MaineDOT

U.S. Environmental Protection Agency

Clean Ports Program: Climate and Air Quality Planning Competition Application

2024

Maine Department of Transportation

Section 1 – Project Narrative

Background – Purpose and Need

The Maine Port Electrification Clean Energy Planning Project is critical to the State of Maine's commitment to transitioning to clean energy at its ports to reduce the negative climate impacts vessels in port impose on local communities. This planning project is fully focused on pollution reduction at ports that see both cargo and cruise ship dockings in Maine. Maine ports see a mix of cruise ships and cargo vessels come into port every day which positions these Maine ports to serve as a catalyst for transformational change across local freight operations. A priority for MaineDOT has been to explore the feasibility of port electrification and shore power deployment at ports within the state.

In 2023, 118 cruise ships visited Portland with an average docking time of 8 hours which equates to nearly 1,000 hours of running onboard generators to power the hotel services on the ships. This energy consumption equates to more than 4,000 tons of GHG emissions by these ships while docked. Shore power can eliminate 100 percent of emissions produced while a vessel is docked. Utilizing shore power in ports can eliminate emissions entirely while a vessel is docked, significantly reducing its carbon footprint. There is a dearth of ports that offer shore power for cruise ships. Currently, only 29 ports worldwide offer at least one cruise berth with shore power, and another 36 are expected to have similar facilities by 2026. For context, Royal Caribbean reported visiting over 1,000 destinations globally in 2023. To combat climate change and lower emissions worldwide, governmental entities have begun to impose penalties on cruise ships that emit over the allotted emissions while in port. However, without adequate shore power, the ships have little option but to accept the penalty. Therefore, unless a substantial number of both homeports and ports of call adopt shore power, ships will continue to face penalties for emissions while docked. (BA Maritime: BA Perspectives: CII Could Impact Ports & Itineraries, May 15, 2024). The use of shore power allows the ship to power down its onboard generators used for hoteling, reducing both air pollution and CO_2 emissions.

This reduction in emissions is also evident in the commercial cargo vessel industry, which would greatly benefit as well from being able to use shore power as an alternative to relying on diesel while in port, as well as utilizing zero emissions (ZE) vehicles for most cargo operations shoreside. The reduction of port emissions by vessels and vehicles will positively impact communities that surround ports, especially disadvantaged communities. Not only will the use of shore power and ZE vehicles have a direct impact on the communities surrounding the ports but will have a broader impact on air quality adjacent to the ports.

Scope of Work – Tasks for Contracted Consultant

The State of Maine is seeking this planning grant because it intends to apply for future zero-emissions grant funding opportunities. Completing this planning study will allow the state to obtain cost estimates and the necessary planning to successfully apply for future grants or bond funding.

The primary focus of the work described in this grant application will be in the ports of Portland, Searsport, and Eastport. This study will also include Rockland, which hosts smaller cruise vessels at a municipally owned pier, will be valuable information for the state for future port electrification planning as destinations for smaller cruise ships increase in popularity along the Maine coast.

Upon receipt of grant funding, MaineDOT will solicit a Request for Proposals to select a qualified consultant to contract with to complete the scope of work. MaineDOT anticipates the work to take up to two years to complete, primarily because the work is in multiple locations throughout the state and

includes investigations into upgrading shore power connections, electric port equipment, and EV charging infrastructure. Throughout the performance period of the grant, MaineDOT will provide staff to ensure delivery of the project with the Maine Port Authority (MPA) and CruiseMaine (CM) acting as advisors to the project team. The consultant contract will include a lump sum price for the scope elements. The tasks that will be included in the consultant contract scope of work are:

Task 1: Grid Infrastructure, Capacity, and Transmission Overview and Analysis (Portland, Searsport, Eastport, Rockland)

A. Identify the requirements to get enough power from new substations to the ports to provide shore power to cargo and passenger vessels.
B. Conduct a transmission and distribution study at each port – like the one already completed for plugging in cruise vessels in Portland – for cruise and cargo operations in Searsport and Eastport, as well as for cargo operations at the International Marine Terminal (IMT) in Portland. Investigate electrical supply and demand for a scenario at each port that involves utilizing shore power and/or EV port equipment.
C. Identify options, where feasible, to use a microgrid to meet electrification needs.

Task 2: Emissions Inventory (Portland, Searsport, Eastport, Rockland)

It will be critical to complete an emissions inventory for each of the shore power designs for each of the ports. This project will develop a ports-wide inventory of emissions and factor in the total contributions to Maine carbon emissions. This task also requires the development of a Quality Assurance Project Plan (QAPP), under the guidance of EPA. This analysis and inventory will determine:

A. Development of a QAPP with guidance from EPA. At a high level, the QAPP should provide a framework for how the data in this task will be collected and used to provide valuable information about the benefits of port electrification in Maine.
B. Develop a port-wide inventory at each port location (Portland, Eastport, Searsport, and Rockland) including, but not limited to:
    a. A baseline emissions inventory following the EPA Port Emissions Inventory Guidance.
    b. Inventory of port equipment to include emissions relevant characteristics such as age, fuel type, engine tier, annual usage hours or mileage depending on the asset, and projected use of life.
    c. Projected future year emissions inventory following the EPA's Port Emissions Inventory Guidance The emissions inventory should consider three potential build scenarios.
        i. No build: This scenario means no shore power or EV equipment is installed in the four studied ports
        ii. Partial build out: This scenario means only a portion of the studied ports, or limited shore power and EV equipment is installed at the ports.
        iii. Full build out: This scenario means all four ports are fully equipped with shore power and EV equipment.
C. Collect and process data to inform emissions inventory including but not limited to:
    a. Stakeholder interviews and surveys to include terminal operators, vessel owners and operators.

b. Vessel registry and traffic information
c. Truck count and traffic study including origin and destination surveys
d. Fleet and duty cycle analysis
e. Emissions monitoring

D. The fence line for Emission's Inventories conducted at the four target ports will be consistent, where appropriate, with the defined physical fenced boundaries of each facility, where applicable. For facilities without physical fenced in areas, the area studied for the emissions inventory will include the vessel berth and pier, cargo handling areas, warehouse and office buildings, staging areas for port equipment, rail siding, and/or shuttle, motorcoach, bus queueing areas in the vicinity of the terminal. There is a mix of ownership among the four ports, however most of the port facilities involved in the study are publicly owned.
E. Generate inventories for the build (electrified), partial build, and non-build scenario (baseline).
F. Include particulate matter (PM2.5), nitric oxide and nitrogen dioxide (NOx), sulfur dioxide (SOx), and greenhouse gases (GHG).
G. Where appropriate, utilize any existing emissions monitoring devices currently in service at the four ports.

Task 3: Emissions Reduction Plan (Portland, Searsport, Eastport, Rockland)

Update the most recent comprehensive reports outlining port emissions reduction goals and strategies informed by scenario analysis and stakeholder engagement.

A. Conduct scenario analysis; estimate reductions of emissions based on the deployment of shore power and charging infrastructure for EV port equipment.
B. The plan should include reasonable targets for Maine ports to reduce emissions that are complimentary with established state goals for GHG and PM reduction to improve air quality.
C. Each port should have a unique plan that accounts for the different functions of each port and make recommendations that include the introduction of shore power and EV equipment in five-year intervals, projected out to 2050.

Task 4: Port Electrification Infrastructure Feasibility Studies (Portland, Searsport, Eastport, Rockland)

A. Identify gaps in the current port infrastructure to allow for the deployment of electrical infrastructure at Maine's deep-water ports for STS power for marine cargo and passenger vessels.
B. Assess the cost and feasibility of deploying shore power and EV equipment in all ports being studied. This plan will assess the feasibility of these emissions reducing initiatives. This will include what infrastructure upgrades will be needed as well as what equipment will be needed at passenger and cargo terminals in Portland, Searsport, Eastport, and Rockland. Cruise ship visits have been increasing in ports like Eastport. For the cargo terminals this task will also include requirements to power an electric fleet of port equipment including hustlers, reach stackers, cranes, and other equipment.
C. Identify infrastructure gaps for connecting a vessel to shore power at the four ports.

D. Include Rough Order of Magnitude (ROM) cost estimates for electrification infrastructure at the four ports.
E. Include preliminary investigation into permitting for port electrification infrastructure.

Task 5: Stakeholder Communication, and Engagement (Portland, Searsport, Eastport, Rockland)

There will be extensive community engagement as the project leads investigate the feasibility and benefits of installing shore power at the four ports and to better understand the potential for electrification and shore power throughout the State of Maine's marine transportation system and the benefits electrification can provide. This planning project will address community and stakeholder collaboration and communication to ensure continued meaningful engagement throughout the design and construction process as well as post-construction.

A. Stakeholder work will begin at the project onset and include a variety of community members and public and private entities who will provide valuable feedback and information to the project team by conducting interviews and meetings. MaineDOT staff will be responsible for directing the stakeholder outreach and managing the program.
B. Create and support a formal structure or process to get input from near-port communities and other stakeholders on climate and air quality planning activities. The project team assumes that at least one public meeting will be held at each port involved in the study during the performance period of the project. which will give stakeholders the opportunity to comment and provide feedback on the project. It is critical to the project partners that meaningful community engagement is maintained throughout the project and members of the public will be key stakeholders.
C. Conduct community needs and environmental justice assessments.
D. The QAPP that is developed in Task 2 of this project should also provide options for MaineDOT to consider implementation of emissions monitoring methods/devices for the collection of data to help assess the impacts of emissions reduction strategies in communities located near the ports.

Task 6: Workforce Development Plan

The project will include conducting workforce planning analysis to include engagement with workers, labor unions, and other stakeholders to collaboratively develop solutions for supporting high- quality jobs and workforce pathways. This planning project will evaluate what if any changes or impacts to the existing port workforce will happen because of shore power and EV equipment deployment.

The Maine Port Electrification Clean Energy Planning Project will focus on creating a clear plan to ensure equitable workforce development. This plan will include an assessment of the viability of and an implementation plan to institute paid internships, apprenticeship programs, and recruitment at community colleges, community organizations, and minority serving institutions to populate the workforce in the most equitable manner.

The project will make good use of previous and ongoing work from the State of Maine, such as the Clean Energy Partnership, to ensure that this new EPA grant funded effort to promote clean energy workforce is complimentary and enhances existing resources available to the public.

Task 7: Final Report and Website

The EPA grant funding will be used to perform work to complete each task of the *Maine Port Electrification Clean Energy Planning Project*. A final report will be issued at the end of the study which will include a website where the information will be available to the public online.

Project Locations

Not all of Maine's ports are equal in terms of the amount of commercial cargo and cruise passenger activity. Therefore, since MaineDOT will be completing all tasks for each port, there is a disproportionate amount of time that will be required for each of the ports. For instance, the Port of Portland has two separate cruise vessel facilities as well as a container terminal with a high potential demand for electricity to power port infrastructure. Comparatively, Rockland is a smaller port with only several dozen calls from small passenger vessels per year at a single municipally owned public landing. It is anticipated that the work effort will be broken down as follows:

1.) **Port of Portland** (Ocean Gateway Terminal, Maine State Pier, International Marine Terminal) – 45% of project effort. Portland has two cruise ship terminals and one container terminal that will be the focus of the study. The container terminal has a rail connection which is serviced by CSX.

2.) **Port of Searsport** (Mack Pt. Terminal) – 30% of project effort. Searsport has one dry cargo pier and a liquid pier, with infrastructure to handle a wide variety of different commodities. There is also a rail connection to the terminal which is serviced by CPKC railroad.

3.) **Port of Eastport** (Breakwater Facility, Estes Head Dry Cargo Facility) - 15% of project effort. Eastport has one cruise ship terminal and one dry cargo terminal.

4.) **Port of Rockland** (Rockland Public Landing) - 10% of project effort. Rockland has a municipal landing that can accommodate small passenger vessels (i.e. American Cruise Lines)

To complete this planning project, **MaineDOT is requesting $1,000,000 from the EPA Clean Ports Program: Climate and Air Quality Planning Competition**.

Project Timeline

MaineDOT anticipates the planning project to take three years to complete once notice to proceed is given from EPA. In year one, a Request for Proposals (RFP) will be issued for consultant services with an expertise in port electrification to assist the state with the Maine Ports Electrification Planning Study and development of a QAPP. Following consultant selection and contract award, the consultant and team will immediately begin work on the scope of the project which will include:

- Gathering data, site visits, engineering reviews
- Conducting initial investigations, interviews, and meetings
- Facilitating stakeholder work, and
- Begin drafting a community engagement plan.

For the first year of the project, development of the RFP and consultant selection and award and development and approval of the QAPP, as well as the start of data collection will be the priority. Year 2 will conclude the data collection, and begin the stakeholder work as well as the technical feasibility studies. The primary focus of the feasibility studies will be to evaluate the necessary upgrades to the Maine electrical grid as well as any port infrastructure required to accommodate shore power as well as EV infrastructure. Year 3 will wrap up the project, with finalization of technical work, stakeholder work, workforce development plan, and final report and website for the project. The timeline estimate for the project is:

Q1 2025 – Grant obligation. Begin RFP development.
Q2 2025 – Issue RFP. Execute consultant contract. Begin QAPP development. Progress report #1
Q3 2025 –Begin data collection at the four target ports.
Q4 2025 – Progress report #2.
Q1 2026 – Begin technical work.
Q2 2026 – Stakeholder and technical work in progress. Progress report #3
Q3 2026 – Stakeholder and technical work continue.
Q4 2026 – Progress report #4
Q1 2027 – Complete and finalize stakeholder work.
Q2 2027– Review of draft technical work, Progress Report #5
Q3 2027 – Conclude technical work and review draft data to begin finalization of study.
Q4 2027 – Review and acceptance of all deliverables, public website is live and final materials posted. Final reports to EPA, progress report #6.

Project Roles and Responsibilities

MaineDOT has been and will be the lead agency responsible for delivering the grant and sole recipient of EPA funding. MaineDOT will be joined by staff from the Maine Port Authority and CruiseMaine serving in a project advisory status. Both organizations are committed to collaborating with MaineDOT on the project and providing its principals time and resources, who have a significant interest in the advancement of electrifying Maine's ports. MaineDOT is a state agency, as well as the MPA, and CruiseMaine is a contracted initiative of the Maine Office of Tourism, which is housed within the Maine Department of Economic and Community Development (DECD). The roles and responsibilities of all state agencies collaborating on this planning project are:

Maine Department of Transportation (MaineDOT)*:* MaineDOT will receive and expend the EPA grant funding and provide oversight and management of the project and contracts to complete the work. MaineDOT will also ensure the administrative requirements of the grant are met and the scope of work outlined in the EPA federal grant agreement is delivered on time and within the assigned budget. MaineDOT will also be responsible for drawdowns and consultant invoices and reporting. Team members from the MaineDOT Bureau of Planning and the Office of Freight and Business Logistics will lead the project.

Maine Port Authority (MPA)*:* The MPA will provide support and advice to MaineDOT staff for the planning project. The MPA keeps relationships with stakeholders from all of Maine's deepwater ports, as well as owning and operating Maine's only container shipping facility, the International Marine Terminal. Feedback, data, and stakeholder interviews will be the key features of the MPA's input to the project. The MPA is a quasi-governmental state agency, however, its employees and agents are employed directly by the MPA, therefore MPA will perform an advisory role for the project.

MPA will not receive or expend any of the EPA grant funding.

CruiseMaine (CM)*:* Leadership from CM, the state's cruise marketing entity will also play a role in the project as a key advisor with specialized industry knowledge specific to cruise ship visitation to Maine's ports. CM will also participate in the community engagement work and will be one of the leading experts for the State of Maine on elements of the project that involve cruise ship shore power infrastructure and implementation. CM is an entity that is contracted through the State of Maine Department of Economic and Community Development and its officers and agents are not employees of MaineDOT, therefore the CM will provide an advisory role to MaineDOT for the project. CruiseMaine will not receive or expend any of the EPA grant funding.

Previously Completed Studies

There has been a great deal of work done prior to the application to engage stakeholders and plan for a zero emissions future in Maine's transportation sector. MaineDOT intends to use the EPA funding to conduct studies which expand on the work that has been previously done and is currently available to the public. There will also be an element of the planning study that analyzes other US and European ports to provide examples of how Maine can electrify its ports (i.e. Port of Miami, Florida, Port of Bergen, Norway, etc.)

There has been particular emphasis placed on developing shore power at Maine ports to reduce the pollution emitted by vessels that are in port. Several reports that have been published include,

1. *Shore Power, Sub-Transmissions Interconnection Feasibility Study, Final Report 2024*, Central Maine Power, https://www.cruisemaine.org/_files/ugd/6281f2_421b753a10814b3fb163801ccde342d1.pdf
2. *One Climate Future, Charting a Course for Portland and South Portland, Climate Action and Adaptation Plan, 2020,* Portland and South Portland, https://www.oneclimatefuture.org/wp-content/uploads/2021/02/OneClimateFuture_FinalJan2021_Downsized.pdf
3. *Maine Won't Wait*, contains strategies to meet Maine's climate goals and priorities including both greenhouse reduction measures and climate adaptation and resilience actions, https://www.maine.gov/future/sites/maine.gov.future/files/inline-files/MaineWontWait_December2020.pdf

Section 2 – Environmental Results – Outcomes, Outputs and Performance Measures

Expected Project Outputs and Outcomes

Anticipated Outputs and Outcomes		
Activities	Outputs	Outcomes
Develop inventory of Emissions for Portland, Searsport, Eastport and Rockland.	Completed or updated emissions inventory of each port.	Increased understanding of current port emissions
Assess the cost of feasibility of diesel emission reduction strategies	Plan for reducing future port emissions	Increased capacity to make strategic long-term investments to reduce emissions at the ports
Assess the capacity of Maine electrical grid to handle port electrification	Suggestions for upgrading the electrical grid	Maine plan to upgrade electrical grid to handle port electrification
Launch a formal process to get input from communities and other stakeholders on climate and air quality planning activities	Number of local residents, events and tools supporting engagement with local residents to ensure meaningful participation	Increased and sustained stakeholder participation; increased public participation and support for port activities
Engage port workers on climate and air quality planning activities	Plan to prepare the current workforce for changing port conditions; new workforce development initiatives	Better prepared workforce for future port activities
Prepare and publish documents summarizing the results of the planning process	Development of publicly available documents summarizing the results of the planning activities	Public engagement, outreach, and knowledge of port emissions and planning study.
Prepare and submit progress reports and a final report to EPA	Progress reports and a final report	Increased public awareness and assurance of project progression
Assess the costs of port electrification and shore power at three (3) deep water ports and one small port in Maine	Prepare cost estimates for deploying electrification and shore power at the three (3) deep water ports and one small port in Maine	Financial plan to electrify and deploy shore power at the ports

Performance Measures and Plan

MaineDOT will track, measure, and report progress towards achieving each of the outputs and outcomes anticipated above. This is a planning project and the timeline for completion is three years. The short-term results of the planning project will be to issue an RFP and contract with a consultant to complete the work and to gather information necessary to fully understand the process Maine will go through to deploy shore power and a fleet of zero emissions vehicles at ports. The long-term result will be a fully defined plan to electrify and deploy shore power at the ports that are subject to this grant proposal. This plan will include design, costs, stakeholder engagement, labor requirements and recommendations for necessary electrical grid upgrades. The plan will measure progress through adherence to the timeline and milestones

detailed below. MaineDOT has a proven record of being awarded federal funds and using those resources effectively and efficiently to gain the results promised.

The counties impacted by these outputs and outcomes listed above are the following: Cumberland, Knox, Penobscot, Waldo, and Washington counties in the State of Maine.

As noted, MaineDOT has a long history of receiving federal formula and discretionary funds and deploying resources to construct infrastructure projects throughout the state. As part of this, MaineDOT has significant experience overseeing its contractors and vendors in a wide range of activities from planning to construction. This planning project will be no different. MaineDOT will follow its procurement rules and regulations as well as those governing oversight of contractors and vendors to ensure the associated Federal requirements, such as compliance with Title VI/Civil Rights, Buy America, and Americans with Disabilities Act, are met. MaineDOT has an accounting office and process that will track and report project progress on expenditures and any purchases. MaineDOT likewise will track, measure and report accomplishments and proposed milestones and timelines using the same processes it has in the past to account for federal funds involved in infrastructure projects. MaineDOT will be responsible for tracking the progress of the project as well as submitting progress reports as required by EPA.

Section 3 – Programmatic Capability and Past Performance

Past Performance and Reporting Requirements

1. **2013 TIGER: Richmond-Dresden, Maine Kennebec Bridge Project** – Status: Complete. Assistance Agreement Number: FAIN 23JTDG1267400 Description: This project proposes replacing the existing bridge with a new structure located no more than 125 feet upstream from the existing bridge centerline to minimize potential impacts on private properties in the vicinity. This location also allows the swing span to remain operable during construction.

2. **2014 TIGER: Title – Sarah Mildred Long (SML) Bridge Replacement Project** – Status: Complete. Assistance Agreement Number: FAIN 231671000TTDG30 Description: The SML bridge is in poor condition and is prone to closures for emergency repairs. It has been posted to 20 tons since 2009, has Fracture-Critical Truss Spans, is "structurally deficient" and has reached the end of its effective service life. The rail crossing portion of SML provides the only viable transportation mode for the Portsmouth Naval Shipyard (PNS) to ship spent nuclear fuel from its servicing operations of the U.S. Navy's fleet of nuclear submarines.

3. **2016 TIGER: Title – Replacement of Beal's Island Bridge** – Status: Complete. Assistance Agreement Number: FAIN 232262600ATDG Description: The proposed bridge project will replace the existing structurally deficient bridge with a 1,061 foot-long precast, prestressed concrete Northeast Bulb Tee bridge. The new bridge roadway width will be increased to 28 feet curb-to-curb with 3-bar galvanized steel bridge rail. This new roadway, consisting of two 10-foot lanes and 4-foot shoulders, will not only enhance safety for trucks, emergency response vehicles, and school buses, but will create a safer crossing for bicyclists and pedestrians.

4. **2017 TIGER: Title - Penquis Region Rural Bridges Project** – Status: Substantially Complete. Assistance Agreement Number: FAIN 693JJ22040000TG00ME2262701. Description: The Penquis Region Rural Bridges Project ("Project") will fully replace three challenged highway bridges in a small area in the center of the Penquis Region in rural Piscataquis and Penobscot Counties. Each of these bridges is either structurally deficient, in a fracture critical state or both, and need to be replaced or incur significant maintenance and risk potential closure.

5. **2018 BUILD: Title – Maine Western gateways Project** – Status: Substantially Complete. Assistance Agreement Number: FAIN 693JJ22040000BDG0ME1728001. Description: The Project entails resurfacing and improving three roadways with numerous potholes and rutting in rural Franklin and Oxford Counties. The Project elements are linked together in a common objective; all three roads are pivotal routes through western Maine. Furthermore, each portion of the Project, five miles in total, requires completion to finish the final segment of longer road reconstruction projects already concluded by MaineDOT.

For each grant, MaineDOT assembles a project team to shepherd the application through the drafting, submittal, agreement and reporting processes. Upon execution of the grant agreement, MaineDOT staff begins compliance with the required grant reporting requirements and the submittal of the final reports as required at final closeout of the project. MaineDOT staff tracks and reports on performance measures listed in the grant agreement identifying the study area, performance targets and measurements, pre-project measurement dates, pre-project report dates and project outcomes report date.

MaineDOT Staff Involved with the Project

Matt Burns – Deputy Director, Office of Freight. Mr. Burns is an experienced marine transportation and port professional who will be overall PIC for the project and ensure delivery. Mr. Burns will be responsible for all aspects of the grant funded work and lead in preparing and submitting reports to EPA.

Chris Mayo – Director of Ports and Marine Transportation. Mr. Mayo is an experienced mariner and port infrastructure specialist who manages the state's port and marine grant programs and infrastructure projects occurring on the water.

Will Gayle – Assistant Director, Bureau of Planning. Will provides a support role as directed and has extensive experience in delivering federal grants.

Benny Baugh – Transportation Analyst. Benny provides a support role as directed and has extensive experience in federal grant administration and federal reporting.

Staff Outside of MaineDOT Acting in Advisory Roles

Chelsea Pettengill – Interim Executive Director, Maine Port Authority. Chelsea will provide valuable information related to Maine's ports to the project team and will work with the project team as requested.

Sarah Flink – Executive Director, CruiseMaine. Sarah has extensive knowledge of Maine's cruise industry and shore power infrastructure and will work with the project team as requested.

Section 4 – Environmental Justice and Disadvantaged Communities

Disadvantaged Communities

This project will spend 45 percent of the grant award on planning at the Port of Portland located in Cumberland County which meets the Disadvantaged Community definition found in the Clean Ports NOFO. Cumberland County also contains a High Ambient Diesel PM concentration. Therefore, according to the NOFO, this project does take place in a disadvantaged community.

Disadvantaged Communities: Areas with Air Toxics Concerns

Furthermore, according to the attached EPA Supplemental Application Cover Sheet Tab 2, Cumberland County contains at least one census tract where modeled ambient diesel PM concentration from the 2019 Air Toxics Screening Assessment is above the 80th percentile for census tracts nationwide.

Community Engagement Prior to Application and During Project

There has been extensive community engagement on behalf of the cruise industry as well as the cargo industry. Community engagement is standard practice at each port subject to this study. During the planning project, MaineDOT and its partners are committed to seeking out and facilitating the involvement of people potentially affected by the project; informing them about the project; giving them an opportunity to participate in the project, contribute and provide feedback; enabling them to influence decisions about future projects that may affect their environment and/or health. This is evidenced by the published studies resulting from the previous community and stakeholder engagement.

Community Engagement Prior to Project

Based on the City of Portland's One Climate Future Plan, CruiseMaine worked closely with elected officials and staff from the City of Portland to commission the utility's transmission and distribution study for shoreside electricity for cruise ships in Portland. This collaboration included a presentation to the City Council Sustainability and Transportation Committee; multiple meetings with the City's Sustainability Director regarding the scope of the study; and 3 presentations on the progress of the study, one of which included a shoreside tour of the piers in Portland as well as a demonstration tour of the shore power facilities in Brooklyn, New York.

Additional outreach to educate the public about shore power for cruise ships in Portland has included periodic calls with the Portland Climate Action Team, a Sierra Club-affiliated group whose mission is to take meaningful action to promote clean energy, reduce carbon pollution, and advance the steps of the One Climate Future plan in the city. CruiseMaine will also be hosting its annual stakeholder meeting on June 5, 2024, and will include an update on the shore power transmission study as well as anticipated next steps.

Maine DOT and the other partners on this Clean Ports initiative will build upon this outreach in ongoing phases of the project. CruiseMaine has helped to facilitate several shore power-themed tours including onboard a vessel in docked at the Port of Portland, as well as one in Brooklyn, New York. CruiseMaine has also hosted and co-hosted several meetings with city and state representatives to discuss the needs and technical requirements of deploying shore power. After CruiseMaine created a community feedback hotline in the City of Portland it received feedback from the community, much of it pertaining to concerns

about air emissions.

Long-term Community Engagement

Long-term community engagement is important to MaineDOT and its partners in this project. Part of the planning process will be to create a clear long-term plan for sustained community engagement that is predicated upon the previous extensive community engagement described above.

The planning process will determine the most effective way to ensure community engagement. The plan will recommend the engagement of a community liaison or equity program director who will be responsible for assisting port staff in ensuring the communities surrounding the ports are engaged throughout the process. Likewise, the plan will advise the state on the appropriateness of a community advisory committee. MaineDOT is committed to identifying a clear point of contact for each project who will be accessible to the community in a public forum to accept feedback both positive and negative. The planning project will determine if it will be necessary to have a different point of contact for each port project or if one point of contact will be able to address communities impacted by multiple ports. Finally, the budget arrived at through the planning process will detail the funding necessary to support and train community engagement staff. This will be an important aspect of the budget as it will be important to ensure community engagement staff are fully trained to maximize their effectiveness in ensuring there is strong communication between all stakeholders and community members.

Section 5 – Project Sustainability

The State of Maine is extremely focused on promoting renewable energy and reducing its carbon footprint in various ways from investing in and deploying offshore wind energy to electrifying ports to provide shore power. This project is a natural extension of its four-year climate action plan Maine Won't Wait and Maine's Climate Plan dashboard.[2] The purpose of this project is to make preparations, using data, analysis, and engineering, for future shore power, port electrification, and ZE equipment purchasing, at the four (4) ports that listed in this grant proposal.

MaineDOT intends to periodically update the emissions inventories as it moves through the process of electrifying and deploying shore power. This is a critical step in understanding the reduction of emissions being achieved and the ongoing impact electrification of the ports has on the surrounding communities.

This project will analyze the permitting requirements at a high level to understand the permitting required for each port to convert to shore power as well as the permitting agencies and each agency's respective role. This project will also determine the extent of the NEPA compliance review. The analysis of the NEPA compliance review will include estimated timeframes for completion and cost associated with each individual port.

Section 6 – Budget

The following is the budget for the planning project. Per the NOFO there is no cost breakdown for the contractor personnel. MaineDOT anticipates awarding one contract to one prime consultant to deliver the study. The prime consultant may utilize subconsultants to complete all the tasks listed in the scope of work. The estimates used in the project budget table are based on time and rates for specialized technical engineering consulting previously used in MaineDOT contracts. MaineDOT typically allows a capped direct salary rate for consultants at $85/hour. Overhead rate is typically 160%-170%, with an allowed profit/fee of 8%-10%. MaineDOT has provided an independent government estimate with fixed commercial rates to support the budget table. The estimate for each task allows a modest margin to accommodate potential mistakes, inflation, and greater or lesser actual costs.

Budget Table

Contractual - Maine Ports Electrification Planning Study	
Task	
1. Grid Capacity Analysis	$134,250
2. Emissions Inventory	$203,375
3. Emissions Reduction Plan	$120,975
4. Infrastructure Feasibility Study	$156,050
5. Stakeholder Engagement	$91,825
6. Workforce Development Strategy	$76,000
7. Final Report and Website	$85,025
Subconsultant – Shore Power Systems	$70,000
Subconsultant – Env/Permitting	$40,000
Web design and hosting	$15,500
Meetings	$5,000
Printing/Handouts	$2,000
Total Contractual Costs	$1,000,000
Total Project Cost	$1,000,000

Expenditure of Awarded Funds

All funding awarded to MaineDOT through the EPA grant will follow State of Maine and EPA requirements, guidelines, and best practices for expenditure of federal funding. This includes:

1.) Competitive procurement of all consultants that will be awarded contracts to conduct the work for the project. Upon notice to proceed from EPA, MaineDOT will create and solicit a request for proposals to receive competitive cost proposals, evaluate them, and ultimately award a fixed price contract to the lowest cost qualified bidder.

2.) The selected consultant will be required to enter into a MaineDOT contract, which will be managed by a Project Manager assigned by MaineDOT. The project manager will be responsible for ensuring that the contracted entity performs the required scope of work within the contract performance period, and all EPA and State of Maine requirements are upheld.

3.) MaineDOT has performed an independent government estimate to create the project budget.

4.) MaineDOT will provide oversight and project management for the grant work, and ensure MaineDOT, the contracted consultant, and all subconsultants follow EPA and State of Maine general and programmatic terms and conditions.

5.) MaineDOT will make good faith efforts to use Disadvantaged Business Enterprises (DBEs).

6.) MaineDOT will comply with Build America, Buy America provisions.

7.) MaineDOT will comply with EPA's requirements for submitting on-time semi-annual reports.

8.) The MaineDOT project manager will work with the MaineDOT Bureau of Finance and EPA to ensure all federal funding is expended and accounted for on time and within the approved project budget.

Section 7 – Attachments

Appendix A - Staff Resumes