



National Clean Diesel Campaign

Maine Clean Diesel Program

Project Manager and Contact Information

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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 NOx 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.