

Volkswagen Diesel Emissions Settlement

Maine Annual Report

2018

Maine Department of Transportation

State House Station 16

Augusta, ME 04333

Lead Agency Contact: David Gardner

In 2017, the U.S. District Court in Northern California finalized a partial consent decree to settle allegations that Volkswagen (VW) had installed defeat devices on 2.0 and 3.0-liter diesel vehicles sold or leased in the United States. Because of VW's actions, these vehicles allowed emissions of nitrous oxide (NOx) exceeding established vehicle emission standards. Of the total \$14.7 billion total settlement, \$2.7 billion is designated as Environmental Mitigation Settlement funds, which will be distributed to designated "beneficiaries", consisting of each state, Puerto Rico, Washington DC, and Native American tribes. Beneficiaries will carry out actions that improve air quality and result in health benefits by reducing NOx emissions. Although MaineDOT has been designated as the lead agency for fund distribution, input from the Maine Department of Environmental Protection, the Governor's Energy Office, and the public is critical to realizing the greatest gain for Maine's air quality.

Each Beneficiary's settlement amount is determined by the number of registered vehicles identified as having defeat devices, with Maine's allocation totaling just over \$21 million dollars. There are strict rules about how and when this money can be spent, detailed in Maine's Beneficiary Mitigation Plan (https://www.maine.gov/mdot/vw/docs/2018_Maine_Beneficiary_Mitigaion_Plan.pdf). The plan lays out the goals, available funding, funding priorities, funding allocations and anticipated benefits. Maine's Plan splits investments between 1) state multi-modal priorities (e.g. port handling equipment, ferry repowers, transit vehicle replacements), 2) contributions to the state's Diesel Emission Reduction Act Program (e.g., school bus replacements, lobster boat repowers), 3) actions that qualify for Appendix D-2 of the settlement (e.g., airport handling equipment replacement, school bus replacements, medium to heavy-duty truck repowers and replacements), and 4) 15% of Maine's allocation will be dedicated to expanding charging infrastructure for light-duty zero emission vehicles strategically throughout the state.

State Multi-Modal Priorities

MaineDOT conducted an application process for the state multi-modal priorities. Sixteen replacement diesel buses were awarded to three proponents. A spreadsheet showing the selected applicants is included in Appendix 1.

The state multi-modal priority also plans to replace four state drayage trucks for \$320,000.

Diesel Emission Reduction Act (DERA)

The Maine Department of Environmental Protection was awarded \$500,000 to assist with DERA to help reduce public health risk from exposure to harmful diesel exhaust by reducing emissions from more polluting diesel engines that do not meet current federal emission standards. The DERA 2018 State Workplan is included in Appendix 2. Another \$1,000,000 will be requested in the first quarter of 2019.

Appendix D-2

MaineDOT conducted an application process for the Appendix D-2 competitive funds. Applications were taken from July through September 2018. Twenty-nine replacement diesel buses were awarded. Two ash haulers and one dump truck were also awarded. A spreadsheet showing the selected applicants is included in Appendix 3.

Charging Infrastructure

Efficiency Maine was awarded one million for the Electric Vehicle Supply Equipment (EVSE). The Steering Committee consists of members from Efficiency Maine (lead), Maine Governor's Energy Office, Maine Department of Environmental Protection, and MaineDOT. The Committee decides on the use of the 15% VW funds dedicated to electric vehicle charging stations. The Phase 1 request for proposals (RFP) was issued in July 2018 and focused on the following seven charging sites (with two charging units at each site)

- Maine Turnpike Authority (MTA) - Kennebunk (Northbound and Southbound)
- MTA - West Gardiner
- Naples -Route 302
- Farmington -Route 2
- Bingham - Route 201 (anticipate changing to Skowhegan)
- Jackman - Route 201

These sites cover I-95/295 from New Hampshire (NH) to Augusta, Route 302 from NH to Portland, Route 2 from NH to Bangor, and Route 201 from Canada to Waterville. Charge Point won the bid and will be installing the units in 2019. The Phase 2 RFP will be going out in early 2019 to cover I-95 from Augusta to Bangor and Route 1 to Ellsworth.

The Matrix on the following page displays the Maine Beneficiary Plan Funding breakdown and the status after year one. MaineDOT has also posted information at the following link:

<https://www.maine.gov/mdot/vw/>

Category	WIN	% of Funds	Total Funds	2018 Funds Requested	2019 Anticipated	Status	Remaining Funds after 2019
MaineDOT Multimodal Transportation Improvements	23901.00	40	8.4 million	0	1.0 million	Round 1 application through Multimodal Planning complete - Award 16 buses. Also 4 drayage trucks.	7.4 million
Appendix D-2 Competitive	23901.10	25	5.3 million	0	2.2 million	Round 1 application through Environmental Office complete - Award 29 buses, 2 ash haulers, and 1 dump truck.	3.1 million
Diesel Emission Reduction Act(DERA) (DEP Air Bureau)	23901.20	20	4.2 million	\$500,000	1.0 million	Provide DEP with \$500,000 to assist with DERA (reduce public health risk from exposure to harmful diesel exhaust by reducing emissions from more polluting diesel engines that do not meet current federal emission standards).	2.7 million
Electric Vehicle Supply Equipment (Efficiency Maine)	23901.30	15	3.1 million	1 million	2.1 million	Provide Efficiency Maine Trust with 1 million for charging stations (95 corridor).	0
		100	21 million	1.5 million	6.3 million		13.2 million

Maine Beneficiary Mitigation Plan Funding Breakdown

Appendix 1

Maine State Multi-Modal Priorities

Multimodal Committee VW Environmental Mitigation Trust Fund Budget Tracking (WIN 23901.00)

Total Funding Available **\$8,400,000**

2018 Commitments:

IMT - Drayage Trucks (4) \$320,000

Transit - Bus Replacement Match Fall 2018 Round (16) \$677,314

Remainder to Allocate **\$7,402,686**

Transit Bus Action Proposal - Round 1

Application Date	Transit Provider	Proposal	Award Amount
11.15.18	Biddeford Saco Old Orchard Beach Transit Committee	Replace 2 trolleys	\$0
11.27.18	City of Bangor	Replace 2 buses	\$0
11.27.18	City of Bangor	Replace 5 buses	\$341,314
11.28.18	Downeast Community Partners	Replace 2 buses	\$84,000
11.27.18	Downeast Transportation	Replace 2 buses	\$0
11.26.18	Lewiston Auburn Transit Committee	Replace 1 bus	\$0
11.20.18	Western Maine Transportation	Replace 9 buses	\$252,000
Total			\$677,314

MaineDOT Transit Bus Proposal Summary - 2018 (Final)

Funding Request #	Application Submittal Date	Action Proponent	Action Location	Direct Recipient or Subrecipient	Action Category	Current Vehicle Class	Current Model Year	Current Make/Model	Mileage	Current Fuel Type	Proposed Fuel Type	Proposed New Vehicle	Attachment A Action Description	Attachment B NO _x Reduction	% NO _x Reduction	NO _x Reduction Efficiency (\$/#)
													Included	≥80%; 60-80%; <60%	%	
	11.15.18	Biddeford Saco Old Orchard Beach Transit Committee	Biddeford, Saco; Old Orchard Beach	Direct Recipient	Transit Bus	8	2000	Thomas Trolley	142,333	Diesel	Clean Diesel	Trolley	Included	>80%	94.40%	983,783
					Transit Bus	7	1999	Ford Molly Trolley	277,059	Gasoline	Clean Diesel	Trolley	Included	>80%	94.40%	983,783
	11.27.18	City of Bangor	Bangor	Direct Recipient	Transit Bus	8	2002	Orion	365,854	Diesel	Clean Diesel	29' Gillig	Included	>80%	94.40%	298,415
					Transit Bus	8	2002	Orion	459,811	Diesel	Clean Diesel	29' Gillig	Included	>80%	94.40%	298,415
					Transit Bus	8	2002	Orion	403,410	Diesel	Clean Diesel	29' Gillig	Included	>80%	94.40%	298,415
					Transit Bus	8	2002	Orion	422,502	Diesel	Clean Diesel	29' Gillig	Included	>80%	94.40%	298,415
					Transit Bus	8	2000	New Flyer	585,124	Diesel	Clean Diesel	29' Gillig	Included	>80%	94.40%	298,415
					Transit Bus	8	2000	New Flyer	584,977	Diesel	Clean Diesel	29' Gillig	Included	>80%	94.40%	298,415
					Transit Bus	8	2000	New Flyer	557,152	Diesel	Clean Diesel	29' Gillig	Included	>80%	94.40%	298,415

MaineDOT Transit Bus Proposal Summary - 2018 (Final)

Funding Request #	Application Submittal Date	Action Proponent	Action Location	Direct Recipient or Subrecipient	Action Category	Current Vehicle Class	Current Model Year	Current Make/Model	Mileage	Current Fuel Type	Proposed Fuel Type	Proposed New Vehicle	Attachment A Action Description	Attachment B NO _x Reduction	% NO _x Reduction	NO _x Reduction Efficiency (\$/#)
													Included	≥80%; 60-80%; <60%	%	
	11.28.18	Downeast Community Partners	Machias	Subrecipient	Transit Bus	7	2004	Thomas Bus	334,169	Diesel	Diesel	24+2	Included	>80%	89.90%	320,137
					Transit Bus	7	2004	Thomas Bus	256,282	Diesel	Diesel	24+2	Included	>80%	89.90%	320,137
					Transit Bus	7	2004	Thomas Bus	253,253	Diesel	Diesel	24+2	Included	>80%	89.90%	320,137
	11.27.18	Downeast Transportation	Trenton	Subrecipient	Transit Bus	6	2009	Chevy Goshen	220,345	Diesel	LPG	28+2	Included	Not Submitted	Not Submitted	Not Submitted
					Transit Bus	6	2009	Chevy Goshen	251,180	Diesel	LPG	28+2	Included	Not Submitted	Not Submitted	Not Submitted
	11.26.18	Lewiston Auburn Transit Committee	Lewiston Auburn	Direct Recipient	Transit Bus	6	2008	Chevy El Dorado	255,560	Diesel	Low Sulfur Diesel	30' Gillig	Included	Not complete	Not complete	Not complete

MaineDOT Transit Bus Proposal Summary - 2018 (Final)

Funding Request #	Application Submittal Date	Action Proponent	Action Location	Direct Recipient or Subrecipient	Action Category	Current Vehicle Class	Current Model Year	Current Make/Model	Mileage	Current Fuel Type	Proposed Fuel Type	Proposed New Vehicle	Attachment A Action Description	Attachment B NO _x Reduction	% NO _x Reduction	NO _x Reduction Efficiency (\$/#)
													Included	≥80%; 60-80%; <60%	%	
	11.20.18	Western Maine Transportation Services	Franklin, Oxford and Androscogg in County	Subrecipient	Transit Bus	6	2008	Chevy Goshen	265,817	Diesel	Diesel	24+2	Included	<60%	79.60%	722,938
					Transit Bus	6	2008	Chevy Goshen	157,524	Diesel	Diesel	24+2	Included	<60%	79.60%	722,938
					Transit Bus	6	2008	Chevy Goshen	172,183	Diesel	Diesel	24+2	Included	<60%	79.60%	722,938
					Transit Bus	6	2008	Chevy Goshen	172,772	Diesel	Diesel	24+2	Included	<60%	79.60%	722,938
					Transit Bus	6	2008	Chevy Goshen	119,999	Diesel	Diesel	24+2	Included	<60%	79.60%	722,938
					Transit Bus	6	2008	Chevy Goshen	187,249	Diesel	Diesel	24+2	Included	<60%	79.60%	722,938
					Transit Bus	6	2008	Chevy Goshen	166,217	Diesel	Diesel	24+2	Included	<60%	79.60%	722,938
					Transit Bus	6	2008	Chevy Goshen	124,710	Diesel	Diesel	24+2	Included	<60%	79.60%	722,938
					Transit Bus	6	2008	Chevy Goshen	125,985	Diesel	Diesel	24+2	Included	<60%	79.60%	722,938

Total - Decision Letters 01.10.19

MainedOT Transit Bus Proposal Summary - 2018 (Final)

Funding Request #	Application Submittal Date	Action Proponent	Attachment C Health Benefits	Attachment D Action Location	Attachment E Class 1 Areas	Attachment F Verified Funding	Funding requested	Required Match Funding	Offered Percent Match	Additional Leveraged Funding	Attachment G Action Schedule	Attachment H Benefit Period	Attachment I Certification	Total Application Score
			Included	Within area	Within 31 miles; Within 62 miles	Included					Included	Included	Included	
	11.15.18	Biddeford Saco Old Orchard Beach Transit Committee	Included	Not within area	N/A	20% match only	\$400,000	\$100,000	20%		Included	Included	Included	
			Included	Not within area	N/A	20% match only					Included	Included	Included	
	11.27.18	City of Bangor	Included	Within the area	Within 38.9 or 42.8 miles	Included	\$186,012	\$695,988	78.91%		Included - Milestone 1	Included	Included	
			Included	Within the area	Within 38.9 or 42.8 miles	Included						Included	Included	
			Included	Within the area	Within 38.9 or 42.8 miles	Included	\$341,314	\$1,934,111	85%		Included - Milestone 2	Included	Included	
			Included	Within the area	Within 38.9 or 42.8 miles	Included						Included	Included	
			Included	Within the area	Within 38.9 or 42.8 miles	Included						Included	Included	
			Included	Within the area	Within 38.9 or 42.8 miles	Included						Included	Included	
			Included	Within the area	Within 38.9 or 42.8 miles	Included						Included	Included	

MainedOT Transit Bus Proposal Summary - 2018 (Final)

Funding Request #	Application Submittal Date	Action Proponent	Attachment C Health Benefits	Attachment D Action Location	Attachment E Class 1 Areas	Attachment F Verified Funding	Funding requested	Required Match Funding	Offered Percent Match	Additional Leveraged Funding	Attachment G Action Schedule	Attachment H Benefit Period	Attachment I Certification	Total Application Score
			Included	Within area	Within 31 miles; Within 62 miles	Included					Included	Included	Included	
	11.28.18	Downeast Community Partners	Included	Not within area	Within 31 miles or over 62 miles	5339 grant application approved	\$84,000	\$336,000	80%		N/A	Included	Included	
			Included	Not within area	Within 31 miles or over 62 miles	5339 grant application pending					N/A	Included	Included	
			Included	Not within area	Within 31 miles or over 62 miles	5339 grant application pending					N/A	Included	Included	
	11.27.18	Downeast Transportation	Included	Within area	0 miles; within 64 miles	5339 grant application - not applied	\$75,000	\$225,000	75%		N/A	Included	Included	
			Included	Within area	0 miles; within 64 miles	5339 grant application - not applied					N/A	Included	Included	
	11.26.18	Lewiston Auburn Transit Committee	Included	Within area	N/A	22% match only in upcoming 5339 grant	\$332,000	\$93,000	22%		Included	Included	Included	

MainedOT Transit Bus Proposal Summary - 2018 (Final)

Funding Request #	Application Submittal Date	Action Proponent	Attachment C Health Benefits	Attachment D Action Location	Attachment E Class 1 Areas	Attachment F Verified Funding	Funding requested	Required Match Funding	Offered Percent Match	Additional Leveraged Funding	Attachment G Action Schedule	Attachment H Benefit Period	Attachment I Certification	Total Application Score
			Included	Within area	Within 31 miles; Within 62 miles	Included					Included	Included	Included	
	11.20.18	Western Maine Transportation Services	Included	Not within area	N/A	Included	\$252,000	\$1,008,000	80%		N/A	Included	Included	
			Included	Not within area	N/A	Included					N/A	Included	Included	
			Included	Not within area	N/A	Included					N/A	Included	Included	
			Included	Not within area	N/A	Included					N/A	Included	Included	
			Included	Not within area	N/A	Included					N/A	Included	Included	
			Included	Not within area	N/A	Included					N/A	Included	Included	
			Included	Not within area	N/A	Included					N/A	Included	Included	
			Included	Not within area	N/A	Included					N/A	Included	Included	
			Included	Not within area	N/A	Included					N/A	Included	Included	

Total - Decision Letters 01.10.19

MaineDOT Transit Bus Proposal Summary - 2018 (Final)

Funding Request #	Application Submittal Date	Action Proponent	Round 1 Award	Notes
	11.15.18	Biddeford Saco Old Orchard Beach Transit Committee	\$0	Consider in Round 2 with new application
	11.27.18	City of Bangor	\$0	
			\$341,314	Decision letter dated 01.10.19

MaineDOT Transit Bus Proposal Summary - 2018 (Final)

Funding Request #	Application Submittal Date	Action Proponent	Round 1 Award	Notes
	11.28.18	Downeast Community Partners	\$84,000	Decision Letter dated 01.10.19
	11.27.18	Downeast Transportation		Consider in Round 2 with new application
	11.26.18	Lewiston Auburn Transit Committee		Consider in round 2 with new application

MaineDOT Transit Bus Proposal Summary - 2018 (Final)

Funding Request #	Application Submittal Date	Action Proponent	Round 1 Award	Notes
	11.20.18	Western Maine Transportation Services	\$252,000	Decision Letter dated 01.10.19
Total - Decision Letters 01.10.19			\$677,314	

Appendix 2

Diesel Emission Reduction Act (DERA)



National Clean Diesel Campaign

Maine Clean Diesel Program

Project Manager and Contact Information

Organization Name	Maine Department of Environmental Protection
Project Manager	Lynne Cayting
Address	17 State House Station, ME 04333-0017
Phone	(207)-287-7599
Fax	(207)-287-7641
Email	Lynne.a.cayting@maine.gov

Project Budget from October 1, 2017 through September 30, 2019

	FY 2017	FY 2018
EPA Base Allocation	\$226,036	\$274,371
State Matching Funds	\$500,000	\$1,000,000
EPA Match Incentive	\$113,018	\$137,186
Mandatory Cost Share	\$1,192,752	\$2,005,260
TOTAL	\$2,031,806	\$3,416,817

The Maine Department of Environmental Protection (Maine DEP) seeks \$750,611 from U.S. EPA to fund the Maine Clean Diesel Program from October 1, 2017 through September 30, 2019. Maine DEP will over match the federal award using funds from the Maine allocation of the Environmental Mitigation Trust Agreement of the Volkswagen First Partial Consent Decree and therefore qualifies for the EPA match bonus funds. Maine will commit \$1,500,000 of the State’s Environmental Mitigation Trust Funds to the Maine Clean Diesel Program funded under the Diesel Emission Reduction Act (DERA) Program. The mandatory cost share is based on the assumption that most projects will have a 60% cost share. DERA projects can be found at <http://www.maine.gov/dep/air/mobile/cleandiesel.html>.

1) State Goals and Priorities

Maine is in attainment of all National Ambient Air Quality Standards. Maine has three designated Federal Class 1 areas which include Acadia National Park, Roosevelt-Campobello International Park and Moosehorn Wilderness Area. The Maine Clean Diesel Program’s goals and priorities are to maximize public health benefits by employing the most cost effective strategies to reduce diesel emissions. Reducing diesel emissions by replacing unregulated engines from locomotives and marine vessels is a primary goal, as these more polluting engines were built when engine emission standards were lax or non-existent. The school bus fleet is the largest public fleet in the State of Maine and continues to be a priority for the Maine Clean Diesel Program. However, we anticipate that school districts, municipalities and state agencies will apply for funding through the Environmental Mitigation Trust Agreement since up to 80% funding is allowed with a minimal cost share.

2) *Project Description*

The Maine Clean Diesel Program will fund those projects not listed as eligible mitigation projects specified in the Environmental Mitigation Trust Agreement (Trust Agreement) under Appendix D-2 of the First Partial Consent Decree with Volkswagen. Specifically, the State DERA Program will consider funding for marine repowers, nonroad engine or equipment replacement for construction, forestry or agricultural use, non-ocean going shore power and non-idling technologies for locomotives, long-haul trucks, and school buses. It is anticipated that the majority of the eligible applications will be for marine vessel repower projects.

MaineDOT is the lead agency for administering funds allocated from the Trust Agreement. Maine DEP in collaboration with MaineDOT drafted the Beneficiary Mitigation Plan (Plan) and submitted it to Wilmington Trust, the Trustee, on March 20, 2018. On April 20, 2018, MaineDOT submitted the first invoice to the Trustee requesting the \$500,000 state match for the Maine Clean Diesel Program.

The Maine DEP will continue to solicit for eligible applications for funding through both the DERA Program and eligible mitigation actions as outlined in Appendix D-2 of the First Partial Consent Decree with Volkswagen. Eligible projects selected through the Plan will also consider the State goals and DERA programmatic priorities.

Clean Marine Engine Program

The grant will continue to support the Clean Marine Engine Program with repowering Maine commercial fishing vessels. Maine Marine Trades Association (MMA) will continue to administer the program in collaboration with Maine DEP. The DERA 2017 sub-grant award to MMA is \$660,000 for repowering of approximately 28 vessels. The Maine DEP received to date eighteen eligible applications for the Clean Marine Engine Program of which twelve have since been completed. The annual oxides of nitrogen (NOx) and diesel particulate matter (PM) reductions from the eighteen vessels is respectively 10.2 tons and 0.8 tons.



The Department established the Clean Marine Engine Program in 2009 which replaces older in-service marine diesel engines which were built when engine emission standards were non-existent, with the cleanest available engine technology. The Clean Marine Engine Program meets the funding eligibility requirements and reimburses up to 40 percent of the costs to purchase and install an EPA certified Tier 3 engine.



The Maine DEP and its partner Maine Marine Trades Association (MMA) reach out to boat yards for eligible applications. The Maine DEP selects applications based on a cost effectiveness formula for reducing NOx and PM calculated from annual fuel use, rated horse power, engine emission factors and the cost of the new engine. Applicants are not allowed to increase the horse power beyond 20% so as not to negate any emission benefits, but are allowed to reduce their horse power to save fuel. Applicants must sign an Agreement under Maine's Unsworn Falsification Law that the vessel was not scheduled for repower during the grant period. The applicant must also submit a letter of guaranty from a financial institution for meeting the 60 percent cost share. Final reimbursement for 40 percent of the installation costs are paid after demonstration that the old engine has been destroyed. There are no local or state requirements mandating emission reductions from marine engines.

3. *Project Partners/Roles and Responsibilities*

MaineDOT is the lead agency for administering funds allocated from the Environmental Mitigation Trust Agreement. Maine DEP will administer the DERA grant and will work closely with MaineDOT to ensure the disbursement of funds from the Volkswagen settlement is timely for the reimbursement of completed eligible DERA projects.

Maine DEP will administer projects such as nonroad engine or equipment replacement and non-idling technologies for school buses and locomotives selected by the Maine Clean Diesel Program for funding through the State DERA Cooperative Agreement. It is anticipated that the majority of the eligible applications will be for marine vessel repower projects. Those marine repower projects will be administered by Maine Marine Trades Association, a non-profit organization which administers the Clean Marine Engine Program as our partner in a successful public/private partnership. MMTA will ensure that costs associated with the engine replacement project are eligible for reimbursement. MMTA will remain in close contact with the boat yards and applicants to ensure project delivery dates are met. Maine DEP will provide EPA with quarterly reports of the progress of the grant and a final report.

4. *Project Timeline*

Months from EPA Award

Activity	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Reimburse DERA 2017 repower projects															
Solicit and approve new applications															
Contracts															
Post on website															
Order engines/vehicles															
Engines/vehicles delivered															
Engine installation															
Old engines/vehicles scrapped															
Reimbursement															
Final report to EPA															X

5. *DERA Program Priorities*

The Maine Clean Diesel Program will ensure that the programmatic priorities in the Diesel Emission Reduction Act of 2010, 42 USC 16131 *et seq.*, and as defined in Section VIII.D of the Program Guide, will be met to the extent practicable. The principle objective is to achieve significant reductions from exposure to diesel emissions from vehicles engines and equipment.

Poor Air Quality Areas Maine is currently in attainment for meeting all National Ambient Air Quality Standards. Coastal Maine including Cumberland County is designated as an 8-hr ozone maintenance area. Portland is the only area in Maine with a metropolitan statistical area of 100,000 people or greater. Portland is within Cumberland County, the only county listed on EPA’s priority location for the DERA Program.

A goal of the Maine Clean Diesel Program is to reduce diesel engine emissions in areas of higher than average populations in Maine and near sensitive receptor locations such as neighborhoods and schools. The Maine Clean Diesel Program focuses on reducing emissions in areas that receive a disproportionate quantity of air pollution from diesel fleets in ports, rail yards, construction sites, and school bus depots/yards. Priority will be given to projects located in Cumberland County, which is listed on EPA’s designated counties of high priority as an 8-hour ozone maintenance area. In addition, priority will be given to projects that impact Federal Class I areas.

Maximize Public Health Benefits People with existing heart or lung disease, asthma, or other respiratory problems are most sensitive to the small particles in diesel exhaust. In 2007, the national Center for Disease Control reported Maine as having the highest incidence of adult asthma in the United States. Because of Maine’s geographic location, prevailing winds transport air pollutants to Maine from other parts of the country. Implementing new technologies will reduce diesel particulate emissions which exacerbate asthma and other respiratory illnesses.

Funding from this grant will replace non-regulated marine diesel engines which were built when engine emission standards were lax or non-existent, producing higher emissions than newer engines subject to more stringent standards. Funding from this grant can reduce diesel emissions from school buses carrying children that live in urban areas thereby reducing student exposure to harmful air toxics. Projects will be considered which reduce emissions from locomotives with engines that meet Tier 0 emission standards.

Cost-effective All marine engine replacement projects are selected based on cost-effectiveness. The Maine DEP ranks the applications based on a cost effectiveness formula for annual reduction of NOx and PM based on annual fuel use, rated horse power, engine emission factors and the cost of the new engine. Those boats that consume more fuel, have high engine emission factors, and moderate priced engines, rank the highest as the most cost-effective projects. Baseline emissions and projected emissions after repower were calculated using the same methodology as used by EPA’s *Diesel Emissions Calculator*. The ranking was based on California’s methodology to measure cost effectiveness by calculating the cost per ton of reduced NOx and PM weighted (x7) using a ten-year cost recovery factor.

Maximize Useful Life The longevity of heavy-duty diesel engines due to their durability is part of the challenge of reducing emissions. The new engines will be in service for a minimum of ten years which sustain the project benefits beyond the assistance agreement period. The Clean Marine Engine Program will maximize the useful life of the vessel by replacing a non-regulated engine with a Tier 3 compliant engine that will last a minimum of ten years.

6. Supports EPA’s Strategic Plan and Anticipated Outputs and Outcomes

The Maine Clean Diesel Grant Program supports the EPA Strategic Plan goal of reducing greenhouse gas emissions from vehicles and trucks. Selected projects will reduce emissions from diesel fleets, thereby reducing local and regional air pollution of criteria pollutants and air toxics. The marine repower projects also meet Goal 1 of the EPA Strategic Plan to improve air quality by replacing non-certified marine engines with EPA Tier 3 compliant engines. Potential selected eligible projects will include:

Activities	Outputs	Outcomes
Construction Equipment Engine Upgrade (EUG) or Replacement	Replace pre-2006 diesel engines/equipment or install EPA certified EUG kits	Estimated 20% reduction in NOx, 34% reduction in PM, and 61% reduction in HC emissions

Marine Engine Replacement	Install EPA Tier 3 marine engines on commercial vessels	Estimated 59% reduction in NO _x and 30 % reduction in PM emissions
Locomotive No-idling Technologies	Install APUs on short line locomotives	Estimated 50% reduction in diesel emissions

Short and medium-term outcomes: Select eligible projects that meet program goals to reduce exposure to harmful diesel exhaust emissions. Promote no-idling and no-idling technologies, alternative fuel engines, and engine/equipment replacement. Seek public/private partnerships.

Medium and long-term outcomes: Marine engines have a long life and the emissions reductions observed should be maintained throughout the useful life of the engine and beyond the grant period. The technologies implemented in this program will provide sustainable environmental and health benefits to Maine residents because locomotive and marine engines and construction vehicles will remain in service for many years and continue to operate in railyards, ports and construction sites; areas of disproportionate quantity of air pollution.

7. Sustainability of the State Program

Locomotive, construction, and marine engines will remain in service more than ten years providing sustainable environmental and health benefits to Maine residents. These engines have a long life and the emissions reductions observed should be sustained throughout the useful life of the replacement engines. All of the grant funded projects will have sustained emission benefits beyond the grant period. The benefits of the Maine Clean Diesel Program will be highlighted on the DEP website

<http://www.maine.gov/dep/air/mobile/cleandiesel.html>

Project Budget

	FY 2017			
Budget Category	EPA Allocation	Voluntary Match	Mandatory Cost Share	Total Project Cost
Personnel				
Project Manager \$30/hr. 720 hours		\$21,600		\$21,600
Fringe Benefits				
Project Manager \$16/hr.		\$11,520		\$11,520
Other				
Sub-award to MMTA	\$339,054	\$320,946	\$982,500	\$1,642,500
Projects selected through the Beneficiary Mitigation Plan		\$140,168	\$210,252	\$350,420
Total Direct Charges	\$339,054	\$494,234	\$1,192,752	\$2,026,040
Indirect Cost/ Indirect Rate is 17.41%		\$5,766		\$5,766
Grand Total	\$339,054	\$500,000	\$1,192,752	\$2,031,806

	FY 2018			
Budget Category	EPA Allocation	Voluntary Match	Mandatory Cost Share	Total Project Cost
Personnel				
Project Manager \$30/hr. 1000 hours		\$30,000		\$30,000
Fringe Benefits				
Project Manager \$16/hr.		\$16,000		\$16,000
Other				
Projects selected for the Maine Clean Diesel Program	\$411,557	\$945,283	\$2,005,260	\$3,362,100
Total Direct Charges	\$411,557	\$991,283	2,005,260	\$3,408,100
Indirect Cost/ Indirect Rate is 18.95%		\$8,717		\$8,717
Grand Total	\$411,557	\$1,000,000	\$2,005,260	\$3,416,817

Explanation of Budget Framework

The non-federal state match of \$1,000,000 is committed from the Volkswagen Environmental Mitigation Trust Agreement. The project manager expects to work on average 40-50% of the time soliciting projects, selecting applicants, tracking project completion and submitting reports. Since a majority of the funding for projects will be from the Trust Agreement, personnel hours are charged only to that account. Fringe benefits are for the Project Manager and include employee insurance, pension, and worker's compensation benefit plans.

MMTA will administer the repower of commercial marine vessels in FY 2017-2018 and will charge a nominal administration fee. We anticipate other applicants may request nominal administrative fees.

All mandatory cost share funds are non-federal funds from the project applicants. It is anticipated that project applicants will match 60 percent for the purchase and installation of engine replacements. Mandatory cost share was calculated by subtracting the Maine DEP administrative fees of \$54,717 and \$20,000 for projected applicant administrative fees from the grant total of \$1,411,557 for a revised direct cost of \$1,336,840. Therefore, the 60% mandatory cost share would be \$2,005,260.

Appendix 3

Appendix D-2 Competitive Funds

				1747392-v1-VW_APPD-2_2018-75.PDF	school bus	3	2007	193,644	diesel	diesel	n/a	10	10	79%	216,764	10	10	0	10					10	10	10	80		
				1747392-v1-VW_APPD-2_2018-75.PDF	school bus	3	2007	191,606	diesel	diesel	n/a	10	10	79%	218,972	10	10	0	10					10	10	10	80		
				1747392-v1-VW_APPD-2_2018-75.PDF	school bus	3	2009	137,296	diesel	diesel	n/a	10	10	79%	193,195	10	10	0	10					10	10	10	80		
				1747392-v1-VW_APPD-2_2018-75.PDF	school bus	3	2009	130,911	diesel	diesel	n/a	10	10	79%	202,110	10	10	0	10					10	10	10	80		
1	9/4/2018	AOS 47, Airline Community School	Orrington Dedham	https://www.maime.gov/moia/wv/docs/applications/MDOT_01-1747392-v1-VW_APPD-2_2018-75.PDF	school bus		2007	145,074	diesel	diesel	n/a	10	10	79%	150,839	10	10	5	10	\$37,920	\$9,600	21%	\$480	10	10	10	85		
5	9/10/2018	MSAD 58	Phillips	https://www.maime.gov/moia/wv/docs/applications/MDOT_01-1747063-v1-VW_APPD-2_2018-75.PDF	school bus		2003	137,471	diesel	diesel	n/a	10	20	90%	459,098	10	10	0	10	\$80,000	\$20,000	20%	\$0	10	10	10	90	selected	
35	9/21/2018	MSAD 49	Fairfield	https://www.maime.gov/moia/wv/docs/applications/MDOT_01-1747229-v1-VW_APPD-2_2018-75.PDF	school bus	4	2004	190,443	diesel	gasoline	n/a	10	20	90%	258,205	10	10	0	10	\$403,200	\$100,800	20%	\$0	10	0	10	80	Medical deadline extension	Not eligible given replacements fuel with gasoline
				1747229-v1-VW_APPD-2_2018-75.PDF	school bus	4	2005	191,321	diesel	gasoline	n/a	10	20	90%	179,789	10	10	0	10					10	0	10	80		
				1747229-v1-VW_APPD-2_2018-75.PDF	school bus	4	2005	184,882	diesel	gasoline	n/a	10	20	90%	185,709	10	10	0	10					10	0	10	80		
				1747229-v1-VW_APPD-2_2018-75.PDF	school bus	4	2007	230,932	diesel	gasoline	n/a	10	10	79%	221,374	10	10	0	10					10	0	10	70		
				1747229-v1-VW_APPD-2_2018-75.PDF	school bus	4	2007	192,123	diesel	gasoline	n/a	10	10	79%	167,485	10	10	0	10					10	0	10	70		
				1747229-v1-VW_APPD-2_2018-75.PDF	school bus	4	2008	207,069	diesel	gasoline	n/a	10	10	79%	175,289	10	10	0	10	10	0	10	70						