Waterfront Electrification - Shore Power at Pier 66

This project benefits community and environmental health through investments in the reduction of maritime emissions and is an important step in our plan to provide reliable, efficient, clean, and resilient power throughout the harbor.

TOTAL COST AND PROJECT COST BREAKDOWN

$30 MILLION

PROJECT SUMMARY

- Perform on-site and off-site work to create dual voltage 20 MW shore power system for the single cruise ship berth at Pier 66 and other cruise and container ship facilities.
- Take next steps towards electrifying the Seattle waterfront, building upon success at Terminal 91 and the Smith Cove Cruise Terminal and plans to provide shore power at Terminal 5.
- Perform on-site and off-site work to create dual voltage 20 MW shore power system for the single cruise ship berth at Pier 66.
- Off-site costs include an upgrade to the utility for adequate 20 MW load capacity. This work amounts to more than one mile of trenching through busy downtown streets to lay new conduits, ductbanks, and cables.
- On-site work includes new conduits, cables, and the installation of new equipment such as transformers, switchgears, cables, and a cable positioning device at the bullrail.
- The feasibility and availability of using renewable energy and lower cost alternatives would be explored during design.

JUSTIFICATION

- To be the greenest and most energy efficient port in North America, shore power is emerging as the most effective technique to reduce Port-related maritime air emissions here in the Northwest.
- The project would significantly reduce greenhouse gas emissions from cruise vessels at berth, improving air quality for the highest density of employment and residences in its proximity.

BUSINESS PLAN OBJECTIVES

- Determine customer needs and deliver. Norwegian Cruise Lines has now retrofitted some of their vessels with shore power, therefore the Port of Seattle can leverage that investment to reduce emissions in our harbor.
- Reliability of shore power is important to our customers and higher capacity equipment would allow the Port to meet customer needs for the upcoming years as vessels' electrical demands increase.

SUSTAINABILITY AND LIFE CYCLE COSTS

The Port is in the process of implementing improvements to its project review and design process to integrate sustainability and equity into project development for capital development projects.

This project requires environmental permitting and review. Likely permits/approvals include:

- State Environmental Policy Act (SEPA) Review
- City of Seattle Shoreline Substantial Development Permit
- City of Seattle Construction Permit

Approvals from the U.S. Army Corps of Engineers and the Washington Department of Fish and Wildlife may also be required depending on location and the need of equipment. Complex permitting effort required.

ALTERNATIVES CONSIDERED AND IMPLICATIONS

An alternative to shore power is a requirement for the vessels to burn cleaner fuels while in the harbor. However the air quality and economic benefits are not as great and we now find ourselves in the situation of the customer having invested considerable capital into making the vessel ready to accept shore power.

Estimated Completion Date: 2022