

EPA Diesel Emission Reduction Act (DERA)

New Bedford Tugboat Engine Replacement Project Summary

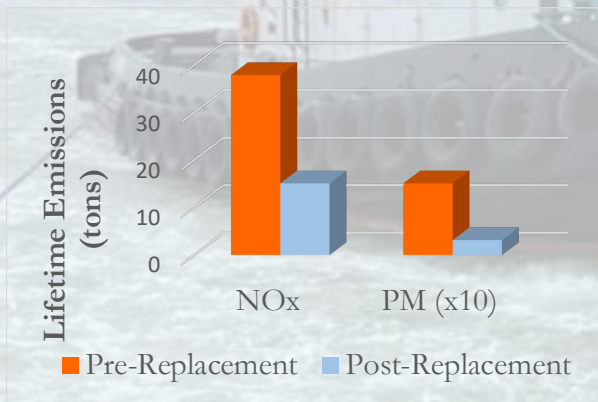
CLF Ventures (CLFV), in cooperation with 41° North Offshore, LLC and the U.S. Environmental Protection Agency (EPA) replaced the Tier-0 propulsion engines on the tugboat *Grizzly* and the Tier-0 generator set engines on the tugboat *SITKA* with Tier 3 engines and generator sets. Replacing marine engines with new, cleaner, more efficient Tier 3 models provides meaningful nitrogen oxide (NOx), and particulate matter (PM) emission benefits.

About 41° North Offshore, LLC

41° North Offshore provides marine towing and dredge support services in Region 1 waters as part of the Ports Sector where these vessels are an integral part of the marine industry. Operating from 41° North Offshore's port dock in the heart of New Bedford Harbor, they move barges and assist ship docking of large marine vessels within navigable waters of Buzzards Bay, and Narragansett Bay. Many of the vessels requiring assistance are docking at the Port of New Bedford to unload cargo, including bulk aggregate/sand, petroleum products as well as other breakbulk cargo. The Port of New Bedford is America's Number 1 fishing port as well as a major intermodal shipping center and a critical economic part of the community.

Project Results

Exhaust emissions from the maritime industry in New Bedford Harbor 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 are projected to yield **annual health savings of \$170,000** to the people that live and work in the densely populated New Bedford community – an estimated EPA return on investment in less than two years. Because marine vessels have a very long useful life, the emission reductions and health savings will impact the local airshed for years to come.



\$ 691,136 – Total Project Cost

\$ 316,539 – EPA DERA Grants Funds

Capital* Cost-Effectiveness

\$ 34,810 /ton NOx

\$ 469,204 /ton PM_{2.5}

* Equipment and installation costs

Health benefits estimated return on investment in <2 years.

COVID-19 Impact

COVID-19 had a profound impact on the project with supply chain impacts and work stoppages significantly altering the project. The project went through several iterations where different vessels were considered until the final project scope of the *SITKA* and *Grizzly* tugboats were finalized.

