

FISCAL YEAR 2019

STATE CLEAN DIESEL GRANT PROGRAM

WORK PLAN AND BUDGET NARRATIVE TEMPLATE

INSTRUCTIONS: States and territories applying for FY 2019 DERA State Clean Diesel Grant Program funding must use this template to prepare their Work Plan and Budget Narrative.

Please refer to the FY 2019 STATE CLEAN DIESEL PROGRAM INFORMATION GUIDE for full Program details, eligibility criteria and funding restrictions, and application instructions.

SUMMARY PAGE

Project Title: New Hampshire State Clean Diesel FY 2019 Program Plan

Project Manager and Contact Information

Organization Name: New Hampshire Department of Environmental Services

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Project Budget Overview:

	FY 2019
EPA Base Allocation	\$ 316,427
State or Territory Voluntary Matching Funds (if applicable)	\$ 316,427
EPA Match Incentive (Bonus) (if applicable)	\$ 158,214
Mandatory Cost-Share	\$ TBD
TOTAL Project Cost	\$ 791,068
Other Leveraged Funds	\$

Project Period

October 1, 2019 – September 30, 2021

Summary Statement

New Hampshire's State Clean Diesel program is a sub-grant program designed to reduce diesel emissions. 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 and equipment; and projects in areas that are near non-attainment for other pollutants such as

particulate matter. New Hampshire intends to use Volkswagen Environmental Mitigation Trust funds (VW Trust Funds) to match the federal funds for the fiscal year 2019.

SCOPE OF WORK

New Hampshire Department of Environmental Services (NHDES) will institute a subgrant program to fund projects that reduce on- and non-road (including stationary) 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. New Hampshire will utilize VW Trust Funds as non-federal voluntary match for the fiscal year 2019 grant pursuant to the “DERA Option”¹ specified in Appendix D-2 of the Volkswagen Partial Consent Decree. Use of all funds will be in line with the scope of work outlined in this plan and the funding restrictions outlined in the [FY 2019 State Clean Diesel Grant Program Information Guide and the VW Partial Consent Decree](#).

STATE/TERRITORY GOALS AND PRIORITIES:

Even with today’s cleaner fuels and new heavy-duty greenhouse gas and fuel efficiency rules, millions of diesel engines already in use across the United States, continue to emit large amounts of nitrogen oxides, particulate matter, and air toxics, which contribute to serious public health problems including asthma, lung cancer and various other cardiac and respiratory diseases. These emissions contribute to thousands of premature deaths, millions of lost work days, and numerous other negative health impacts every year. In 2012, the World Health Organization classified diesel exhaust as a Group 1 (human) carcinogen. In addition, older, less efficient diesel vehicles emit greater amounts of greenhouse gas emissions that contribute to climate change.

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. Currently, all of New Hampshire is unclassifiable/attainment under the 2008 8-Hour Ozone National Ambient Air Quality Standard (NAAQS).

Fine particulate levels have also decreased in the state since the early 1990s. Presently, New Hampshire is in attainment statewide for the current 2012 fine particulate NAAQS.

Over the past five years, New Hampshire has experienced an annual average of 5.4 ozone “Air Quality Action Days;” days with unhealthy concentrations of ground-level ozone for sensitive individuals. In addition, concentrations of fine particle pollution over the same five-year period have reached unhealthy levels in certain locations. Valley areas during cold-season temperature inversions are particularly susceptible to elevated PM_{2.5} concentrations.

NHDES chooses to support a variety of emission reduction strategies and project partners in order to maximize our success. In past years, grantees with the State Clean Diesel program favored idle reduction technology and vehicle and engine replacements. In addition to

¹ [The DERA Option: Eligible Mitigation Action #10 under the Volkswagen Settlement, Appendix D](#)

continuing to support vehicle replacement projects that utilize new, cleaner diesel engines, NHDES will also encourage applicants to consider use of cleaner alternative fuels and exhaust controls.

VEHICLES AND TECHNOLOGIES:

a) Eligible Applicants and Vehicles

This solicitation will be open to New Hampshire municipal and state agencies and departments, and to private sector businesses operating in New Hampshire.

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.

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 that will not be scrapped, retired or replaced 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. [A list of eligible, EPA verified diesel engine retrofit technologies is available at EPA's website](#); a list of eligible, [California Air Resources Board \(CARB\) verified diesel engine retrofit technologies is available at CARB's website](#). The types (e.g., DOC, DPF, etc.) of retrofits 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 to NHDES. 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. NHDES 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.

Engine Upgrades and Remanufacture Systems:

Generally, an engine upgrade involves the removal of parts on an engine during a rebuild and replacement with parts that cause the engine to represent an engine configuration which 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, locomotive or marine engine 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 for a locomotive includes a full engine replacement, the fleet expansion funding restrictions will apply (see the [2019 State DERA Grant Program Guide](#) for more information). 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 EPA's website. Lists of certified remanufacture systems for locomotives and marine engines are available at EPA's website.](#) 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 to NHDES. 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.

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. NHDES 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 this Program, as described in this Section.

[A list of eligible, EPA-verified cleaner fuels and additives is available at EPA's website;](#) [a list of eligible, CARB-verified cleaner fuels and additives is available at CARB's website.](#) 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.

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 EPA's website.](#) 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 to EPA. 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 and alternative maritime power, 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) **Marine Shore Power Connection Systems:**

Shore power systems allow maritime vessels to “plug into” an electrical power source instead of using diesel main or auxiliary engines while at port. This funding can cover up to 25% of the cost (labor and equipment) of eligible marine shore power connection systems, including the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional. Examples of eligible marine shore power connection costs include but are not limited to various components such as cables, cable management systems, shore power coupler systems, distribution control systems, transformers, grounding switches, service breakers, capacitor banks, and power distribution. Funding may support new installations, or expansions of existing shore power systems. Examples of ineligible costs for marine shore power connection systems include, but are not limited to, shipside modifications to accept shore-based electrical power, electricity costs, and operation and maintenance costs. Due to the unique nature and custom design of marine shore power connection systems, NHDES will review and approve the marine shore power connection system proposed by the applicant on a case-by-case basis.

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.

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 EPA’s website,](#) 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 EPA’s website,](#) 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. NHDES 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.

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, Marine, and Nonroad Diesel Vehicles and Equipment:

- i. 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.](#)
- ii. 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:

- i. 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.](#)
- ii. 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. Engines certified to CARB's Optional

Low NOx Standards may be found by searching [CARB's Executive Orders for Heavy-duty Engines and Vehicles](#).

- iii. Funding can cover up to 60% of the cost (labor and equipment) of replacing a diesel engine with a zero tailpipe emissions power source.

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 cell), 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, Marine Vessels and Nonroad Diesel Vehicles and Equipment:

- i. Funding can cover up to 25% of the cost of a replacement locomotive, marine vessel, 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. [Nonroad, locomotive and marine engine emission standards are on EPA's website](#).
- ii. Funding can cover up to 45% of the cost of a new, zero tailpipe emissions locomotive, marine vessel, or nonroad vehicle or piece of equipment.

b) Highway Diesel Vehicles and Buses (other than Drayage):

- i. 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. Highway engine emission standards are on EPA's website at:

www.epa.gov/emission-standardsreference-guide/epa-emission-standards-heavy-duty-highway-engines-and-vehicles.

- ii. 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. Engines certified to CARB's Optional Low NOx Standards may be found by searching [CARB's Executive Orders for Heavy-duty Engines and Vehicles](#).
 - iii. 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.
- i. 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.
 - ii. 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.

ROLES AND RESPONSIBILITIES:

As with prior projects, NHDES will collaborate with other state agencies, municipalities and school districts, public and private transit companies, and marine operators and private fleets. As noted, we believe that making the sub-grants and participant support costs available to the widest possible audience will help with our success. Subawards will be disbursed through a solicitation for projects and the participant support costs will be disbursed through a rebate type program.

TIMELINE AND MILESTONES:

- 10/01/19 – A Request for Proposals (RFP) will be released by NHDES. In addition to posting on the NHDES website, the open solicitation will be publicized via a monthly

newsletter geared to municipalities, and via relationships with NH Local Energy Solutions Workgroup, New Hampshire School Transportation Association, NH Local Government Center, NH Municipal Association and NH Association of Counties, NH Motor Transit Association, NH Association of General Contractors, Granite State Clean Cities Coalition and others. The list of publications to target and groups to contact will be developed prior to the project start date.

- Early Winter 2019 – Round 2 RFP – If all program funding is not obligated during an initial round, a subsequent RFP will be released.
- January 2020 – Submit Round 1 grant agreements for approval by Governor and Council.
- Spring 2020 – Submit Round 2 grant agreements for approval by Governor and Council.
- February 2020 through September 2020 – Round 1 and Round 2 project implementation. All projects will be completed by September 30, 2020.
- 01/31/20, 04/30/20, 07/31/20 and 10/31/20 – Submit quarterly reports to EPA.
- 12/31/20 – Submit final report to EPA.

Following the effective date of their agreement, project awardees will be responsible for submitting quarterly status reports to NHDES for a period of two years beginning with the first quarter following the completion of the work or by 10/15/19, whichever comes first. Beginning one year after completion of the final quarterly report, awardees will be responsible for submitting annual reports to NHDES for a period of three years.

In order to ensure that up to date project information continues to be available, periodic reviews and updates of program information on the NHDES website will be completed.

DERA PROGRAMMATIC PRIORITIES:

New Hampshire will ensure that the programmatic priorities, as outlined in the [2019 State Clean Diesel Grant Program Information Guide](#) will be met by selecting diesel emission reduction projects that achieve significant reductions in diesel emissions and reductions in diesel emission exposure from vehicles, engines, and equipment. Additionally, EPA's priorities include projects located in areas that receive a disproportionate quantity of air pollution from diesel fleets, including: truck stops; ports; rail yards' terminals; construction sites; and school bus depots/yards. NH's Clean Diesel Program will prioritize projects for diesel vehicles and equipment operating 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 fleets, and in areas that are near non-attainment for other pollutants such as particulate matter. [EPA has identified a list of priority counties and areas](#). In New Hampshire, Rockingham County is identified as a priority county as an area with toxic air pollutant concerns as identified from the National Air Toxics Assessment data.

Diesel exhaust is a complex mixture of pollutants including particulate matter, nitrogen oxides and volatile organic compounds which contribute to smog, acid rain, climate change, and a range of health problems. Truck drivers, railroad workers and equipment operators may have an increased risk of health related issues from occupational exposure to diesel exhaust. The PM_{2.5} and toxic chemicals found in diesel exhaust can lead to respiratory problems and exacerbate asthma. According to “Asthma Burden Report New Hampshire 2014,” New Hampshire has a “significantly higher” asthma prevalence rate when compared to the rest of the nation, with approximately 11 percent of adults and 10.6 percent of children currently afflicted with the disease. EPA indicates the fine particles in diesel exhaust can aggravate asthma and cause lung damage and premature death. In 2012, the World Health Organization declared diesel exhaust to be carcinogenic to humans.

Vehicle and equipment replacements are an effective option because they eliminate the need for matching retrofit equipment to the engine or vehicle, and provide the highest emission reduction over the useful life of the engine. Alternative fuel vehicles accomplish emission reductions and increase fuel diversity in the region. Replacing a diesel powered vehicle with a vehicle fueled by propane, CNG or electricity can also reduce high maintenance costs associated with the newer diesel engine systems.

Engine replacements can be a cost effective means of reducing emissions in existing vehicles, particularly for non-road equipment. Exhaust controls are another lower cost option, but they do not offer the economic incentive of fuel savings or maximizing the useful life of the vehicle or engine. NHDES seeks to promote all diesel reduction strategies outlined in this document, to promote emissions reduction and further the improvement of promising technologies.

As in fiscal year 2018, New Hampshire intends to use VW Trust Funds to match the federal funds for the federal fiscal year 2019 grant. Projects utilizing VW Trust Funds will reduce emissions of NO_x and PM and also support the goals of the New Hampshire Beneficiary Environmental Mitigation Plan², which aligns closely with the programmatic priorities identified above.

EPA’S STRATEGIC PLAN LINKAGE AND ANTICIPATED OUTCOMES/OUTPUTS:

Linkage to EPA Strategic Plan

NHDES intends to reduce emissions from older diesel vehicles through implementation of this program and in doing so will assist in reducing the amount of NO_x and PM that is emitted to the air. This aligns with Objective 1.1 in the EPA’s FY 2018-22 Strategic Plan is to improve air quality. As part of its mission to protect human health and the environment, EPA is dedicated to improving the quality of the nation’s air.

1. Outputs

Some specific outputs of the NH Clean Diesel Program include:

² [State of New Hampshire Beneficiary Environmental Mitigation Plan September 7, 2018](#)

- A. NHDES will issue an RFP as described in the Project Description section of this work plan. NHDES will evaluate the proposals based on program goals
- B. The Diesel Emission Quantifier (DEQ) and/or Motor Vehicle Emission Simulator (MOVES) will be used to quantify project benefits before project selections are made.
- C. NHDES will encourage the use of the funds for municipal and state fleets as well as other publically owned fleets.
- D. NHDES will continue to support the Granite State Clean Cities Coalition and engage its stakeholders when requesting project proposals.
- E. NHDES will produce quarterly reports to the EPA identifying the progress of the program.
- F. Program Completion Report: NHDES will undertake a full evaluation of the program. The program completion report will include the number of miles or hours retrofitted or replaced units have been in service since the project occurred, fuel consumption since the beginning of the project, emissions reduced or eliminated, maintenance issues (if any), and documentation of outreach conducted in support of the project.
- G. Notification of grants awarded will be posted on a public facing website along with a complete list of awardees.

2. Outcomes

Some specific outcomes of the NH Clean Diesel Program include:

- A. Potential Outcomes presented below were estimated using the Diesel Emissions Quantifier:
 - Engine Repower: Engine repowers can provide up to one ton of NO_x and 500 lbs. PM_{2.5} of annual emission reductions.
 - Idle Reduction: Transit buses and long distance haulers can provide 4 and 6 tons respectively of NO_x emission reductions in their lifetime. Idle reduction devices also provide cost effective reductions in greenhouse gas and result in fuel savings.
 - Vehicle Replacements: Vehicle replacements can yield cost-effective NO_x reductions and can provide sustained clean air benefits in a community. Deployment of alternative fuel vehicles and associated infrastructure promotes adoption by others and reduces petroleum imports.
- B. Community engagement and partnership;
- C. Better understanding, knowledge and acceptance of currently available pollution control technology and equipment by state and municipal fleet managers, fleet owners and the public and school transportation sectors;

- D. Increased data and information on verified control equipment/technology for use by other potential users;
- E. Expansion of alternative fuel vehicle use in the state;
- F. Increased awareness of the health and climate change benefits of particulate controls, alternative fuels, and reduced idling in the state's transportation sector and by the traveling public who will be made aware of the program through outreach;
- G. Sustained or improved air quality in NH;

SUSTAINABILITY OF THE PROGRAM:

NHDES' Mobile Sources Section includes a grant manager with extensive experience who also serves as New Hampshire's Clean Cities Coordinator. This individual is acquainted with many of the state's public and private fleet managers and will manage the program. Technical support is provided by the other Mobile Sources staff.

NHDES is committed to continue to educate diesel equipment users about the environmental, health, and monetary benefits of utilizing emission reduction technology, cleaner fuels, cleaner vehicles, and modifying driver behavior.

NHDES will require grantees to submit quarterly reports for two years and yearly reports for an additional three years in order to track the success of the program past the end of the official grant period.

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	\$46,076				\$46,076
2. Fringe Benefits	\$23,095				\$23,095
3. Travel					
4. Equipment					
5. Supplies					
6. Contractual					
7. Other	\$403,692	TBD	\$316,427		\$720,119
8. Total Direct Charges (sum 1-7)	\$472,863		\$316,427		\$789,290
9. Indirect Charges	\$1,778				\$1,778
10. Total (Indirect + Direct)	\$474,641		\$316,427		\$791,068
11. Program Income					
12. Other Leveraged Funds*					

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

Explanation of Budget Framework

- **Personnel - List all staff positions by title. Give annual salary, percentage of time assigned to the project, and total cost for the budget period.**

	Annual Salary	% of Time	Total Salary
Grant Manager	\$60,469.5	25%	\$15,117
Transportation Program Specialist	\$63,180	49%	\$30,959
		Total	\$46,076

- **Fringe Benefits –**
 FICA: 6.2%
 Health Insurance: Percentage Varies
 Medicare: 1.45%
 Retirement: 12.5%
 Additional Fringe Benefits: 9.89%

Dental: Percentage Varies
 Life Insurance: Percentage Varies

	Benefits - % of Salary	Total
Grant Manager	62.989	\$9,507
Transportation Program Specialist	43.989	\$13,588
	Total	\$23,095

- **Travel –**
No travel expenses will be charged to this grant for program implementation. Existing state funds will be used to cover such expenses if any are incurred.
- **Supplies –**
No supplies will be purchased using these funds.
- **Equipment –**
No equipment purchases beyond the subawards for equipment specified under “other” below will be made using these funds.
- **Contractual –**
No contractual/consultant services are anticipated to be needed for this project.
- **Other –**
Subawards and participant support costs will be made under this category and the details of those subawards and costs will not be known prior to the completion of a solicitation for project proposals. NHDES intends to issue subawards via grant agreements with eligible applicants and for eligible projects as described in New Hampshire’s Program Plan, which is consistent with EPA’s DERA program requirements. All subawards will be made according to the Terms and Conditions of the award agreement.

Category	Amount
Subawards	\$720,119
Total	\$720,119

- **Indirect Charges –**
Indirect Costs = 2.57% of the sum of personnel and fringe benefits.

	Total Indirect Costs
Total	\$1,778

Administrative Costs Expense Cap

Based on the calculations completed in the tables above and illustrated below, the administrative costs are below the 15% allowable cap.

Total Personnel	\$46,076
Fringe Benefits	\$23,095
Indirect	\$1,778
Total Administrative	\$70,949
15% of Budget (\$474,641.00)	\$71,196

Matching Funds and Cost-Share Funds

New Hampshire will utilize VW Trust Funds as non-federal voluntary match for the fiscal year 2019 grant pursuant to the “DERA Option”³ specified in Appendix D-2 of the Volkswagen Partial Consent Decree. Use of all funds will be in line with the scope of work outlined in this plan and the funding restrictions outlined in the [FY 2019 State Clean Diesel Grant Program Information Guide and the VW Partial Consent Decree](#).

In the event that the Volkswagen settlement funds are not made available during the project period of this assistance agreement and New Hampshire decides to not match the DERA base allocation, the State will submit an amendment to the award to decrease the total award amount down to the EPA base allotment of \$316,427.30 and return the state Match Bonus funds totaling \$158,213.70.

The mandatory cost-share funds will be determined after a solicitation of projects has been completed. The solicitation of projects will be completed with a focus on public fleets (municipal and state) and the cost share funds will be provided by the subaward grantees.

Funding Partnerships

NHDES will collaborate with other state agencies, municipalities and school districts, public and private transit companies, and marine operators and private fleets. As noted, we believe that making the sub-grants and participant support costs available to the widest possible audience will help with our success.

Other Leveraged Funds

Other leveraged funds may occur when an estimate for an eligible diesel emission reduction solution is lower than the final cost of the project. NHDES will report these other leveraged funds when they occur.

³ [The DERA Option: Eligible Mitigation Action #10 under the Volkswagen Settlement, Appendix D](#)