North Carolina Volkswagen Settlement Program

Phase 1

Diesel Bus and Vehicle Programs

Request for Proposals

Contents

I. Request for Proposals (RFP) Timeline

- Release of RFP — June 17, 2019
- Proposal application available for download — July 1, 2019
- RFP application training sessions — July 15 – 26, 2019
  - We strongly encourage you to register for the workshop that is closest to your location. Since space will be limited, **registration is required**. The sessions for Diesel and ZEV will be separate, so if you plan on attending both please register for both. Locations and dates will be posted on our website, deq.nc.gov/VWsettlement.
- Proposal applications due date — September 30, 2019
- Proposal application evaluations — Summer/Fall 2019
- Phase 1 project selections — Fall 2019
- Grant awards announced — Fall 2019/Winter 2020

Timeline changes: NCDEQ reserves the right to adjust the dates listed above. Any changes or additional information regarding the RFP schedule, including responses to questions, will be posted on NC VW Settlement RFP website at: https://deq.nc.gov/VWsettlement-RFP.

II. Overview

Summary

The North Carolina Division of Air Quality (NCDAQ) in the North Carolina Department of Environmental Quality (NCDEQ) is soliciting proposal applications for participation in Phase 1 of the NC Volkswagen Mitigation Settlement Program. Approximately $24.5 million of the $30.7 million will be available in Phase 1 for Diesel Bus and Vehicle Programs. These programs are designed to achieve significant reductions in diesel emissions.

This Request for Proposals will assist interested parties in applying for funds to mitigate NOx emissions from mobile sources, as described by the North Carolina VW Mitigation Plan (deq.nc.gov/VWsettlement). This document includes information on who may apply for funding, the funding levels for each program, project eligibility, funding priorities for the phase, match requirements, activities eligible for funding, and other information that will help applicants plan their project and submit a competitive proposal application. The Diesel Bus and Vehicle Program proposal application will be available on the NC VW Settlement webpage, https://deq.nc.gov/VWsettlement-RFP. All proposal applications must be submitted by email to svc.NCVWApplication@ncdenr.gov **no later than 5:00 p.m. Eastern Standard Time on September 30, 2019**.

Eligible Projects

For Phase 1, eligible projects for this RFP include:

- projects submitted by local, state, and tribal government organizations,
- projects submitted by public or private nonprofit organizations (Incorporated Nonprofit – an organization as described in section 501(c)(3) of the Federal Internal Revenue Code of 1954,

as amended. The organization must be incorporated under NC law or registered with the NC Department of the Secretary of State), and
- projects submitted by public-private partnerships where the lead applicant represents a public sector, public or private nonprofit organization.

Ineligible Applicants

Applicants that are currently debarred by the State of North Carolina[1] and/or federal government[2] are ineligible applicants.

NCDEQ may also deem an applicant ineligible because of, but not limited to: environmental compliance issues, labor standards issues, tax status or other such legally enforceable issues.

III. Funding

NCDEQ plans a phased approach for North Carolina's $92 million total allocation of VW Settlement funds and will seek additional input and make changes as needed between phases. Each phase is planned with an equal amount of available funding of $30.68 million. This RFP is for Phase 1 (2018 – 2020) only. Phases 2 and 3 are planned to occur from 2020 to 2024 but may be combined into a single Phase 2 (2020-2024) with a total amount of $61.36 million available. The first phase of funding represents the beginning step in achieving our multi-year goals for the program.

NCDEQ may fund projects for Phase 1 up to 100% of the cost of the replacement or repower of a vehicle for government projects (subject to the availability of funds, quality of evaluated proposal applications, and other applicable considerations). NCDEQ reserves the right to partially fund proposal applications by funding discrete portions of proposed projects. Additionally, NCDEQ reserves the right to make additional awards under this announcement if additional funding becomes available after the original project selections. Public and private nonprofit projects are subject to a cost share based on the vehicle/equipment type. Government is defined in Appendix D-2 of the VW State Trust Agreement and Appendix E of this document.

Funding Type

NCDEQ anticipates awarding a total of approximately $24.5 million towards diesel bus and vehicle replacement projects in Phase 1. Applications will be prioritized by the urban-suburban/rural split described in the NC VW Mitigation Plan using the NC Rural Center[3] classification for counties, allocating 68% (~$16,690,946) of the funds for urban and suburban counties and 32% (~$7,854,563) for rural counties in Phase 1.

This is a reimbursement program; award recipients will be required to demonstrate payment for the project before receiving awarded funds. Before reimbursement, awardees must:
- Provide a signed payment request, on applicant letterhead, for the amount to be reimbursed (a template will be available on the website, https://deq.nc.gov/vw-settlement/forms;
- Submit invoices and proofs of payment for necessary expenses associated with the project;

[1] North Carolina Department of Administration, https://ncadmin.nc.gov/government-agencies/procurement/contracts/debarred-vendors

[2] United States Department of Labor, https://www.dol.gov/ofccp/regs/compliance/preaward/debarlst.htm

[3] https://www.nccommerce.com/blog/2015/07/09/rural-center-expands-its-classification-north-carolina-counties

- Submit photos and a certificate of destruction for each replaced vehicle/equipment or engine documenting that the replaced vehicle, engine or equipment has been rendered inoperable;
- Submit photographic documentation of the VINs and engine serial numbers for the original replaced vehicles, engines or equipment;
- Submit delivery or registration documents showing the VINs and engine serial numbers for the new vehicles, engines or equipment; and
- Confirm that the project is completed, and the vehicle(s)/equipment is/are operating satisfactorily for the intended purpose.
- For all-electric vehicle replacements and repower projects where charging infrastructure is part of the project, submit documentation for accompanying EV charging infrastructure:
    - Submit a photo of the EV charging infrastructure, including the charging station and any other associated auxiliary equipment; and
    - Certify that the EV charging infrastructure is fully operational.

All documentation required for reimbursement should be completed and submitted to the NCDEQ as soon as possible, but no later than the date specified in the contract.

Funding Levels for Eligible Mitigation Programs

NC Grant Programs (2018-2020)	Eligible Action Category	Eligible Fuels	2018-2020 Funding (Phase 1)	
			Targeted Percent*	Targeted Program Funding Amount
School bus replacement program	School buses	Diesel	25%	$7,670,472
		Propane & Natural Gas	10%	$3,068,189
		All-electric	5%	$1,534,094
Transit bus replacement program	Transit buses	All (diesel, propane, natural gas, electric)	20%	$6,136,377
Clean heavy-duty on-road equipment program	Class 4-8 Local Freight trucks	All (diesel, propane, natural gas, electric)	10%	$3,068,189
Clean heavy-duty off-road equipment program	Switcher locomotives, ferries, tugs, forklifts, port cargo handling equipment, ocean-going vessel shorepower, airport ground support equipment	All (diesel, propane, natural gas, electric)	10%	$2,739,302
	Diesel Emission Reduction Act (DERA)			$328,887
	Total:			**$24,545,510**

Cost Share Requirements

Maximum funding percentages for selected projects depend on the Eligible Mitigation Action type, the fuel type of the replacement/repower (diesel, alternative fuel[4], and all-electric), and whether it is a government (public) or nonprofit (private) owned fleet; however, maximum funding for any project proposal application is not guaranteed. NCDEQ may partially fund a proposal application by funding a portion of a proposed project. Applicants receiving funding will be notified of the actual amount awarded for their project. Applicants awarded funding have the option to accept or decline the award.

[4] Alternative fuels include biodiesel, compressed natural gas, diesel hybrid-electric, liquid natural gas, and liquid propane gas or liquefied petroleum gas.

Public-private partnerships are agreements that involve a contract between a public-sector authority and a private party, in which the private party provides a public-sector service or project and assumes substantial financial, technical and operational risk in the project. For projects that are public-private partnerships, the ownership of the original and replacement equipment or vehicle will determine the maximum funding percentages. Public-private partnership projects where the original and replacement equipment or vehicle is owned by the public entity will be eligible for the maximum funding percentages allowed under government-owned vehicle categories found in the tables below. Public-private partnership projects where the original and replacement equipment or vehicle is owned by the private entity will be eligible for the maximum funding percentages allowed under non-government categories found in the tables below.

School Bus Replacement Program

Class 4-8 School Bus (Eligible Buses)*

Replacement	Diesel	Alternative Fuel	All-Electric
Government	100%	100%	100%
Non-Government	25%	25%	75%

Repower	Diesel	Alternative Fuel	All-Electric
Government	100%	100%	100%
Non-Government	40%	40%	75%

*Eligible buses include 2009 engine model year or older class 4-8 school buses. Eligible buses may be repowered with any new diesel or alternate fuel or all-electric engine or may be replaced with any new diesel or alternate fuel or all-electric vehicle, with the engine model year in which the eligible trucks mitigation action occurs or one engine model year prior.

Transit Bus Replacement Program

Class 4-8 Transit Bus and Shuttle Bus (Eligible Buses)*

Replacement	Diesel	Alternative Fuel	All-Electric
Government	100%	100%	100%
Non-Government	25%	25%	75%

Repower	Diesel	Alternative Fuel	All-Electric
Government	100%	100%	100%
Non-Government	40%	40%	75%

*Eligible buses include 2009 engine model year or older class 4-8 transit buses and shuttle buses. Eligible buses may be repowered with any new diesel or alternate fuel or all-electric engine or may be replaced with any new diesel or alternate fuel or all-electric vehicle, with the engine model year in which the eligible trucks mitigation action occurs or one engine model year prior.

Clean Heavy-Duty On-Road Equipment Program

Class 8 Local Freight Trucks and Port Drayage Trucks*

Replacement	Diesel		Alternative Fuel		All-Electric	
	Local Freight	Drayage	Local Freight	Drayage	Local Freight	Drayage
Government	100%	NA	100%	NA	100%	NA
Non-Government	25%	50%	25%	50%	75%	

Repower	Diesel		Alternative Fuel		All-Electric	
	Local Freight	Drayage	Local Freight	Drayage	Local Freight	Drayage
Government	100%	NA	100%	NA	100%	NA
Non-Government	40%		40%		75%	

*Eligible trucks include 1992-2009 engine model year Class 8 Local Freight or Drayage trucks.

Class 4-7 Local Freight Trucks*

Replacement	Diesel	Alternative Fuel	All-Electric
Government	100%	100%	100%
Non-Government	25%	25%	75%

Repower	Diesel	Alternative Fuel	All-Electric
Government	100%	100%	100%
Non-Government	40%	40%	75%

*Eligible trucks include 1992-2009 engine model year Class 4-7 Local Freight Trucks. Eligible trucks may be repowered with any new diesel or alternate fuel or all-electric engine or may be replaced with any new diesel or alternate fuel or all-electric vehicle, with the engine model year in which the eligible trucks mitigation action occurs or one engine model year prior.

Clean Heavy-Duty Off-Road Equipment Program

Freight Switchers*

Replacement	Diesel	Alternative Fuel	All-Electric
Government	100%	100%	100%
Non-Government	25%	25%	75%

Repower	Diesel	Alternative Fuel	All-Electric
Government	100%	100%	100%
Non-Government	40%	40%	75%

*Eligible freight switchers include pre-Tier 4 switcher locomotives that operate 1,000 or more hours per year.

Ferries/Tugs*

Repower	Diesel	Alternative Fuel	All-Electric
Government	100%	100%	100%
Non-Government	40%	40%	75%

*Eligible ferries and/or tugs include unregulated, Tier 1, or Tier 2 marine engines.

Ocean Going Vessels (OGV) Shorepower*

Shorepower	All-Electric
Government	100%
Non-Government	25%

*Marine shorepower systems must comply with international shorepower design standards (ISO/IEC/IEEE 80005-1-2012 High Voltage Shore Connection Systems or the IEC/PAS 80005-3:2014 Low Voltage Shore Connection Systems) and should be supplied with power sourced from the local utility grid.

Airport Ground Support Equipment*

Replacement	All-Electric
Government	100%
Non-Government	75%

Repower	All-Electric
Government	100%
Non-Government	75%

*Eligible airport ground support equipment includes: 1) Tier 0, Tier 1 or Tier 2 diesel-powered airport ground support equipment and 2) uncertified or certified to 3g/bhp-hr or higher emissions, spark ignition engine powered airport support equipment.

Forklifts and Port Cargo Handling Equipment*

Replacement	All-Electric
Government	100%
Non-Government	75%

Repower	All-Electric
Government	100%
Non-Government	75%

*Eligible forklifts include forklifts with greater than 8,000 pounds lift capacity. Eligible port cargo handling equipment includes rubber-tired gantry cranes, straddle carriers, shuttle carriers, and terminal tractors, including yard hostlers and yard tractors that operate within ports.

Diesel Emission Reduction Act (DERA) Option

NCDEQ will target select government projects for the FY 2019 DERA cycle and may consider other eligible Phase1 project types for the FY2020 DERA cycle.

IV. How to Apply

Applications and supporting documentation must be submitted electronically using our downloadable application form. Applicants must completely fill out this application form to be considered for funding. **Incomplete applications will not be considered**. This application and any supplemental information provided will serve as the primary means by which all applications are evaluated, and projects selected. NCDEQ may contact you or your organization for clarification and/or supplemental information, so please ensure the contact information you provide is accurate; applicants will have 10 business days to respond to any such requests.

This is a competitive application process. To be considered for funding in Phase 1 (2018 to 2020), completed applications must be received by email **no later than 5:00 p.m. Eastern Standard Time on September 30, 2019**. The downloadable proposal application will be available on https://deq.nc.gov/VWsettlement-RFP. If you have any questions about this application, please contact NCDEQ at daq.NC_VWGrants@ncdenr.gov with subject title line: "Diesel Bus & Vehicle Programs RFP" prior to submitting your application and well in advance of the submission deadline.

Projects initiated prior to submitting a proposal application are not eligible for funding. Project initiation activities that can disqualify an application include approving the total cost of the project in a budget, ordering vehicles/equipment or hiring a contractor/vendor to complete the project. Submittal of a proposal application is not a guarantee that a proposed project will be funded.

Awarded applicants must:

- Unless otherwise stipulated, procure the new vehicles or equipment and take delivery no later than two years from the date of a signed executed contract with NCDEQ;

- Unless otherwise stipulated, procure and install replacement engines into existing vehicles or equipment no later than two years from the date of a signed executed contract with NCDEQ;
- Render the replaced vehicles and engines inoperable by cutting a 3-inch hole in the engine block for all engines and, if a vehicle is being replaced, disabling the chassis by cutting the vehicle's frame rails completely in half which must be completed within six months of delivery of the new vehicle or engine replacement (see instructions on NCDAQ Form 001, Certificate of Destruction[5]);
- Agree to keep the replaced or repowered vehicle or equipment operational in North Carolina, with emission controls in place, for a minimum of five years;
- Provide all required documentation required for reimbursement; and
- Each grantee must submit a semiannual progress report starting no later than six months after execution of contract for the duration of contract. The report shall include a summary of the current project status (including the actual or projected termination date, project development and implementation activities, and any modifications to the project).

Emissions Reductions Quantification

NCDEQ will quantify the emission reductions resulting from the project by using the information included in a complete application. If information on emission reductions from a specific piece of equipment/engine is available from the vendor, this should be included as an attachment to the application. Emission reductions will be quantified using the USEPA Diesel Emission Quantifier [6]. While there are other tools for quantifying emissions, NCDEQ will use the EPA tool as the standard for this process. If you are having trouble gathering the required information for this application, please contact NCDEQ at daq.NC_VWGrants@ncdenr.gov with subject title line: "Diesel Bus & Vehicle Programs RFP" well in advance of the submission deadline as we may be able to provide some assistance.

Project Awards

Applicants selected for funding shall have two years to complete their project from the date of a signed executed contract with NCDEQ. If an application shows that the project cannot be completed in two years, it will not be selected for funding. If, after two years, a project has not been completed, funds will no longer be guaranteed for the project and the applicant will need to reapply. Finally, the majority of Eligible Mitigation Actions require the existing vehicle and/or engine to be rendered permanently inoperable. From Appendix D-2 of the VW State Trust Agreement:

> "Scrapped" shall mean to render inoperable and available for recycle, and, at a minimum, to specifically cut a 3-inch hole in the engine block for all engines. If any Eligible Vehicle will be replaced as part of an Eligible project, scrapped shall also include the disabling of the chassis by cutting the vehicle's frame rails completely in half.

Public Data

All applications are public record per North Carolina General Statutes §132-1, except for "confidential" or "trade secret" data as defined and classified in North Carolina General Statutes §66-152(3) and must be indicated as such by the applicant at the time of the initial application submittal.

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[5] NC DAQ Form 001 can be found at https://deq.nc.gov/vw-settlement/forms

[6] The USEPA Diesel Emission Quantifier is available at: https://cfpub.epa.gov/quantifier

V. Use of Funds - Restrictions

1. **Original Equipment/Vehicle:** No funds awarded under this RFP shall be used to cover expenses to replace or repower non-diesel equipment or vehicles.
2. **Expenses Incurred Prior to the Project Period:** No funds awarded under this RFP shall be used to cover expenses incurred prior to the project period set forth in any contract agreement funded under this RFP.
3. **Emissions Testing:** No funds awarded under this RFP shall be used for emissions testing and/or air monitoring activities (including the acquisition cost of emissions testing equipment) or for research and development activities.
4. **Fueling Infrastructure:** No funds awarded under this RFP shall be used for fueling infrastructure, such as that used for the production and/or distribution of biodiesel, compressed natural gas, liquefied natural gas, and/or other fuels (except for projects where an all-electric vehicle or equipment with charging infrastructure is replacing a diesel vehicle or equipment).
5. **DERA Option**: Pursuant to 42 U.S.C. 16132(d)(2), no funds awarded under the DERA Option shall be used to fund the costs of emission reductions that are mandated under federal law. Trust funds shall not be used to meet non-federal mandatory cost share requirements, as defined in applicable DERA program guidance, of any DERA grant. Projects are subject to all DERA program requirements[7].
6. **Fleet Expansion:** Funding under this RFP cannot be used for the purchase of vehicles, engines, or equipment to expand a fleet. Engine, vehicle, and equipment replacement projects are eligible for funding on the condition that all of the following criteria are satisfied:
    a. The replacement vehicle, engine, or equipment will continue to perform the same function and operation as the vehicle, engine, or equipment that is being replaced.
    b. The replacement vehicle, engine, or equipment will be of the same type and similar gross vehicle weight rating or horsepower as the vehicle, engine, or equipment being replaced.
7. **Equipment/Vehicle Operation Requirements**: Original equipment or vehicle must have been in operation in North Carolina for the previous 12 months to be eligible. Funding under this RFP cannot be used for original and replacement equipment or vehicles that do not operate in the state of North Carolina for at least 70% of the time.
8. No funds awarded under this RFP shall be used to retrofit, replace, upgrade or install idle reduction technologies for non-DERA Option projects.
9. Third-party administrative costs will not be permitted as part of this mitigation.
10. Long haul truck (trucks that travel more than 200 miles) replacement or repowers are not eligible for funding.
11. No project under this award is eligible to receive funding for a project that is already receiving funding from another state's share of the VW Trust funds.
12. Auxiliary Power Units (APUs) are only eligible for off-road equipment and vehicles under the DERA Option.
13. All replacement equipment and vehicles must be purchased and not leased.
14. No funds awarded under this RFP shall be used for paper studies or research projects.

[7] US EPA Clean Diesel State Allocations, https://www.epa.gov/cleandiesel/clean-diesel-state-allocations

VI. Proposal Application Review Process

A combination of evaluation factors will be considered during the proposal application review process. NCDEQ will consider the overall cost effectiveness and the potential for early implementation and completion of each proposal application. Project proposal applications will be selected for funding based on a set of criteria reflecting funding priorities for the program. These factors will guide NCDEQ in giving priority to projects that perform highest overall. To properly compare projects, the proposal applications will be categorized by urban/suburban and rural based on the NC Rural Center Classification[8] found in Appendix A.

The NCDEQ will consider factors such as, but not limited to:

- **Cost Effectiveness (VW$ funded per NOx tons reduced):** Cost effectiveness is based on applicant-provided information using the USEPA Diesel Emission Quantifier tool and if applicable, matching funds.
- **NOx Emissions Reductions**: NOx emission reduction calculation based on applicant-provided information using the USEPA Diesel Emission Quantifier tool.
- **Location of Project:** Number of VW subject diesel vehicles registered in project area.
- **Environmental Justice Areas:** Projects in environmental justice (EJ) areas and other communities that have historically borne a disproportionate share of the adverse impacts of air pollution from sources including, but not limited to transportation hubs/corridors, ports, rail yards, truck stops, airports, terminals, and bus depots, see Appendix B.
- **Co-Benefits:** Additional emission reductions beyond NOx emissions (e.g., PM 2.5, VOC, GHG and CO), see Appendix C.
- **Sustainability of the Project:** Expected longevity of the funded equipment and additional long-term benefits.
- **Timeliness:** Ability to complete project within two years of award (e.g., project complete and providing emission reductions).
- **Useful Life of Vehicle/Equipment Replaced:** Vehicles/equipment with less than 3 years of useful life remaining will not be excluded but may score lower than those with 3 years or more of useful life remaining.
- **Other Selection Criteria:** Additional criteria employed as necessary for the selection of proposal applications (e.g., innovative technology or approaches).

Although cost-sharing/matching is not required as a condition of eligibility under this competition, NCDEQ will evaluate proposal applications based on a leveraging criterion. Leveraging is generally when an applicant proposes to provide its own additional funds/resources or those from third-party sources to support or complement the project they are awarded. Any leveraged funds/resources, and their source, must be identified in the proposal application. Leveraged funds and resources may take various forms. Voluntary cost share is a form of leveraging. Voluntary cost sharing is when an applicant proposes to legally commit to provide contributions to support the project when a cost share is not required. Applicants who propose to use a voluntary cost share must include the contributions for the voluntary cost share in the project budget. If an applicant proposes a voluntary cost share, the following apply:

- A voluntary cost share may only be met with eligible and allowable costs.
- The recipient may not use other sources of federal funds to meet a voluntary cost share unless the statute authorizing the other federal funding allows.

[8] https://www.nccommerce.com/blog/2015/07/09/rural-center-expands-its-classification-north-carolina-counties

- The recipient is legally obligated to meet any proposed voluntary cost share that is included in the approved project budget. If the proposed voluntary cost share does not materialize during grant performance, NCDEQ may reconsider the legitimacy of the award and take appropriate action as authorized.

VII. Project Scoring Criteria

A 100-point scale will be used to evaluate eligible proposal applications. Scores will be used to develop final recommendations. Proposal applications will be evaluated and ranked according to the following criteria:

Cost Effectiveness (VW$ funded per NOx tons reduced): Cost effectiveness is based on applicant provided information using the USEPA Diesel Emission Quantifier[9] and if applicable, matching funds. Under this criterion, projects are ranked from most cost effective to least cost effective (i.e. $/amount of NOx reduced per year). Urban/Suburban projects and Rural Projects will be ranked separately. • Top 15%: 30 points • Next 15%: 25 points • Next 15%: 20 points • Next 15%: 15 points • Next 15%: 10 points • Last 25%: 5 points	30
NOx Emissions Reductions: Ranked highest to lowest; NOx emission reduction calculation based on applicant-provided information using the USEPA Diesel Emission Quantifier tool. Urban/suburban projects and rural projects will be ranked separately. • Top 15%: 30 points • Next 15%: 25 points • Next 15%: 20 points • Next 15%: 15 points • Next 15%: 10 points • Last 25%: 5 points	30
Location of Project: How many affected VW vehicles were registered in project area? • Greater than 1,000: 20 points • 501-1,000: 15 points • 101-500: 10 points • 0-100: 5 points	20
Environmental Justice • See Appendix B for county scores and a detailed description of how county scores are determined.	10
Co-Benefits: Additional emission reductions beyond NOx emissions (e.g., PM 2.5, VOC, GHG, and CO) • See Appendix C for sample vehicle scores and a detailed description of how co-benefits will be determined by vehicle and fuel type.	10
Other Criteria: To be considered for funding, projects MUST show evidence of meeting at least two out of three of the following threshold criteria: • Sustainability: Longevity of funded equipment. Minimum of five years. • Timeliness: Ability to complete project within two years of award. • Useful Life of Vehicle to be Replaced: Vehicle should have at least three years of useful life remaining.	Yes/No
Total Points Possible	**100**

[9] The USEPA Diesel Emission Quantifier is available at: https://cfpub.epa.gov/quantifier/index.cfm?action=main.home

VIII. Reimbursement of Expenses

Grant payments will be disbursed as **reimbursements after the work is completed, verified and approved**. Verification will occur via site visits by NCDEQ staff and/or photographs supplied by the grantee verifying the scrappage of the original equipment/vehicle. Before reimbursement, awardees must submit the information listed below after project completion. After NCDEQ approval of the final documentation, NCDEQ will process the application for payment. Required documentation:

- Provide a signed payment request, on letterhead, for the amount to be reimbursed (a template will be provided on our webpage, https://deq.nc.gov/vw-settlement/forms;
- Copies of detailed invoices of all eligible project costs;
- Proofs of payment of all eligible project costs associated with the project;
- Render the replaced vehicles, equipment and engines inoperable by cutting a 3-inch hole in the engine block for all engines and, if a vehicle is being replaced, disabling the chassis by cutting the vehicle's frame rails completely in half which must be completed within six months of delivery of the new vehicle or engine replacement (see instructions on NCDAQ Form 001, Certificate of Destruction) provided on our webpage, https://deq.nc.gov/vw-settlement/forms;
- Payee contact information.

IX. Reporting Requirements

Semiannual Reporting Requirement

All project award recipients will be required to submit semiannual reports on the status of their project to NCDEQ until the final project report is submitted. Semiannual reports must be submitted to NCDEQ within 14 days after the end of each reporting month (June 30 and December 31). Failure to submit required reports will result in NC DEQ suspending the acceptance of any new applications from the applicant. A template for the semiannual report will be provided on the website, https://deq.nc.gov/vw-settlement/forms.

Final Report Requirements

Grantees are required to submit a final project report to NCDEQ. A template for the final project report will be made available by NCDEQ on our webpage, https://deq.nc.gov/vw-settlement/forms.

X. Program Contact Information

Inquiries related to the project requirements, application, application requirements, and other aspects of this RFP should be directed to: Daq.NC_VWGrants@ncdenr.gov.

Appendix A: Urban/Suburban and Rural County Designations in North Carolina

The Rural Center has defined the counties in North Carolina based on population densities as either urban, suburban, or rural. The Rural Center uses the following definitions in classifying counties:

Rural: There are 80 counties with population densities of 250 people per square mile or less, according to 2014 U.S. Census population estimates. These counties are home to a little more than 4 million people (41% of the state population).

Regional city or suburban counties: There are 14 counties with population densities between 250 and 750 people per square mile. These counties account for 2.4 million people (25% of the state population).

Urban: There are six counties with population densities between 750 and 1,933 people per square mile. These counties account for 3.3 million people (34% of the state population).

Using the Rural Center classification for counties, urban counties account for the largest population of subject VW vehicles with 41% of the total. Rural counties account for 32% of the vehicles and regional city or suburban counties account for 27% of the VW vehicle population.

Table A-1 is a list of all 100 North Carolina counties with their designation based on the above definitions.

Table A-1: County Classifications in North Carolina

County Name	**County Classification**
Alamance	Suburban
Alexander	Rural
Alleghany	Rural
Anson	Rural
Ashe	Rural
Avery	Rural
Beaufort	Rural
Bertie	Rural
Bladen	Rural
Brunswick	Rural
Buncombe	Suburban
Burke	Rural
Cabarrus	Suburban
Caldwell	Rural
Camden	Rural
Carteret	Rural
Caswell	Rural

Table A-1: County Classifications in North Carolina

County Name	County Classification
Catawba	Suburban
Chatham	Rural
Cherokee	Rural
Chowan	Rural
Clay	Rural
Cleveland	Rural
Columbus	Rural
Craven	Rural
Cumberland	Suburban
Currituck	Rural
Dare	Rural
Davidson	Suburban
Davie	Rural
Duplin	Rural
Durham	Urban
Edgecombe	Rural
Forsyth	Urban
Franklin	Rural
Gaston	Suburban
Gates	Rural
Graham	Rural
Granville	Rural
Greene	Rural
Guilford	Urban
Halifax	Rural
Harnett	Rural
Haywood	Rural
Henderson	Suburban
Hertford	Rural
Hoke	Rural
Hyde	Rural
Iredell	Suburban
Jackson	Rural
Johnston	Rural
Jones	Rural
Lee	Rural
Lenoir	Rural
Lincoln	Suburban
McDowell	Rural

Table A-1: County Classifications in North Carolina

County Name	County Classification
Macon	Rural
Madison	Rural
Martin	Rural
Mecklenburg	Urban
Mitchell	Rural
Montgomery	Rural
Moore	Rural
Nash	Rural
New Hanover	Urban
Northampton	Rural
Onslow	Rural
Orange	Suburban
Pamlico	Rural
Pasquotank	Rural
Pender	Rural
Perquimans	Rural
Person	Rural
Pitt	Suburban
Polk	Rural
Randolph	Rural
Richmond	Rural
Robeson	Rural
Rockingham	Rural
Rowan	Suburban
Rutherford	Rural
Sampson	Rural
Scotland	Rural
Stanly	Rural
Stokes	Rural
Surry	Rural
Swain	Rural
Transylvania	Rural
Tyrrell	Rural
Union	Suburban
Vance	Rural
Wake	Urban
Warren	Rural
Washington	Rural
Watauga	Rural

Table A-1: County Classifications in North Carolina

County Name	County Classification
Wayne	Rural
Wilkes	Rural
Wilson	Rural
Yadkin	Rural
Yancey	Rural

Appendix B: Environmental Justice Scoring

The Environmental Protection Agency defines environmental justice (EJ) as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." (US EPA). Historically, people of color and people of low-income, along with other vulnerable populations, have been disproportionately exposed to harmful pollutants.

NCDEQ has developed a quantifiable Social Vulnerability Index (SVI) using statistical and geographic information system (GIS) methods to show which counties in North Carolina have the highest concentrations of particularly vulnerable populations. This SVI was developed using datasets from the US Census Bureau and the NC Department of Commerce.

Table B-1: Data Sources

Description of Dataset	**Year**	**Source**
American Community Survey 5-Year Estimate	2016	US Census Bureau
North Carolina Development Tier Designations	2018	NC Department of Commerce

The American Community Survey data was reclassified by creating four "bin" ranges for each demographic group. This was done by separating the data into quartiles and assigning a value of 1 to 4. The NC Department of Commerce sorts counties into three distinct county tiers based on average unemployment rate, median household income, percentage growth in population, and adjusted property tax base per capita. The forty most distressed counties are considered Tier 1, the 40 counties which are identified as mildly distressed are Tier 2, and 20 least distressed counties are Tier 3. To add this data into the overall vulnerability index in a meaningful way, the inverse of the county tier number designations was used to give Tier 1 (most distressed) a designation of "3", and so on and so forth. To create the final vulnerability index, the American Community Survey data was summed (1, 2, 3 or 4) for each county along with the inverse of the NC Department of Commerce County Tier rankings to create resulting totals for each county. Then the resulting totals were placed into their own quartile bins and assigned a final EJ score of 1 to 4.

Mobile NOx emissions in tons per year from the 2014 National Emissions Inventory (Version 2)[10] were arranged from highest to lowest and divided in the quintiles and points were assigned to each of the quintiles, found in Table B-2.

Table B-2: Points Assigned for Mobile NOx Quintiles

Mobile NOx Emissions (tons per year)	**Percentile**	**Points**
0 - 131	0-20 % rank	0
132 - 270	21-39 % rank	1
271 - 435	40-59 % rank	2
436 - 771	60-79 % rank	3
772 +	80-100 % rank	4

[10] https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data

There are a few incidences where the SVI did not accurately correspond to the tier county designations and the concentration of some demographic groups in the region. Therefore, to assign a score, the final SVI scores were weighted at 1.5 and the Mobile NOx Bin scores weighted at 1. The scores were summed by county. The final county scores are found in Table B-3.

Table B-3: Final Scores by County

2014 NEI County NOx Emissions (Tons)	County	Classification	Mobile NOx Bin	SVI	EJ Final Score
874.2	Alamance	Suburban	4	2	7
132.1	Alexander	Rural	1	2	4
50.5	Alleghany	Rural	0	4	6
157.2	Anson	Rural	1	3	5.5
122.8	Ashe	Rural	0	2	3
102.6	Avery	Rural	0	2	3
243	Beaufort	Rural	1	3	5.5
143.8	Bertie	Rural	1	4	7
221.5	Bladen	Rural	1	4	7
659.2	Brunswick	Rural	3	1	4.5
1651.8	Buncombe	Suburban	4	1	5.5
524.4	Burke	Rural	3	2	6
1088.2	Cabarrus	Suburban	4	1	5.5
318	Caldwell	Rural	2	2	5
72.8	Camden	Rural	0	1	1.5
294.9	Carteret	Rural	2	1	3.5
142.7	Caswell	Rural	1	2	4
771.8	Catawba	Suburban	3	2	6
448	Chatham	Rural	3	2	6
148.3	Cherokee	Rural	1	3	5.5
81.1	Chowan	Rural	0	4	6
52.9	Clay	Rural	0	2	3
656.1	Cleveland	Rural	3	1	4.5
423.5	Columbus	Rural	2	4	8
422.6	Craven	Rural	2	2	5
1575.8	Cumberland	Suburban	4	3	8.5
205	Currituck	Rural	1	1	2.5
315.7	Dare	Rural	2	1	3.5
855.3	Davidson	Suburban	4	2	7
438.5	Davie	Rural	3	1	4.5
465.6	Duplin	Rural	3	3	7.5
1382.3	Durham	Urban	4	2	7
274.5	Edgecombe	Rural	2	3	6.5
1218.2	Forsyth	Urban	4	3	8.5
275.2	Franklin	Rural	2	2	5
1182.7	Gaston	Suburban	4	1	5.5
70.1	Gates	Rural	0	2	3
41.5	Graham	Rural	0	3	4.5

Table B-3: Final Scores by County

2014 NEI County NOx Emissions (Tons)	County	Classification	Mobile NOx Bin	SVI	EJ Final Score
422.5	Granville	Rural	2	1	3.5
124.7	Greene	Rural	0	4	6
2498.9	Guilford	Urban	4	2	7
459.7	Halifax	Rural	3	4	9
528.9	Harnett	Rural	3	2	6
650.7	Haywood	Rural	3	1	4.5
619.9	Henderson	Suburban	3	1	4.5
98.7	Hertford	Rural	0	4	6
162.8	Hoke	Rural	1	3	5.5
30.2	Hyde	Rural	0	2	3
1429.5	Iredell	Suburban	4	1	5.5
301.4	Jackson	Rural	2	2	5
1624.9	Johnston	Rural	4	1	5.5
101.7	Jones	Rural	0	4	6
281.8	Lee	Rural	2	2	5
270	Lenoir	Rural	1	3	5.5
389.7	Lincoln	Suburban	2	1	3.5
177.8	Macon	Rural	1	3	5.5
162.4	Madison	Rural	1	1	2.5
158.7	Martin	Rural	1	4	7
518.7	McDowell	Rural	3	2	6
5162.6	Mecklenburg	Urban	4	1	5.5
70.3	Mitchell	Rural	0	3	4.5
237	Montgomery	Rural	1	4	7
364	Moore	Rural	2	2	5
852.7	Nash	Rural	4	3	8.5
768.7	New Hanover	Urban	3	1	4.5
179.5	Northampton	Rural	1	3	5.5
821.3	Onslow	Rural	4	2	7
1218	Orange	Suburban	4	1	5.5
65.2	Pamlico	Rural	0	2	3
191.3	Pasquotank	Rural	1	2	4
493.4	Pender	Rural	3	1	4.5
82.7	Perquimans	Rural	0	2	3
145.7	Person	Rural	1	2	4
627.6	Pitt	Suburban	3	2	6
342.4	Polk	Rural	2	1	3.5
843.9	Randolph	Rural	4	2	7
294.7	Richmond	Rural	2	4	8
1019.7	Robeson	Rural	4	4	10
458	Rockingham	Rural	3	3	7.5
993.7	Rowan	Suburban	4	1	5.5
324.6	Rutherford	Rural	2	3	6.5
435.2	Sampson	Rural	2	4	8

Table B-3: Final Scores by County

2014 NEI County NOx Emissions (Tons)	County	Classification	Mobile NOx Bin	SVI	EJ Final Score
190.7	Scotland	Rural	1	4	7
302.9	Stanly	Rural	2	1	3.5
204.8	Stokes	Rural	1	1	2.5
745.4	Surry	Rural	3	3	7.5
129.1	Swain	Rural	0	3	4.5
131.1	Transylvania	Rural	0	1	1.5
44.2	Tyrrell	Rural	0	4	6
922.7	Union	Suburban	4	2	7
303.2	Vance	Rural	2	4	8
3953.2	Wake	Urban	4	1	5.5
189.2	Warren	Rural	1	4	7
85.1	Washington	Rural	0	4	6
276.9	Watauga	Rural	2	1	3.5
492	Wayne	Rural	3	2	6
358	Wilkes	Rural	2	2	5
558.2	Wilson	Rural	3	4	9
471.6	Yadkin	Rural	3	3	7.5
98	Yancey	Rural	0	2	3

Appendix C: Co-Benefits Scoring

While the primary goal of the North Carolina VW Mitigation Plan is to achieve NOx emission reductions from on and off-road diesel vehicles and equipment replacement, it is also recognized that newer vehicles and equipment may also have additional emissions reductions benefits (co-benefits) for other air pollutants (PM 2.5, CO, VOC and GHG). NCDEQ developed a sample matrix of expected co-benefit emission reductions (as determined by model year of vehicle replaced and vehicle type) for various types of eligible mitigation projects. NCDEQ also developed a co-benefit scoring matrix to assist applicants in estimating co-benefit replacement scores for different projects for various eligible replacement technology (diesel, compressed natural gas, liquid natural gas, liquid propane gas, electric vehicle and hydrogen fuel cell).

The USEPA Diesel Emissions Quantifier tool[11] was used to estimate air pollution reduction percentages for each vehicle for high and mid-baseline years (for most vehicles 1992 and 2009 for most vehicles). Only PM 2.5, VOC and CO were estimated using this tool. Defaults were used as input values (https://cfpub.epa.gov/quantifier/assets/docs/diesel_emission_quantifer_deq_default_values.pdf) to calculate percent reductions for upgrades to the given vehicles. These reductions were calculated based on the replacement of an old vehicle with a new vehicle, and reduction calculations were made using the estimated emissions of the new vehicle less the estimated emissions for the old vehicle.

The Argonne National Laboratory GREET tool[12] was used to calculate greenhouse gas (GHG) emission reductions. These calculations were made based on the difference between replacement of an existing fleet vehicle with alternate fuels versus a new diesel vehicle. This made a new diesel vehicle of each vehicle type (as opposed to an old vehicle of each type), the baseline of comparison for each reduction estimate.

Once these percentages were calculated and aggregated, points based on overall percentage reduction for each individual pollutant evaluated (maximum points 2.5 per pollutant) were assigned in Table C-1:

Table C-1: Point Values by Percent Reduction

Percent Reduction	Points
1 - 20	0.5
21 - 40	1
41 - 60	1.5
61 - 80	2
81 - 100	2.5

Points were then tabulated across all co-benefit pollutants and added to a maximum of 10 points to develop the co-benefits matrix below (Table C-2), which represents the types of vehicles expected to be replaced and the expected co-benefit point amount awarded. This table is only provided as a reference and is not intended to cover all possible categories of vehicles and equipment. NCDEQ staff will determine the actual co-benefit point totals based on the project-specific information provided in each application

[11] EPA Diesel Emission Qualifier, https://cfpub.epa.gov/quantifier/

[12] Argonne National Laboratory, https://greet.es.anl.gov/

and the project-specific output values from the USEPA Diesel Emission Quantifier and GREET tools on a per vehicle basis.

Table C-2: Co-Benefits Matrix (Example)

Upgrade Type	Diesel	Compressed Natural Gas	Liquid Natural Gas	Liquid Propane Gas	Electric Vehicle	Hydrogen Fuel Cell
School Bus (1992)	7.5	7.5	7.5	7.5	8.5	8.5
School Bus (2009)	4.5	4.5	4.5	4.5	8.5	8.5
Transit Bus (1992)	7.5	7.5	7.5	7.5	8.5	8.0
Transit Bus (2009)	5.0	5.0	5.0	5.0	8.5	8.0
Class Local Freight 4-5 (1992)	7.5	7.5	7.5	7.5	8.5	8.0
Class Local Freight 4-5 (2009)	4.5	4.5	4.5	4.5	8.5	8.0
Class Local Freight 6-7 (1992)	7.5	7.5	7.5	7.5	8.5	8.0
Class Local Freight 6-7 (2009)	4.5	4.5	4.5	4.5	8.5	8.0
Class Local Freight 8 (1992)	7.5	7.5	7.5	7.5	8.5	8.0
Class Local Freight 8 (2009)	4.5	4.5	4.5	4.5	8.5	8.0
Forklift (1992) (Construction)	7.5	9.0	9.0	9.0	9.5	9.0
Forklift (2009) (Construction)	7.0	8.5	8.5	8.5	9.5	9.0
Port Cargo Handling Equipment (1992) (cranes)	NA[13]	NA[12]	NA[12]	NA[12]	7.5	7.5
Port Cargo Handling Equipment (2009) (cranes)	NA[12]	NA[12]	NA[12]	NA[12]	7.5	7.5
Ocean Vessel Shorepower	NA[12]	NA[12]	NA[12]	NA[12]	7.5	7.5
Ocean Vessel Shorepower	NA[12]	NA[12]	NA[12]	NA[12]	7.5	7.5
Airport Supply Electrification (NA)	NA[12]	NA[12]	NA[12]	NA[12]	7.5	7.5
Backhoe/Loader/Bulldozer (1992)	7.5	7.5	7.5	7.5	7.5	7.5
Backhoe/Loader/Bulldozer (2009) (Tier 3)	7.0	7.0	7.0	7.0	7.5	7.5
Excavator (1992)	7.5	8.0	8.0	8.0	8.5	8.5
Excavator (2009)	7.5	8.0	8.0	8.0	8.5	8.5
Asphalt Paver (1992)	7.5	7.5	7.5	7.5	8.5	8.0
Asphalt Paver (2009)	7.5	7.5	7.5	7.5	8.5	8.0
Asphalt Roller (1992)	7.5	7.5	7.5	7.5	8.5	8.0
Asphalt Roller (2009)	7.5	7.5	7.5	7.5	8.5	8.0
Compactor (1992) (plate)	5.5	4.5	4.5	5.5	9.0	8.0
Compactor (2009) (plate)	5.5	4.5	4.5	5.5	9.0	8.0
Woodchipper/Spreader (1992) (crushing/processing)	6.0	6.0	6.0	6.0	8.0	7.5
Woodchipper/Spreader (2009) (Tier 2)	7.0	7.0	7.0	7.0	7.5	7.5
Grader/Maintainer (1992)	7.5	7.5	7.5	7.5	8.5	8.0
Grader/Maintainer (2009)	6.0	6.0	6.0	6.0	8.5	8.0
Concrete Mixer (1992)	7.5	7.5	7.5	7.5	8.0	7.5
Concrete Mixer (2009)	6.0	6.0	6.0	6.0	8.0	7.5

[13] Not applicable (NA) VW State Trust Agreement only allows for an all-electric upgrade option

Table C-2: Co-Benefits Matrix (Example)

Upgrade Type	Diesel	Compressed Natural Gas	Liquid Natural Gas	Liquid Propane Gas	Electric Vehicle	Hydrogen Fuel Cell
Switcher Locomotives (uncontrolled) (1970) (idle hours = 3,000, Fuel 21,000)	5.5	NA[14]	5.5	NA[13]	7.5	7.5
Switcher Locomotives (Tier 2) (1992) (HP 635)	5.5	NA[13]	5.5	NA[13]	7.5	7.5
Ferries (1973) (2 engines per vessel) (10,000 Gallons), (HP 49), (1,000 hours)	NA[15]	NA[13]	6.0	NA[13]	7.5	7.5
Ferries (1992) (2 engines per vessel)	NA[14]	NA[13]	6.0	NA[13]	7.5	7.5
Tugs (1973)	NA[14]	NA[13]	6.0	NA[13]	8.0	8.0
Tugs (1992)	NA[14]	NA[13]	6.0	NA[13]	8.0	8.0
Drayage Trucks (1992) (off-highway trucks)	7.5	7.5	7.5	7.5	8.5	8.0
Drayage Trucks (2009) (off highway trucks)	6.0	6.0	6.0	6.0	8.5	8.0

[14] Fuel type is not an option in USEPA Diesel Emissions Quantifier

[15] USEPA Diesel Emissions Quantifier does not have necessary data to calculate reduction, data will need to be provided by engine/equipment vendor

Appendix D: Acronyms and Abbreviations

CNG	Compressed Natural Gas
CO	Carbon Monoxide
DERA	Diesel Emission Reduction Act
g/bhp-hr	Grams per brake horsepower-hour
GHG	Greenhouse Gases
GIS	Geographic Information System
LNG	Liquid Natural Gas
LPG	Liquid Propane Gas
NCDAQ	North Carolina Division of Air Quality
NCDEQ	North Carolina Department of Environmental Quality
NOx	Oxides of Nitrogen
PM 2.5	Particulate matter 2.5 micrometers and smaller in diameter
RFP	Request for Proposals
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
VW	Volkswagen
ZEV	Zero-Emissions Vehicle

Appendix E: Definitions[16]

"Airport Ground Support Equipment" shall mean vehicles and equipment used at an airport to service aircraft between flights.

"All-Electric" shall mean powered exclusively by electricity provided by a battery, fuel cell, or the grid.

"Alternate Fueled" shall mean an engine, or a vehicle or piece of equipment which is powered by an engine, which uses a fuel different from or in addition to gasoline fuel or diesel fuel (e.g., CNG, propane, diesel-electric hybrid).

"Certified Remanufacture System or Verified Engine Upgrade" shall mean engine upgrades certified or verified by EPA or CARB to achieve a reduction in emissions.

"Class 4-7 Local Freight Trucks (Medium Trucks)" shall mean trucks, including commercial trucks, used to deliver cargo and freight (e.g., courier services, delivery trucks, box trucks moving freight, waste haulers, dump trucks, concrete mixers) with a Gross Vehicle Weight Rating (GVWR) between 14,001 and 33,000 lbs.

"Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Buses)" shall mean vehicles with a Gross Vehicle Weight Rating (GVWR) greater than 14,001 lbs. used for transporting people. See definition for School Bus below.

"Class 8 Local Freight, and Port Drayage Trucks (Eligible Large Trucks)" shall mean trucks with a Gross Vehicle Weight Rating (GVWR) greater than 33,000 lbs. used for port drayage and/or freight/cargo delivery (including waste haulers, dump trucks, concrete mixers).

"Drayage Trucks" shall mean trucks hauling cargo to and from ports and intermodal rail yards.

"Forklift" shall mean off-road equipment used to lift and move materials short distances; generally, includes tines to lift objects. Eligible types of forklifts include reach stackers, side loaders, and top loaders.

"Freight Switcher" shall mean a locomotive that moves rail cars around a rail yard as compared to a line-haul engine that move freight long distances.

"Generator Set" shall mean a switcher locomotive equipped with multiple engines that can turn off one or more engines to reduce emissions and save fuel depending on the load it is moving.

"Government" shall mean a state or local government agency (including a school district, municipality, city, county, special district, transit district, joint powers authority, or port authority, owning fleets purchased with government funds), and a tribal government or native village. The term 'State' means the several States, the District of Columbia, and the Commonwealth of Puerto Rico.

[16] Source (unless otherwise noted): APPENDIX D-2 TO PARTIAL CONSENT DECREE MDL No. 2672 CRB (JSC) https://www.vwcourtsettlement.com/wp-content/uploads/documents/DOJ/Approved%20Appendix%20D-2.pdf

Government may include any of the following entities:

1. Public School Districts.
2. Municipal Governments and Municipal Authorities.
3. Other NC State Agencies.
4. Tribal Government Agencies.
5. Local, Regional or Multi-State Air Quality or Transportation Organizations
6. Metropolitan or Rural Planning Organizations, as defined by the U.S. Department of Transportation at 49 U.S.C. § 5303(b), that are located in North Carolina.

"Gross Vehicle Weight Rating (GVWR)" shall mean the maximum weight of the vehicle, as specified by the manufacturer. GVWR includes total vehicle weight plus fluids, passengers, and cargo.

Class 1: < 6000 lbs
Class 2: 6001-10,000 lbs
Class 3: 10,001-14,000 lbs
Class 4: 14,001-16,000 lbs
Class 5: 16,001-19,500 lbs
Class 6: 19,501-26,000 lbs
Class 7: 26,001-33,000 lbs
Class 8: > 33,001 lbs

"Hybrid" shall mean a vehicle that combines an internal combustion engine with a battery and electric motor.

"Intermodal Rail Yard" shall mean a rail facility in which cargo is transferred from drayage truck to train or vice-versa.

"Local Freight Trucks" shall mean trucks used to deliver cargo and freight within a 200-mile radius of their base.[17]

"Plug-in Hybrid Electric Vehicle (PHEV)" shall mean a vehicle that is similar to a Hybrid but is equipped with a larger, more advanced battery that allows the vehicle to be plugged in and recharged in addition to refueling with gasoline. This larger battery allows the car to be driven on a combination of electric and gasoline fuels.

"Port Cargo Handling Equipment" shall mean rubber-tired gantry cranes, straddle carriers, shuttle carriers, and terminal tractors, including yard hostlers and yard tractors that operate within ports.

"Port" shall refer to facilities along navigable water for the loading and unloading of cargo from ships; places from which aircraft operate that have paved runways and passenger and cargo terminals which include baggage movement and passenger transit operations; or nodes in the larger goods movement supply chain, to include cruise terminals, bulk terminals, container terminals and intermodal container transfer facilities.

"Repower" shall mean to replace an existing engine with a newer, cleaner engine or power source that is certified by EPA and, if applicable, CARB, to meet a more stringent set of engine emission standards. Repower includes, but is not limited to, diesel engine replacement with an engine certified for use with

[17] Derived from definition of "long haul" from the Truck Carrier FLEET Tool: Data Collection Overview and Workbook, U.S. EPA SmartWay Transport Partnership

diesel or a clean alternate fuel, diesel engine replacement with an electric power source (grid, battery), diesel engine replacement with a fuel cell, diesel engine replacement with an electric generator(s) (genset), diesel engine upgrades in Ferries/Tugs with an EPA Certified Remanufacture System, and/or diesel engine upgrades in Ferries/Tugs with an EPA Verified Engine Upgrade. All-electric and fuel cell repowers do not require EPA or CARB certification.

"School Bus" shall mean a Class 4-8 bus sold or introduced into interstate commerce for purposes that include carrying students to and from school or related events. May be Type A-D.

"Scrapped" shall mean to render inoperable and available for recycle, and, at a minimum, to specifically cut a 3-inch hole in the engine block for all engines. If any Eligible Vehicle will be replaced as part of an Eligible project, scrapped shall also include the disabling of the chassis by cutting the vehicle's frame rails completely in half.

"Tier 0, 1, 2, 3, 4" shall refer to corresponding EPA engine emission classifications for off-road, locomotive and marine engines.

"Tugs" shall mean dedicated vessels that push or pull other vessels in ports, harbors, and inland waterways (e.g., tugboats and towboats).

"Zero Emission Vehicle (ZEV)" shall mean a vehicle that produces no emissions from the on-board source of power (e.g., all-electric or hydrogen fuel cell vehicles).