PIER 66 CRUISE SHORE POWER

An innovative and green cruise solution to spur economic recovery

The Port of Seattle is on its way to become the greenest port in North America, with a goal to phase out seaport-related emissions by mid-century starting now. The Port is advancing an innovative solution to bring shore power to its downtown waterfront cruise terminal at Pier 66. This will provide clean electricity to ships at the dock and help sustainability grow the cruise industry in Seattle—an essential economic driver in the region. Shore power at Pier 66 will mean all three cruise berths in Seattle are electric!

Instead of digging up waterfront streets to lay power lines, the Port is running an underwater cable along the seafloor of Elliott Bay from the power source at Terminal 46 to the cruise ship plug at Pier 66. This $38 million project is cost effective compared to running power below waterfront streets and an innovative example of how the Port is advancing its commitment to a zero-emission maritime future. The new shore power connection will be ready for the 2024 Alaska cruise season and is expected to be widely, including by some of Seattle's largest cruise ships.

BACKGROUND

The Port operates the largest and fastest-growing cruise port on the West Coast, with more than 200 vessels in a typical season between April and October. The cruise industry is a significant economic driver in the region, contributing 5,500 jobs and $893.6 million each year in local business revenue. As the cruise industry grows locally, the Port recognizes its responsibility and the importance of balancing economic growth with sustainability.

Providing shore power connections to vessels allows them to turn off diesel engines while at the dock, which reduces air pollution and greenhouse gas emissions that contribute to climate change.

ENVIRONMENTAL BENEFITS

The shore power connection at Pier 66 is estimated to reduce annual emissions by:

- 54 metric tons of oxides of Nitrogen (NOx)
- 1 metric ton of diesel particulate matter (DPM) emissions
- 2,700 metrics tons of greenhouse gas (CO_2) emissions

INNOVATIVE APPROACH TO POWERING PIER 66

Submarine cables are used globally and here in the Puget Sound to provide power to our many islands. The Pier 66 Shore Power Project will connect cruise ships to the city's landside grid at Terminal 46, another port facility located about one-mile south of Pier 66.

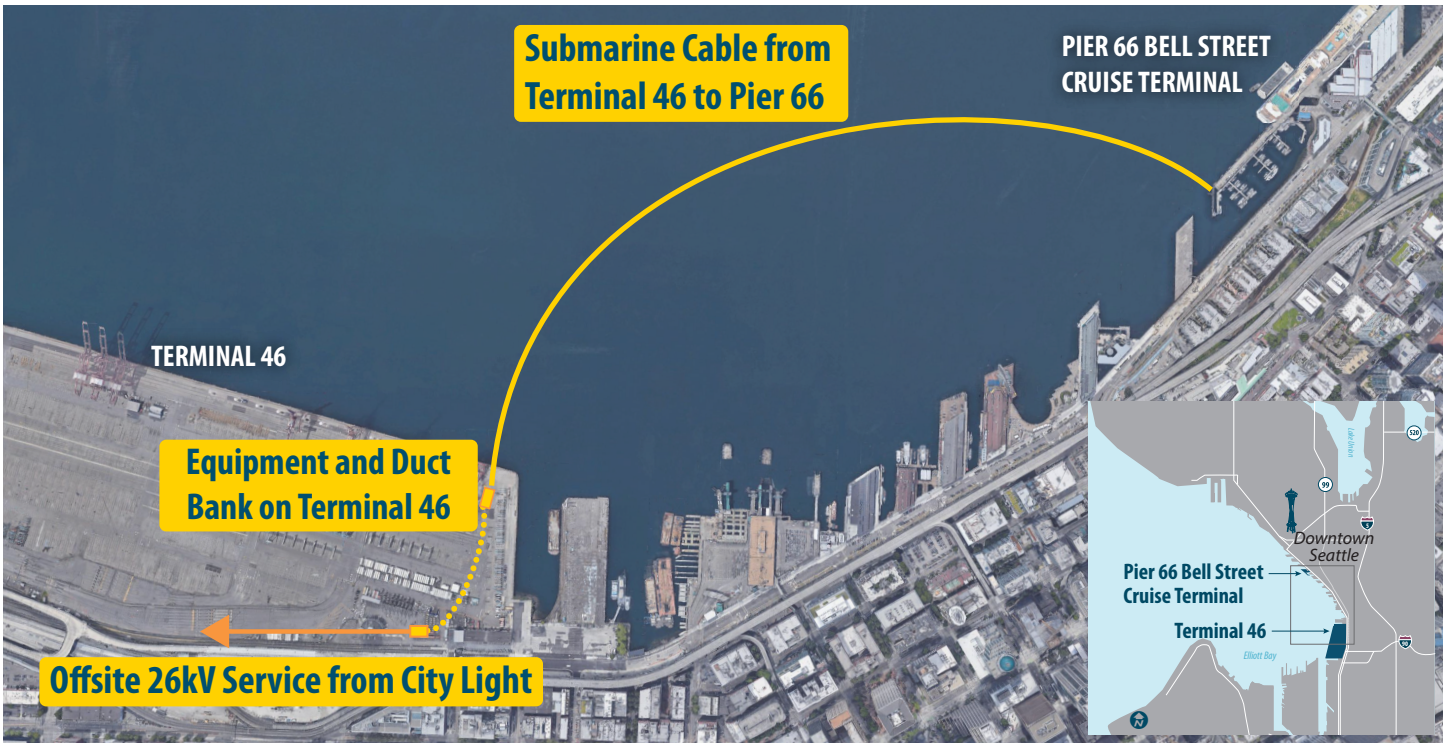

Figure 1. *The proposed underwater cable will extend along the seafloor of Elliott Bay from the Port's Terminal 46 where power is available, to Pier 66 where it's needed.*

Construction of the project's major components is expected to occur concurrently. Once complete, the anticipated lifespan of the shore power connection is 30-50 years.

- **Construction and installation of a submarine cable**. This includes termination structures, vaults, and switch gear at both ends (Terminal 46 and Pier 66), establishing a penetration and chase through the structural steel sheet-pile seawall at Terminal 46, connections, under dock slope and cable armoring, and materials.
- **Construction and installation of onsite infrastructure and equipment at Terminal 46 and Pier 66**. At Terminal 46, this includes installation of a 3,000-foot duct bank, vaults, switch gear, cabling, and metering. At Pier 66, this includes the installation of the termination structure, vault, switch gear, transformers, conduit runs, cabling, the vessel connection plug and a cable management system.

The project is a major piece of the Port's Waterfront Clean Energy Strategy, which will help improve air quality in historically underserved communities, modernize and optimize grid resources, support green maritime industry investments; increase resiliency of critical port infrastructure; and spur growth and employment in electrification, renewable fuels, and clean technology sectors.