EPA Diesel Emission Reduction Act (DERA)

Marine Vessel Engine Replacement Project Summary

The Connecticut Maritime Foundation, in cooperation with Interstate Navigation Co., D.B.A. The Block Island Ferry and the U.S. Environmental Protection Agency (EPA) replaced six (6) engines on the Block Island high-speed catamaran ferry *Athena* with new Tier 3 diesel marine engines. Replacing marine engines with new, cleaner, more efficient Tier 3 models provides significant nitrogen oxide (NOx), particular matter (PM) and greenhouse gas (GHG) emission benefits.

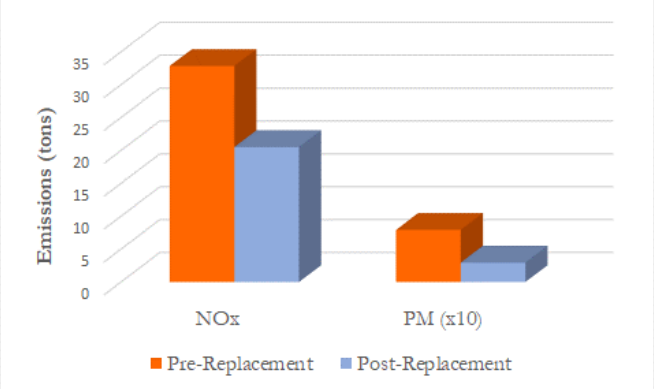
Project Goals

✓ Reduce exposure to diesel exhaust emissions, especially NOx and $PM_{2.5}$.

✓ Target reductions in areas receiving disproportionate impacts from diesel fleets.

Project Results

Exhaust emissions from the maritime industry in EPA Region 1 (New England) have disproportionate negative impacts on the local air quality due to the proximity of people and vessels. As estimated by the EPA Diesel Emissions Quantifier, the emission reductions for this project are estimated to yield ***annual health savings of $420,000*** to the people that live and work in near proximity to the piers as well as passengers. Because marine vessels have a very long useful life, emission reductions and health savings will impact the local airshed for years to come. Additionally, although a small step, the reduction in GHG emissions is beneficial in the context of coastal resiliency and sustainability. By realizing annual fuel-based and Black Carbon-based emission reductions of 133.4 and 1,194 tons, respectively this project contributes to the mitigation of climate change and potential rising sea levels.



Total Project Cost	EPA DERA Grant Funds	Capital Cost-Effectiveness ($/ton)	
		NOx	$PM_{2.5}$
$ 1,569,168.30	$ 690,864.58	$ 11,720	$ 290,294

Project Nimbleness: COVID-19, Fleet Partner Change and Supply Chain Impacts

The original project was awarded in August 2020 in partnership with another marine fleet; however, it became evident in 2021 that the continued impact of COVID-19 and recovery would not enable them to continue with the project. A substitute fleet was identified that provided emission reduction benefits over and above the originally approved project. To meet the project schedule and not delay work an additional year, the fleet decided to procure some of the equipment without going through a competitive procurement process. This made the equipment ineligible for grant reimbursement, but the fleet decided that it was necessary to accommodate the time to manufacture and deliver the equipment.

Lessons Learned

1. Maintaining communication with the fleet partner between the time that the application is submitted through award to determine whether circumstances have changed is critical.
2. It is important to develop and maintain contacts within the maritime community of potential partners that are interested in pursuing grant funding and engine replacement projects to be able to pivot if a partner is unable to continue.
3. Continue to evaluate supply chain constraints in the context of the project schedule and make sure the fleet partner is informed about the constraints that determine whether an expense is eligible or not.

THE BLOCK ISLAND FERRY

CONNECTICUT MARITIME FOUNDATION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY