funding. CDPHE suggests that each applicant requesting diesel particulate filters consult with retrofit suppliers to confirm that the proposed vehicles/engines and their duty-cycles are good candidates for DPFs.

2. **Upgrades and Remanufacture Systems:** Generally, an engine upgrade involves the removal of parts on an engine during a rebuild and replacement with parts that improve combustion efficiency and engine operation that results in lower emissions and is cleaner than the original engine. Some nonroad and marine engines can be upgraded to reduce their emissions by applying manufacturer upgrades that are diesel engine retrofits currently verified by EPA or CARB as a package of components demonstrated to achieve specific levels of emissions reductions. Some locomotives and marine engines can be upgraded through the application of a certified remanufacture system that is used to rebuild the engine to represent a cleaner engine configuration. Engine upgrades may not be available for all engines, and not all upgrades may achieve an emissions benefit. Applications for upgrades should include a discussion of the availability of engine upgrade kits/systems and indicate the pre- and post-project emission standard levels of the engines to demonstrate that the upgrade will result in a significant emissions benefit.

   Funding can cover up to 40% of the cost (labor and equipment) of an eligible nonroad or locomotive upgrade. To be eligible for funding, the upgrade must either be a verified retrofit as described above, or a certified remanufacture system that will result in a significant emissions benefit by rebuilding the engine to a cleaner engine configuration. For an engine to be eligible for an upgrade, the engine must be currently operating and performing its intended function. 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.

   A list of eligible, EPA verified engine upgrade technologies is available at: www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel. Lists of certified remanufacture systems for locomotives and marine engines are available at: www.epa.gov/compliance-and-fuel-economy-data/engine-certification-data, and additional information on remanufacture systems, are available at: www.epa.gov/vehicle-and-engine- certification/remanufacture-systems-category-1-and-2-marine-diesel-engines. Engine upgrades proposed for funding under this category must exist on one of these lists for the specific vehicle/engine application specified in the application at the time of application submission. If selected for funding, the actual engine upgrades used by the grant recipient must be specifically named on EPA's list of certified remanufacture systems or EPA or CARB's Verified Technologies lists at the time of acquisition and used only for the vehicle/engine applications specified on the lists, to be eligible for funding.

3. **Cleaner Fuels and Additives:** Eligible cleaner fuels and additives are limited to those verified by EPA and/or CARB to achieve emissions reductions when applied to an existing diesel engine. DERA will not fund stand-alone cleaner fuel/additive use. For new or expanded use, this funding can cover the cost differential between the cleaner fuel/additive and conventional diesel fuel if that cleaner fuel is 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 replacement or an eligible certified vehicle/equipment replacement funded under DERA.

   A list of eligible, EPA-verified cleaner fuels and additives is available at: www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel; a list of eligible, CARB-verified cleaner fuels and additives is available at: www.arb.ca.gov/diesel/verdev/vt/cvt.htm. The types of fuels and additives (e.g., biodiesel, cetane enhancers) proposed for funding under this category must exist on one of these lists for the specific vehicle/engine application specified in the application and used only for the vehicle/engine applications specified on the list to be eligible for funding.

4. **Idle Reduction Technologies:** An idle reduction project is generally defined as the installation of a technology or device that reduces unnecessary idling of diesel vehicles or equipment 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 reduction in idling will conserve diesel fuel and must also lower emissions.

   Lists of eligible, EPA verified idle reduction technologies are available at: www.epa.gov/verified-diesel-tech/smartway-technology. The types of idle reduction technologies proposed for funding under this category must exist on this list for the vehicle/engine application specified in the application at the time of application submission. The technology categories include: Auxiliary power units and generator sets, battery air conditioning systems, thermal storage systems, electrified parking spaces (truck stop electrification), fuel operated heaters, shore connection systems for locomotives, and automatic shutdown/start-up systems for locomotives. The actual idle reduction technologies used must be specifically named on EPA's SmartWay Verified Technologies list at the time of acquisition and used only for the vehicle/engine applications specified on the list, to be eligible for funding.

   a. **Locomotive Idle Reduction Technologies:** Funding can cover up to 40% of the cost (labor and equipment) of eligible verified idle reduction technologies for locomotives.

b. **Electrified Parking Spaces:** Electrified Parking Spaces (EPS), also known as Truck Stop Electrification (TSE), operates independent of the truck's engine and allows the truck engine to be turned off as the EPS system supplies heating, cooling, and/or electrical power. The EPS system provides off-board electrical power to operate either:

- an independent heating, cooling, and electrical power system, or
- a truck-integrated heating and cooling system, or
- a plug-in refrigeration system that would otherwise be powered by an engine.

Funding can cover up to 30% of the cost (labor and equipment) of eligible electrified parking space technologies, including the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional. Examples of eligible EPS costs include, but are not limited to, the purchase and installation of electrical infrastructure or equipment to enable heating, cooling, and the use of cab power for parked trucks, or to enable the use of power for transport refrigeration units (TRUs) and auxiliary power systems at distribution centers, intermodal facilities, and other places where trucks congregate. Examples of ineligible costs for EPS include but are not limited to: on-board auxiliary power units and other equipment installed on trucks; equipment and services unrelated to heating and cooling (e.g., telephone, internet, television, etc.); TRUs; electricity costs; and operation and maintenance costs.

c. **Highway Idle Reduction Technologies:** Funding can cover up to 100% of the cost (labor and equipment) for verified idle reduction technologies installed on long haul Class 8 trucks and school buses, if combined on the same vehicle with the new installation of one or more of the Verified Engine Retrofit Technologies funded under this Program, as described in this Section. Funding can cover up to 100% of the cost (labor and equipment) for verified idle reduction technologies installed on long haul Class 8 trucks and school buses with model year 2006 or older engines that have been previously retrofitted with a verified emission control device. Funding can cover up to 25% of the cost (labor and equipment) of stand-alone installations of eligible, verified idle reduction technologies on long-haul trucks and school buses.

5. **Aerodynamic Technologies and Verified Low Rolling Resistance Tires:** To improve fuel efficiency, long haul Class 8 trucks can be retrofitted with aerodynamic trailer fairings or the fairings can be provided as new equipment options. 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.

A list of eligible, EPA verified aerodynamic technologies is available at: www.epa.gov/verified-diesel-tech/smartway-verified-list-aerodynamic-devices, and includes:

a) gap fairings that reduce the gap between the tractor and the trailer to reduce turbulence;
b) trailer side skirts that minimize wind under the trailer; and
c) trailer rear fairings that reduce turbulence and pressure drop at the rear of the trailer.

A list of EPA verified low rolling resistance tires is available at: www.epa.gov/verified-diesel-tech/smartway-verified-list-low-rolling-resistance-lrr-new-and-retread-tire, and includes both dual tires and single wide tires (single wide tires replace the double tire on each end of a drive or trailer axle, in effect turning an "18" wheeler into a "10" wheeler). Low rolling resistance tires can be used with lower-weight aluminum wheels to further improve fuel savings, however aluminum wheels are not eligible for funding under this program.

The actual technologies/tires used by the grant recipient must be specifically named on EPA's SmartWay Verified Technologies list at the time of acquisition and used only for the vehicle/engine applications specified on the list, in order to be eligible for funding.

DERA will not fund stand-alone aerodynamic technologies or low rolling resistance tires. Funding can cover up to 100% of the cost (labor and equipment) for verified aerodynamic technologies or verified low rolling resistance tires installed on long haul Class 8 trucks, if combined on the same vehicle with the new installation of one or more of the Verified Engine Retrofit Technologies funded under this program, as described in this Section. Note: Low rolling resistance tires are not eligible for funding where these types of tires have already been installed on the truck.

6. **Engine Replacement:** Engine replacement includes, but is not limited to, diesel engine replacement with an engine certified for use with diesel or an alternative fuel (e.g., gasoline, CNG, propane), diesel engine replacement with a zero tailpipe emissions power source (grid, battery or fuel cell), and/or diesel engine replacement with an electric generator(s) (genset). Zero tailpipe emissions engine replacements do not require EPA or CARB certification.

   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. Charges for equipment and parts on engine replacement projects are only eligible for funding if they are included in the certified engine configuration

and/or are required to ensure the effective installation and functioning of the new technology but are not part of typical vehicle or equipment maintenance or repair. Examples of ineligible engine replacement costs include, but are not limited to: tires, cabs, axles, paint, brakes, and mufflers. For engine replacement with battery, fuel cell, and grid electric, examples of eligible engine replacement costs include, but are not limited to: electric motors, electric inverters, battery assembly, direct drive transmission/gearbox, regenerative braking system, vehicle control/central processing unit, vehicle instrument cluster, hydrogen storage tank, hydrogen management system, fuel cell stack assembly, and the purchase and installation of electrical infrastructure or equipment to enable the use of power. Examples of ineligible costs include, but are not limited to, electricity, and operation and maintenance costs.

a. **Locomotive and Nonroad Diesel Vehicles and Equipment:**
   - Funding can cover up to 40% of the cost (labor and equipment) of replacing a diesel engine with a 2019 model year or newer engine certified to EPA emission standards. Previous engine model year engines may be used if the engine is certified to the same emission standards applicable to the engine in EMY 2019. Nonroad, locomotive, and marine engine emission standards are on EPA's website at: www.epa.gov/emission-standards-reference-guide/epa-emission-standards-nonroad-engines-and-vehicles.
   - Funding can cover up to 60% of the cost (labor and equipment) of replacing a diesel engine with a zero tailpipe emissions power source.

b. **Highway Diesel Vehicles:**
   - Funding can cover up to 40% of the cost (labor and equipment) of replacing a diesel engine with a 2016 model year or newer engine certified to EPA emission standards. Highway engine emission standards are on EPA's website at: www.epa.gov/emission-standards-reference-guide/epa-emission-standards-heavy- duty-highway-engines-and-vehicles.
   - Funding can cover up to 50% of the cost (labor and equipment) of replacing a diesel engine with a 2016 model year or newer engine that is certified to CARB's Optional Low-NOx Standards of 0.1 g/bhp-hr, 0.05 g/bhp-hr, or 0.02 g/bhp-hr NOx. Please see the "How to Identify Low NOx Certified Engines" document on our website: www.epa.gov/cleandiesel/clean-diesel-state-allocations.
   - Funding can cover up to 60% of the cost (labor and equipment) of replacing a diesel engine with a zero tailpipe emissions power source.

7. **Vehicle and Equipment Replacements:** Nonroad and highway diesel vehicles and equipment, locomotives, and marine vessels can be replaced under this program with newer, cleaner vehicles and equipment that operate on diesel or alternative fuels and use

engines certified by EPA and, if applicable, CARB to meet a more stringent set of engine emission standards. Replacement includes, but is not limited to, diesel vehicle/equipment replacement with newer, cleaner diesel, zero tailpipe emission (grid, battery or fuel celle), hybrid or alternative fuel (e.g., gasoline, CNG, propane) vehicles/equipment. Zero tailpipe emissions vehicles and equipment do not require EPA or CARB certification.

The eligible cost of a vehicle/equipment replacement includes the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional. The cost of additional "optional" components or "add-ons" that significantly increase the cost of the vehicle may not be eligible for funding under the grant; the replacement vehicle should resemble the replaced vehicle in form and function. For grid electric powered equipment replacements, examples of eligible replacement costs include, but are not limited to, the purchase and installation of electrical infrastructure or equipment to enable the use of power. Examples of ineligible costs include, but are not limited to, electricity, and operation and maintenance costs.

a. **Locomotives and Nonroad Diesel Vehicles and Equipment:**
    - Funding can cover up to 25% of the cost of a replacement locomotive or nonroad vehicle or piece of equipment powered by a 2019 model year or newer engine certified to EPA emission standards. Previous engine model year engines may be used if the engine is certified to the same emission standards applicable to EMY 2019.
    - Funding can cover up to 45% of the cost of a new, zero tailpipe emissions locomotive or nonroad vehicle or piece of equipment.
b. **Highway Diesel Vehicles and Buses (other than Drayage):**
    - Funding can cover up to 25% of the cost of a replacement vehicle powered by a 2016 model year or newer engine certified to EPA emission standards.
    - Funding can cover up to 35% of the cost of a replacement vehicle powered by a 2016 model year or newer engine certified to meet CARB's Optional Low-NOx Standards of 0.1 g/bhp-hr, 0.05 g/bhp-hr, or 0.02 g/bhp-hr NOx.
    - Funding can cover up to 45% of the cost of a new, zero tailpipe emissions replacement vehicle.
c. **Drayage Vehicles**: Funding can cover up to 50% of the cost of a replacement drayage truck powered by a 2013 model year or newer certified engine.
    - Definition of Drayage Truck: A "Drayage Truck" means any Class 8 (GVWR greater than 33,000) highway vehicle operating 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.

- Drayage Operating Guidelines: If an application for the replacement of drayage trucks is selected for funding, the grant recipient will be required to establish guidelines to ensure that any existing truck replaced with grant funds has a history of operating on a 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 a drayage truck, as defined above. For an example of sample guidelines, see https://www.epa.gov/cleandiesel/clean-diesel-state-forms-and-documents.
- Required/Scheduled Maintenance: DERA will fund the required/scheduled vehicle maintenance, as specified in the owner's manual, which is necessary to meet the warranty requirements for diesel particulate filters installed on drayage trucks. Funding for required maintenance is available for the duration of the project period.

8. **Clean Alternative Fuel Conversions:** Conventional, original equipment manufacturer (OEM) highway diesel vehicles and engines that are altered to operate on alternative fuels such as propane or natural gas are classified as aftermarket clean alternative fuel conversions. Clean alternative fuel conversions are accomplished by applying a certified or compliant alternative fuel conversion "kit" to an existing highway diesel engine.

   Funding can cover up to 40% of the cost (labor and equipment) of an eligible certified or compliant clean alternative fuel conversion. Eligible conversions are limited to those systems that have been certified by EPA and/or CARB, and those systems that have been approved by EPA for Intermediate-Age engines.

   To be eligible for funding, 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. To be eligible for funding, 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. 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.

**ROLES AND RESPONSIBILITIES**:

As with prior projects, CDPHE and CLEER will collaborate with other state agencies, municipalities and school districts, public and private companies and operators. As noted, we believe that making the sub-grants and participant support costs available to the widest possible audience will help with our success. Sub-awards will be disbursed through a solicitation for projects and the participant support costs will be disbursed through a rebate type program. Vehicle and equipment owners and operators receiving the rebate are responsible for specifying

equipment, ordering and properly disposing of the old vehicles. Detailed documentation of these activities is required, including photographs and/or videos of the vehicles being rendered unusable. All EPA requirements will be followed, including the EPA sub-award policy requirements.

### DERA Funding Limits and Mandatory Cost-Share Requirements

This project will follow the funding limits and mandatory cost-share requirements included in the FY2020 DERA State Grants Program Guide, as listed in the table below. If sufficient interest exists, the program may consider offering standard rebate amounts at a level less than the maximum DERA funding limit. In this event CDPHE will consult with the EPA Region 8 DERA Grant Coordinator.

| **DERA Eligible Activities** | **DERA Funding Limits** (EPA Funds + Voluntary Match) | **Minimum Mandatory Cost-Share** (Fleet Owner Contribution) |
|---|---|---|
| Exhaust Control Retrofit | 100% | 0% |
| Engine Upgrade / Remanufacture | 40% | 60% |
| Highway Idle Reduction Bundled with Exhaust Control Retrofit | 100% | 0% |
| Stand-alone Highway Idle Reduction | 25% | 75% |
| Locomotive Idle Reduction | 40% | 60% |
| Marine Shore Power | 25% | 75% |
| Electrified Parking Space | 30% | 70% |
| Engine Replacement – Diesel or Alternative Fuel | 40% | 60% |
| Engine Replacement – Low NOx | 50% | 50% |
| Engine Replacement – Zero Emission | 60% | 40% |
| Vehicle/Equipment Replacement – Diesel or Alternative Fuel | 25% | 75% |
| Vehicle/Equipment Replacement – Low NOx | 35% | 65% |
| Vehicle/Equipment Replacement – Zero Emission | 45% | 55% |
| Vehicle Replacement - Drayage | 50% | 50% |
| Clean Alternative Fuel Conversion | 40% | 60% |

## POTENTIAL PROJECTS

CDPHE is currently exploring a range of potential projects eligible under DERA, as described in the previous section of this document. Due to uncertain economic conditions and varying levels of interest among participating fleets, the following potential projects are included. To fulfill the grant submission requirements, more detailed projected information is provided for the locomotive switcher replacement project. CDPHE will notify the EPA Region 8 DERA Grant Coordinator of any revisions and an amended work plan will be submitted if necessary.

**Locomotive switcher replacement.** This project will replace 2 diesel locomotive switcher operating in the Denver area with a new, battery-electric switcher, greatly reducing the amount

of pollution that is emitted by current rail yard switcher operations. Exact emissions reduction benefits will depend on the specific engine to be replaced and hours of operation; as a zero-emission engine, the new switcher would result in 100% NOx, PM, HC, and CO emission reductions. Additionally, the reduction of PM emissions will also reduce black carbon, which has been shown to affect climate by directly absorbing light, reducing the reflectivity of snow and ice through deposition, and interacting with clouds. Equipment and labor expenses for each switcher replacement is estimated at $814,000 per switcher. Per DERA funding guidelines, DERA funding may cover up to 45% of the equipment and labor costs for zero emission equipment replacement projects. 45% of the new, battery-electric switcher equipment and labor cost, $814,000, is $366,032, and the mandatory cost-share, 65%, is $529,100. The DERA reimbursement for 2 zero emission switcher replacements would total $732,064 and the total cost-share would total $1,058,200.

CDPHE is also exploring potential agriculture equipment replacement. This project would replace diesel-powered agricultural tractors with new off-road agricultural equipment having Tier 4 or cleaner engines. While the exact emissions reduction benefits will depend on the specific equipment to be replaced and hours of operation, uncontrolled – Tier 2 replacements with Tier 4 engines typically result in PM and NOx emission reductions greater than 90%, while zero emission replacements will result in 100% reductions. Per DERA funding guidelines, DERA funding may cover between 25% or 45% of the equipment and labor costs for a diesel or alternative fuel or zero emission replacement.

In addition, CDPHE is exploring potential Transport Refrigeration Unit (TRU) replacement projects, medium- and heavy-duty truck replacement projects, and additional nonroad equipment replacement projects, as eligible under DERA. If sufficient interest in these projects is not identified, focus will be shifted on exhaust control and highway idle reduction bundled projects with 100% DERA funding limits.

Depending on fleet interest, a combination of DERA-eligible projects may be pursued. While we are excited at the potential of a zero emission switcher project, we note that battery-electric switcher technology is emerging and may not be available for all railyard needs; in certain cases a diesel replacement may be feasible. CDPHE will communicate project planning with the EPA Region 8 DERA Grant Coordinator and an amended work plan and budget will be submitted as necessary.

Any required minimum mandatory cost-share amounts will be dispersed only after all DERA project steps have been completed and documentation has been submitted. CDPHE will work closely with the EPA Region 8 DERA Grant Coordinator during this process to ensure that all requirements are met before funds are dispersed.

**TIMELINE AND MILESTONES**:

The following time line lists tasks and activities to be conducted through September 2020, including anticipated use of grant funds. While CDPHE is hopeful that the following timeline

will be achieved, the COVID19 pandemic and resulting economic conditions may result in project delays. We note that EPA extended the FY2020 project period to September 30, 2024. CDPHE appreciate the extended time period for this grant and we will consult with the EPA Region 8 DERA Grant Coordinator if the following timeline requires any revisions.

June-July 2021: CLEER will open call for applications period

August 2021: Call for applications will close and applications will be evaluated

September 2021: Projects will be selected and replacement equipment will be ordered

October 2021: A second call for applications will be open, if necessary

November 2021: Second round applications will be evaluated and selected

December 2021: Second round equipment will be ordered

January-June 2022: Replacement equipment will be delivered (we use a large timespan here due to potential delays related to COVID19)

June-July 2023: Complete outreach and offer application periods. Existing equipment will be scrapped

Fall 2023-2024 – rolling application periods will be offered and continued outreach will be completed. Remaining project funds will be committed to projects. Replacement equipment will be delivered and existing equipment will be scrapped.

01/31/23, 04/30/23, 07/31/23, 10/31/23, 1/31/24, 04/30/24, 07/31/24, 10/31/24, - Submit quarterly reports to EPA.

12/31/24 - Submit final report to EPA.

**DERA PROGRAMMATIC PRIORITIES**:

This project will reduce emissions from diesel engines in Colorado and will create valuable case studies to assist with increasing adoption rates of these proven technology in following years. Diesel emissions often occur at places of work, near children at schools, and near population centers. By including electrification as a technology focus in various sectors of this program, there is the opportunity for 100% emissions reductions at those sensitive locations, and the further opportunity for renewable electricity to provide large overall emissions reductions by avoiding fossil fuel consumption at electricity generation facilities.

This plan meets the DERA goals of focusing on nonattainment and maintenance areas, and the additional goals of high-traffic areas, distribution facilities, and school bus fleets. It further plans to achieve these reductions in both rural and urban areas, and in a variety of usage scenarios.

**EPA'S STRATEGIC PLAN LINKAGE AND ANTICIPATED OUTCOMES/OUTPUTS**:

1. **Linkage to EPA Strategic Plan**

This proposal supports EPA's Strategic Plan Goal 1, Objective 1.2 "Improve Air Quality", which states, "Achieve and maintain a health-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants" by reducing emissions from a variety of diesel vehicle emissions to the ambient air. Decreasing or eliminating diesel emissions from these vehicles will reduce the health risks from toxic air pollutants and particulate matter which are emitted from these engines. By proving the technologies on a variety of vehicles, we'll providing the case studies to accelerate adoption across the state.

2. **Outputs**

CLEER will track progress of the upgrades and replacements through quarterly reports submitted to CDPHE and then EPA. CLEER will obtain all required information including but not limited to make, model, year, horsepower and serial number. CLEER will work with the participating organizations to ensure all completed work is eligible under DERA and meets any EPA certification criteria. CLEER will maintain a tracking database or spreadsheet of all activities and progress. CLEER staff will work closely with owners on a regular basis to provide technical assistance and ensure projects are proceeding as planned.

3. **Outcomes**

Short-term and mid-term outcomes from the program will include improved localized air quality, annual reduction of air emissions and the annual health benefits from reduced particulate matter. Estimated emissions reductions, diesel fuel conservation, and health savings from the project will be tracked through the use of the Diesel Emissions Quantifier (DEQ) and will be included in the final DERA State grant report.

CDPHE hopes that this program will encourage more vehicle and engine owners to switch to new, cleaner engines. CDPHE will promote the program to increase awareness and highlight the many benefits of moving away from diesel fuel. Reducing diesel use also benefits neighboring communities by reducing odors and noise. This improves their quality of life and may result in fewer citizen complaints, which in turn benefits the companies that implement this new technology.

CLEER is currently evaluating a variety of DERA-eligible project opportunities. Successful projects will be selected based on a range of considerations, including cost effectiveness, emissions reductions, and ability for the project partner to participate in the activity.

**SUSTAINABILITY OF THE PROGRAM**:

CLEER brings strong communications and education experience to the program and plans on developing case studies and news articles that highlight the technology conversion, the air quality benefits and the benefits to the participating organization or business. These case studies will be posted on the CDPHE Diesel Emissions Reduction website and distributed across social networks and trade organizations.

CLEER and CDPHE intend to use this grant cycle as a pilot to prove the viability of clean diesel replacements in geographic areas across the state, helping to ensure that companies can make the switch regardless of altitude and location.

CLEER will seek to continue this program over several years. This includes continuing to seek funding sources to provide rebates for technology deployments and continuing to create case studies and publicize successes in various markets throughout the state, thereby accelerating the adoption of proven technologies beyond the business-as-usual path.

## BUDGET

The projected budget for this project is included below and a detailed breakdown is included in the "2020 DERA Budget Details" Excel attachment. The CDPHE Transportation Planner is projected to commit 144 hours on this project and the majority of funds will be directed toward subawards to complete projects. The projected budget assumes the completion of a locomotive switcher project, with 45% of eligible costs covered by DERA and a 65% mandatory cost-share amount for a zero emission replacement, described in the project section of this document. Any changes to the project and budget will be communicated to the EPA Region 8 DERA Grant Coordinator and a revised work plan will be submitted if necessary.

**2020 Itemized Project Budget**

| Budget Category | EPA Allocation | Mandatory Cost-Share | Voluntary Match (if applicable) | | Line Total |
|---|---|---|---|---|---|
| | | | VW Mitigation Trust Funds | Other Funds | |
| 1. Personnel | $5,561 | | | | **$5,561** |
| 2. Fringe | $2,189 | | | | **$2,189** |
| 3. Travel | | | | | |
| 4. Equipment | | | | | |
| 5. Supplies | | | | | |
| 6. Contractual | | | | | |
| 7. Other– Subaward activities | $493,023 | *$1,058,200 | $339,041 | | **$1,890,264** |
| **8. Total Direct Charges (sum 1-7)** | **$500,773** | | **$339,041** | | **$839,814** |
| 9. Indirect Charges | $12,874 | | $3,390 | | **$16,264** |

| | | | | | |
|---|---|---|---|---|---|
| **10. Total (Indirect + Direct)** | **$513,647** | | **$342,431** | | **$856,078** |
| **11. Total including Mandatory Cost-Share** | | | | | ***$1,914,278** |

*Estimated amount based upon potential projects. Per DERA requirements the equipment owner is responsible for the cost-share.

United States Environmental Protection Agency

Office of Transportation and Air Quality
April 2019

# FISCAL YEAR 2019

# STATE CLEAN DIESEL GRANT PROGRAM

# WORK PLAN AND BUDGET NARRATIVE TEMPLATE

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**SUMMARY PAGE**

**Project Title:** Clean Diesel Replacement Program

**Project Manager and Contact Information**

**Organization Name:** Colorado Department of Public Health and Environment

**Project Manager:** Richard Coffin

**Mailing Address:** 4300 Cherry Creek Drive South, P&P B-1

Denver, CO 80246-1530

**Phone:** 303-692-3127

**Fax:** 303-782-5493

**Email:** richard.coffin@state.co.us

**Project Budget Overview:**

| | **FY 2019** |
|---|---|
| EPA Base Allocation | $322,056 |
| State or Territory Voluntary Matching Funds (if applicable) | $322,056 |
| EPA Match Incentive (Bonus) (if applicable) | $161,028 |
| Mandatory Cost-Share | $ 1,425,000 |
| **TOTAL Project Cost** | **$** 2,230,140 |
| Other Leveraged Funds | $ |

**Updated Project Period**

October 1, 2019 – March 30, 2025

**Summary Statement**

Colorado's Clean Diesel Program will issue a sub-award to Clean Energy Economy for the Region (CLEER), a Colorado based non-profit clean energy consulting firm. CLEER is currently evaluating DERA activities to perform with FY2019 funds and this work plan narrative includes information for a variety of DERA-eligible activities, including vehicle replacement (electric school bus and electric shuttle bus) and nonroad equipment replacement (class 8 tractor and extended range electric snow cat). CLEER will provide reimbursements to vehicle and engine owners per DERA guidelines and requirements. The use of new engines will reduce the amount

of diesel emissions that would otherwise be produced. These activities will protect personnel from direct exposures to toxic diesel exhaust. This project will also protect neighboring communities and the environment. The DERA reimbursement for eligible project costs (labor and equipment) will help offset the cost of these activities while reducing diesel emissions and protecting the public and the environment.

CDPHE maintains a website titled "Colorado Clean Diesel Program" for the project (https://www.colorado.gov/pacific/cdphe/2017-clean-diesel-replacement-program). This website contains information on the program and as well as a summary of past projects.

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## SCOPE OF WORK

**STATE/TERRITORY GOALS AND PRIORITIES**:

Colorado manages a variety of air quality issues including elevated ozone in the nine county Denver Metro/North Front Range which exceeds the 2008 and 2015 ozone National Ambient Air Quality Standards (NAAQS), maintaining attainment in a number of maintenance areas for the $PM_{10}$ and CO NAAQS, and reducing visibility impairment at our national parks and wilderness areas. These issues are often impacted and exacerbated by diesel emissions. There are a variety of diesel emission sources in Colorado including but not limited to diesel highway vehicles, diesel nonroad vehicles and equipment, locomotives, and energy production operations. Diesel highway vehicles, diesel nonroad vehicles, and petroleum related source categories are major contributors to air pollution in Colorado and according to the 2014 NEI account for 10% of CO emissions, 15% of VOC emissions and 37% of NOx emissions in Colorado. The following table 1 shows the estimated emissions from the sources this project will focus on, per the 2014 NEI:

**Table 1: 2014 NEI Diesel Emissions from select sources in Colorado**

| | CO (tpy) | $NO_x$ (tpy) | $PM_{10}$ (tpy) | $PM_{2.5}$ (tpy) | $SO_2$ (tpy) | VOC (tpy) |
|---|---|---|---|---|---|---|
| Diesel Highway Vehicles | 13,609 | 30,987 | 1,920 | 1,344 | 51 | 2,861 |
| Diesel Off-Highway | 11,023 | 19,157 | 1,561 | 1,514 | 38 | 2,035 |
| Petroleum Related Industries | 79,139 | 62,966 | 2,600 | 2,333 | 1104 | 152,044 |
| Locomotives | 1821 | 10,667 | 337 | 311 | 6 | 545 |
| Mining Related Industries | 491 | 123 | 2,255 | 686 | 0.4 | 15 |
| **State total (including above categories)** | **1,032,153** | **305,555** | **360,600** | **74,350** | **33,866** | **1,028,874** |

Project activities will be modeled on the "prescriptive rebate" programs utilized in California's Hybrid Vehicle Incentive Program, which mirrors successful prescriptive programs already managed by CLEER for residential and commercial building upgrades in western Colorado. The program will administer grants in the fixed amount of $125,000 per rebate in the following vehicle categories:

1. School bus
2. Shuttle bus
3. Class 8 tractor
4. Extended range electric snow cat

Fixed price incentives have proven market acceptance in both utility demand side management programs across the county as well as in the transportation sector, such as the HVIP programs in California and the Northeast. Fixed prices allow for more direct and effective marketing by a clear amount and also reinforced the limited nature to encourage fleets to act quickly before they run out.

A priority of the grant will be to develop case studies that document successful emission reduction projects. To help show that these solutions are viable in any location, efforts will be made to work with fleets and create case studies that show success in rural and urban environments, at low and high altitudes, and in colder and warmer locations in the state of Colorado. CLEER will pursue project opportunities throughout Colorado, however, priority will be given to projects in the ozone nonattainment area.

**VEHICLES AND TECHNOLOGIES**:

The focus of this program will be to expand the deployment of proven technologies into the state of Colorado. Emissions reduction efforts will focus on: full vehicle replacements with electrified options that are both market ready and proven.

Vehicle replacement offers a straightforward way to deploy advanced technology vehicles with confidence that emissions reductions will be achieved. Focus areas will include electric buses, electric shuttle buses and extended range electric snow cats for ski resort operations.

The scope of this year's short implementation window will allow a quick project identification and implementation path to establish quick wins. Future years of the program will assess and identify additional market ready technology solutions for class 8 freight applications, transit and future developments.

This program plans to prioritize funding towards high annual impact to maximize emissions reduction and payback for the participating fleet. It will also prioritize technologies where case studies can help stimulate markets for products with proven savings.

**ROLES AND RESPONSIBILITIES**:

CDPHE staff will issue a sub-award to CLEER, a Colorado based non-profit clean energy consulting firm. CLEER has designed and implemented regional and state-wide energy efficiency and clean transportation programs. Rebates will be developed and distributed in a prescriptive manner. CLEER will use the administration funds to provide the outreach/marketing, education, technical assistance, energy coaching, and rebate processing.

Fleet owners and operators receiving the rebate are responsible for specifying equipment, ordering and properly disposing of the old vehicles. Detailed documentation of these activities is required, including photographs and/or videos of the vehicles being rendered unusable. All EPA requirements will be followed, including the EPA sub-award policy requirements.

**TIMELINE AND MILESTONES**:

The following time line lists tasks and activities to be conducted through March 30, 2025, including anticipated use of grant funds.

June-July 2021: CLEER will open call for applications period

August 2021: Call for applications will close and applications will be evaluated

September 2021: Projects will be selected and replacement equipment will be ordered

October 2021: A second call for applications will be open, if necessary

November 2021: Second round applications will be evaluated and selected

December 2021: Second round equipment will be ordered

January-June 2022: Replacement equipment will be delivered (we use a large timespan here due to potential delays related to COVID19)

June-July 2023: Complete outreach and hold application periods. Existing equipment will be scrapped

Fall 2023-2024 – rolling application periods will be offered and continued outreach will be completed. Remaining project funds will be committed to projects. Replacement equipment will be delivered and existing equipment will be scrapped.

01/31/23, 04/30/23, 07/31/23, 10/31/23, 1/31/24, 04/30/24, 07/31/24, 10/31/24, 01/31/25, 04/30/25 - Submit quarterly reports to EPA.

06/28/25 - Submit final report to EPA.

**DERA PROGRAMMATIC PRIORITIES**:

This project will reduce emissions from diesel engines in Colorado and will create valuable case studies to assist with increasing adoption rates of these proven technology in following years. Diesel emissions often occur at places of work, near children at schools, and near population centers. By including electrification as a technology focus in various sectors of this program, there is the opportunity for 100% emissions reductions at those sensitive locations, and the further opportunity for renewable electricity to provide large overall emissions reductions by avoiding fossil fuel consumption at electricity generation facilities.

This plan meets the DERA goals of focusing on nonattainment and maintenance areas, and the additional goals of high-traffic areas, distribution facilities, and school bus fleets. It further plans to achieve these reductions in both rural and urban areas, and in a variety of usage scenarios.

**EPA'S STRATEGIC PLAN LINKAGE AND ANTICIPATED OUTCOMES/OUTPUTS**:

1. **Linkage to EPA Strategic Plan**

This proposal supports EPA's Strategic Plan Goal 1, Objective 1.2 "Improve Air Quality", which states, "Achieve and maintain a health-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants" by reducing emissions from a variety of diesel vehicle emissions to the ambient air. Decreasing or eliminating diesel emissions from these vehicles will reduce the health risks from toxic air pollutants and particulate matter which are

emitted from these engines. By proving the technologies on a variety of vehicles, we'll providing the case studies to accelerate adoption across the state.

2. **Outputs**

CLEER will track progress of the upgrades and replacements through quarterly reports submitted to CDPHE and then EPA. CLEER will obtain all required information including but not limited to make, model, year, horsepower and serial number. CLEER will work with the participating organizations to ensure all completed work is eligible under DERA and meets any EPA certification criteria. CLEER will maintain a tracking database or spreadsheet of all activities and progress. CLEER staff will work closely with owners on a regular basis to provide technical assistance and ensure projects are proceeding as planned.

3. **Outcomes**

Short-term and mid-term outcomes from the program will include improved localized air quality, annual reduction of air emissions and the annual health benefits from reduced particulate matter. Estimated emissions reductions, diesel fuel conservation, and health savings from the project will be tracked through the use of the Diesel Emissions Quantifier (DEQ) and will be included in the final DERA State grant report.

CDPHE hopes that this program will encourage more vehicle and engine owners to switch to new, cleaner engines. CDPHE will promote the program to increase awareness and highlight the many benefits of moving away from diesel fuel. Reducing diesel use also benefits neighboring communities by reducing odors and noise. This improves their quality of life and may result in fewer citizen complaints, which in turn benefits the companies that implement this new technology.

CLEER is currently evaluating a variety of DERA-eligible project opportunities. Note that FY2019 DERA funds will allow for a portion of the following activities to be completed and successful projects will be selected based on a range of considerations, including cost effectiveness, emissions reductions, and ability for the project partner to participate in the activity.

- 1 school bus all electric replacement;
- 1 class 8 short-haul all electric replacement;
- 2 class 8 extended range electric snow cats;
- 1 shuttle bus all electric replacement

**SUSTAINABILITY OF THE PROGRAM**:

CLEER brings strong communications and education experience to the program and plans on developing case studies and news articles that highlight the technology conversion, the air quality benefits and the benefits to the participating organization or business. These case studies will be posted on the CDPHE Clean Diesel website and distributed across social networks and trade organizations.

CLEER and CDPHE intend to use this grant cycle as a pilot to prove the viability of clean diesel replacements in geographic areas across the state, helping to ensure that companies can make the switch regardless of altitude and location.

CLEER will seek to continue this program over several years. This includes continuing to seek funding sources to provide rebates for technology deployments and continuing to create case studies and publicize successes in various markets throughout the state, thereby accelerating the adoption of proven technologies beyond the business-as-usual path.

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## BUDGET NARRATIVE

**Itemized Project Budget**

| Budget Category | EPA Allocation | Mandatory Cost-Share | Voluntary Match (if applicable) | | Line Total |
|---|---|---|---|---|---|
| | | | VW Mitigation Trust Funds | Other Funds | |
| 1. Personnel | | | $2,526 | | |
| 2. Fringe Benefits | | | | | |
| 3. Travel | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 4. Equipment | | | | | |
| 5. Supplies | | | | | |
| 6. Contractual | | | | | |
| 7. Other<br>-Sub-award to CLEER for DERA activities | $483,084 | $1,425,000 | $303,332 | | $2,211,416 |
| **8. Total Direct Charges (sum 1-7)** | $483,084 | $1,425,000 | $305,858 | | $2,211,416 |
| 9. Indirect Charges | $9,661.68 | | $6,536 | | $16,198 |
| **10. Total (Indirect + Direct)** | **$492,746** | **$1,425,000** | **$312,394** | | **$2,230,140** |
| 11. Program Income | | | | | |
| 12. Other Leveraged Funds* | | | | | |

*Do not include Other Leveraged Funds on SF-424 or SF-424A

**Explanation of Budget Framework**

The following is detailed in the attached budget.

- **Personnel –** CDPHE intends to use the following amount of the grant funds on personnel costs. Personnel costs will include administering the grant and ensuring all DERA requirements are followed. The following costs are estimates:

    - **Non-Federal Share:**
    - Transportation Planner (1 FTE), Hourly Rate: $35.65 x 60 hours = $2,139.
    - Emerging Air Quality Issues Supervisor (1 FTE) Hourly Rate: $38.72 x 10 hours = $387.

- **Other – Sub-award**

  CDPHE will provide CLEER with a sub-award of $788,942 to oversee DERA activities discussed in the document. All EPA and DERA requirements, including the EPA sub-award policy, will be followed. $99,969 (less than the 15% administrative cap of the $788,942 total) is allocated for the design and implementation of the state's Clean Diesel Program. This will be a non-competitive sub-award and will be in place for the duration of the grant program.

The Scope of work includes:

1. Design prescriptive rebate program to encourage engine, vehicle, and locomotive upgrades or replacements with a simplified application process. The creation of content and design recommendations for the state website.
2. Ensure all upgrades meet the EPA documentation requirements.
3. Provide all required reporting and verification requirements throughout the implementation

4. Generate news stories and case studies of completed projects to encourage wider adoption.
5. Create systems and procedures to make future implementation of future grant programs streamlined.

CLEER will use $788,942 in funds to provide rebates for qualified measures discussed in this proposal. CLEER will only provide rebates after the vehicle or engine owners have replaced their existing engines, vehicles, and other approved measures pursuant to the requirements outlined in the program guide and provided sufficient documentation, including verification of the destruction of the existing engine. Participants will be selected through a process in compliance with all DERA requirements and will be reimbursed per CDPHE and EPA policies. Because exact number and type of projects have not yet been confirmed, the precise amount for each rebate and mandatory cost share may change. In this case, CDPHE will notify the Regional EPA DERA contact and submitted updated project and budget information as soon as possible. The following project scenario was used to calculate the mandatory cost share included in the attached budget.

**Projected Project Funding and Mandatory Cost Share Amounts**

| Activity | Quantity | Rebate Amount/each | Mandatory Cost Share | Estimated Cost Total |
|---|---|---|---|---|
| Shuttle Bus – Electric | 1 | $125,000 (35%) | $225 000 (65%) | $350,000 |
| School Bus – Electric | 1 | $125,000 (35%) | $225,000 (65%) | $350,000 |
| Class 8 electric tractor | 1 | $125,000 (30%) | $325,000 (70%) | $450,000 |
| Extended Range Electric Snow Cat | 2 | $125,000 (30%) | $325,000 (70%) | $900,000 |
| **Total** | | $625,000 | $1,425,000* | $2,050,000 |

*The mandatory cost share is provided by the vehicle or equipment owner.

United States Environmental Protection Agency

Office of Transportation and Air Quality
April 2022

# 2022 Diesel Emissions Reduction Act (DERA) State Grants

# Work Plan and Budget Narrative

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**SUMMARY PAGE**

**Project Title: Colorado Clean Diesel Program**

**Project Manager and Contact Information**

**Organization Name: Colorado Department of Public Health and Environment**

**Project Manager: Richard Coffin**

**Mailing Address: 4300 Cherry Creek Drive South, Denver, CO 80246**

**Phone: 303-692-3127**

**Fax: 303-782-0278**

**Email: Richard.coffin@state.co.us**

**Project Budget Overview:**

| | 2021 | 2022 |
|---|---|---|
| EPA Base Allocation | $347,269 | $362,182 |
| EPA Match Bonus (if applicable) | $173,635 | $181,091 |
| Voluntary Matching Funds (if applicable) | $347,359 | $362,182 |
| Mandatory Cost-Share | $906,201 | $966,656 |
| **TOTAL Project Cost** | **$1,774,374** | **$1,872,111** |

**Project Period for 2021-2022 DERA State Grants**

October 1, 2021 – March 30, 2025

**Summary Statement**

The Colorado Department of Public Health and Environment (CDPHE) Clean Diesel Program is a sub-grant program designed to reduce diesel emissions in Colorado. The program will be applied broadly across various sectors in the state, employing a variety of diesel reduction strategies. The program will target projects that reduce emissions in economically challenged communities; areas with historical air quality issues; projects that reduce emissions in highly populated areas, areas with sensitive receptor groups such as schools or hospitals, or areas that receive a disproportionate quantity of air pollution from diesel vehicles particulate matter. CDPHE intends to use Volkswagen Environmental Mitigation Trust funds (VW Trust Funds) to match the federal funds for the fiscal year 2022.

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## SCOPE OF WORK

CDPHE will continue to administer a sub-grant program with Clean Energy Economy for the Region (CLEER), a Colorado based non-profit clean energy consulting firm, to fund competitive projects that reduce on- and non-road diesel engine emissions in the state. This will be accomplished via a competitive solicitation whereby projects are rated based on potential emission reduction, health benefit, location in the state and any ancillary benefits. CDPHE will amend the existing contract with CLEER include fiscal year 2022 DERA funds as detailed in the budget section of this document. CDPHE will utilize VW Trust Funds as non-federal voluntary match for the fiscal year 2022 grant pursuant to the "DERA Option"[1] specified in Appendix D-2 of the Volkswagen Partial Consent Decree. Use of all funds will conform to the guidelines and funding restrictions outlines in the 2021-2022 DERA State Grants Program Guide[2], the VW Environmental Mitigation Trust Agreement for State Beneficiaries, and Colorado's Beneficiary Mitigation Plan.[3]

**STATE/TERRITORY GOALS AND PRIORITIES**:

CDPHE manages a variety of air quality issues including elevated ozone in the nine county Denver Metro/North Front Range which exceeds the 2008 and 2015 ozone National Ambient Air Quality Standards (NAAQS), maintaining attainment in a number of maintenance areas for the $PM_{10}$ and CO NAAQS, and reducing visibility impairment at our national parks and wilderness areas. These issues are often impacted and exacerbated by diesel emissions. Principal pollutants of concern with diesel emissions are fine particulate matter ($PM_{2.5}$), air toxics, greenhouse gases, and oxides of nitrogen ($NO_x$) that contribute to the formation of ground level ozone. There are a variety of diesel emission sources in Colorado including but not limited to diesel highway vehicles, diesel nonroad vehicles and equipment, locomotives, and energy production operations.

The principal objective of the assistance to be provided under this program is to achieve significant reductions in diesel emissions in terms of tons of pollution produced and reductions in diesel emissions exposure from vehicles, engines and equipment operating in areas designated as poor air quality areas. CDPHE will prioritize projects in counties and areas identified as priority locations in the FY2022 State Clean Diesel Grant Program Guide. In addition, priority will be given to projects based on whether the vehicles/engines/equipment targeted for diesel emissions reductions are located at, or service, goods movement facilities such as: airports, rail yards, terminals, and distribution centers.

**VEHICLES AND TECHNOLOGIES**:

**A) Eligible Diesel Vehicles, Engines, and Equipment**

a. School Buses;

[1] https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100WKEY.pdf
[2] https://www.epa.gov/system/files/documents/2022-04/420b22023.pdf
[3] https://cdphe.colorado.gov/volkswagen-diesel-emissions-settlement

b. Transit Buses

c. Medium-duty or heavy-duty trucks;

d. Marine Engines;

e. Locomotives; and

f. Nonroad engines, equipment or vehicles used in:

i. Construction;

ii. Handling of cargo (including at a port or airport);

iii. Agriculture;

iv. Mining;

v. Energy production (including stationary generators and pumps),

vi. Drayage Trucks, or;

vii. Transport refrigeration units.

**B) Eligible Diesel Emission Reduction Solutions**

Projects will 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:** 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-fueleconomy-data/annual-certification-data-vehicles-engines-and-equipment. EPA's engine emission standards may be found at: www.epa.gov/emission-standards-reference-guide/allepa-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/annualcertification-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. Lists 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-andengine-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 generator sets
2) Battery air conditioning systems
3) Thermal storage systems
4) Fuel operated heaters (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 generator 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 projects that are expected to be used less than 1,000 hours/year.

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 emision 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-enginecertification/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% NOx 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-aerodynamicdevices) 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-newand-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.

**C) Project Eligibility Criteria:** Existing engines and new vehicles, engines, and technologies will meet the eligibility criteria as defined in section D of the 2022 DERA State Grants Program Guide: https://www.epa.gov/system/files/documents/2022-04/420b22023.pdf

**D) DERA Funding Limits and Mandatory Cost-Share Requirements**

This project will follow the funding limits and mandatory cost-share requirements included in Section X of the FY2022 DERA State Grants Program Guide. If sufficient interest exists, the program may consider offering standard rebate amounts at a level less than the maximum DERA funding limit. In this event CDPHE will consult with the EPA Region 8 DERA Grant Coordinator.

**ROLES AND RESPONSIBILITIES**:

As with prior projects, CDPHE and CLEER will collaborate with other state agencies, municipalities and school districts, public and private companies and operators. As noted, we believe that making the sub-grants and participant support costs available to the widest possible audience will help with our success. Sub-awards will be disbursed through a solicitation for projects and the participant support costs will be disbursed through a rebate type program. Vehicle and equipment owners and operators receiving the rebate are responsible for specifying equipment, ordering and properly disposing of the old vehicles. Detailed documentation of these activities is required, including photographs and/or videos of the vehicles being rendered unusable.

**TIMELINE AND MILESTONES**:

The following time line lists tasks and activities to be conducted, including anticipated use of grant funds. While CDPHE is hopeful that the following timeline will be achieved, the COVID19 pandemic and resulting economic conditions may result in project delays. We will consult with the EPA Region 8 DERA Grant Coordinator if the following timeline requires any revisions.

- Fall 2022 - CDPHE will amend its sub-award agreement with CLEER.
- Late Fall/Early Winter 2022 - CLEER will publish a rolling request for applications. The open solicitation will be publicized on the CLEER and Colorado Clean Diesel Program websites and distributed via email listserv to potential applicants. The list of groups to contact will be developed prior to the solicitation publish date.
- Early Winter 2022 – Applications will be evaluated and successful applicants will be notified. Project information will be posted on the program website.
- Winter 2023/Spring 2023 – Project work will commence.
- Spring 2023 – Additional requests for proposals will be sought after if all program funding is not obligated. Applications will be evaluated and successful applicants will be notified. Project information will be posted on the program website.
- Early Summer 2023 – Round 2 projects will commence.
- Late Summer 2023 – Round 1 and Round 2 projects will be completed. Note, due to COVID19 impacts, the wait time between equipment/vehicle ordering and delivery has

exceeded 12 months. Delays will be communicated with the EPA Region 8 DERA Grant Coordinator and an extension of the grant deadline will be requested if necessary. All required documentation and project information will be provided to the EPA Region 8 DERA Grant Coordinator for review.

- Fall 2023-2024 – rolling application periods will be offered and continued outreach will be completed. Remaining project funds will be committed to projects. Replacement equipment will be delivered and existing equipment will be scrapped.
- 01/31/23, 04/30/23, 07/31/23, 10/31/23, 1/31/24, 04/30/24, 07/31/24, 10/31/24, 1/31/25, 04/30/25, - Submit quarterly reports to EPA.
- 6/28/25 - Submit final report to EPA.

**DERA PROGRAMMATIC PRIORITIES**:

This project will reduce emissions from diesel engines in Colorado and will create valuable case studies to assist with increasing adoption rates of these proven technology in following years. Diesel emissions often occur at places of work, near children at schools, and near population centers. By including electrification as a technology focus in various sectors of this program, there is the opportunity for 100% emissions reductions at those sensitive locations, and the further opportunity for renewable electricity to provide large overall emissions reductions by avoiding fossil fuel consumption at electricity generation facilities.

This plan meets the DERA goals of focusing on nonattainment and maintenance areas, and the additional goals of high-traffic areas, distribution facilities, and school bus fleets. It further plans to achieve these reductions in both rural and urban areas, and in a variety of usage scenarios.

**EPA'S FY 2022-2026 STRATEGIC PLAN LINKAGE AND ANTICIPATED OUTCOMES/OUTPUTS**:

This proposal supports EPA's Strategic Plan Goal 4, Objective 4.1 "Improve Air Quality and Reduce Localized Pollution and Health Impacts", which includes performance goals to improve air quality in counties not meeting the current NAAQS, and, striving to ensure that all people with low-socio-economic status live in areas where the air quality meets the current fine particle pollution NAAQS. The plan also states that EPA will continue to collaborate "with a broad range of stakeholders – including state air quality agencies and communities with environmental justice concerns – to develop targeted, sector-based strategies for diesel fleets (including schools buses, ports, and other goods movement facilities),"

The sample projects provided in attached fleet example worksheet are located within Colorado's ozone nonattainment area and are located in or near disproportional impacted communities with environmental justice concerns. Decreasing or eliminating diesel emissions from these sources will reduce the health risks from toxic air pollutants and particulate matter, while assisting with accomplishing attainment of the ozone NAAQS and maintaining attainment of the PM2.5 NAAQS in the area. By proving the technologies on a variety of vehicles and/or equipment, we

will also provide the case studies to accelerate adoption of these new, clean technologies across the state.

**SUSTAINABILITY OF THE PROGRAM**:

CLEER brings strong communications and education experience to the program and plans on developing case studies and news articles that highlight the technology conversion, the air quality benefits and the benefits to the participating organization or business. These case studies will be posted on the Colorado Clean Diesel Program website and distributed across social networks and trade organizations.

CLEER and CDPHE intend to use this grant cycle to prove the viability of clean diesel replacements in geographic areas across the state, helping to ensure that companies can make the switch regardless of altitude and location.

CLEER will seek to continue this program over several years. This includes continuing to seek funding sources to provide rebates for technology deployments and continuing to create case studies and publicize successes in various markets throughout the state, thereby accelerating the adoption of proven technologies beyond the business-as-usual path.

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**BUDGET NARRATIVE**

**2022 Itemized Project Budget**

| Budget Category | EPA Allocation | Mandatory Cost-Share | Voluntary Match (if applicable) | | Line Total |
|---|---|---|---|---|---|
| | | | VW Mitigation Trust Funds | Other Funds | |
| 1. Personnel | $2,280 | | | | |
| 2. Fringe Benefits | $900 | | | | |
| 3. Travel | | | | | |
| 4. Equipment | | | | | |
| 5. Supplies | | | | | |
| 6. Contractual | | | | | |
| 7. Other – subaward activities | $522,304 | $966,656 | $358,596 | | |
| **8. Total Direct Charges (sum 1-7)** | $525,484 | $966,656 | $358,596 | | |
| 9. Indirect Charges | $17,789 | | $3,586 | | |
| **10. Total (Indirect + Direct)** | $543,273 | $966,656 | $362,182 | | $1,872,111 |
| 11. Program Income | | | | | |

**Budget Framework**

- **Personnel -** Environmental Protection Specialist II, annual salary $76,380, will dedicate approximately 3% of time, with a total of $2,280 for the budget period. Duties include regular project meetings with CLEER, review of applications, and development of required grant documents and reports.

- **Fringe Benefits -** The fringe rate for this position is $15 per hour and was computed at 60 hours of the Environmental Protection Specialist II's time. $15 x 60 = $900. Fringe benefits include, but are not limited to the cost of leave, employee insurance, pensions, and unemployment benefit plans.

- **Other – Subaward Activates** – Includes $90,000 for CLEER program administration costs such as engagement with potential applicants and manufactures of eligible technologies, hosting webinars, developing program communications, meeting with potential applicants, CDPHE, and EPA staff, and ensuring compliance with all DERA requirements. $432,404 of the EPA award and $358,596 of voluntary match VW funds will be used toward equipment replacements as described in the sample fleet spreadsheet.

- **Indirect Charges** – CDPHE uses the following indirect rates: Onsite 17.4%, flow-through/subaward 3.3%, VW funds 1%. Indirect Cost Rate calculations are shown below:
    - Personnel and Fringe: $3,180 x 17.4 = $553.
    - EPA Funding Subaward: $522,304 x 3.3% = $17,789
    - VW Funding Subaward: $358,596 x 1% = $3,586
    - Total Indirect Costs: $21,375

**Administrative Costs Expense Cap**

Personnel and fringe costs, $3,180 + CLEER administration costs, $90,000 = $93,180. This amount is approximately 10% of the total project budget, which is well below the 15% administrative cap.

**Matching Funds and Cost-Share Funds**

The sample fleet description includes information about potential projects that this award will fund. See the table below for the estimated mandatory cost share for the sample projects.

| **Sample Project - all electric replacement** | **Electric Material Handler** | **Terminal Tractor** | **Commercial Mower** | **Total** |
|---|---|---|---|---|
| Cost Per Unit | $1,272,556.00 | $250,000.00 | $23,500.00 | |
| Quantity | 1 | 1 | 10 | |
| Mandatory Cost-Share (55%) | $699,905.80 | $137,500.00 | $129,250.00 | **$966,655.80** |
| DERA Award (45%) (includes VW funds) | $572,650.20 | $112,500.00 | $105,750.00 | **$790,900.20** |
| **Total** | $1,272,556.00 | $250,000.00 | $235,000.00 | **$1,757,556.00** |