



**COMMISSION
AGENDA MEMORANDUM**

Item No. 10e

ACTION ITEM

Date of Meeting December 14, 2021

DATE: November 15, 2021

TO: Stephen P. Metruck, Executive Director

FROM: Stephanie Jones Stebbins, Managing Director Maritime Division
Marie Ellingson, Cruise Operations and Business Development Manager
Fred Chou, Capital Program Leader, Waterfront Project Management

SUBJECT: Pier 66 Shore Power Project Long Lead Items and Seattle City Light Service Agreement

Amount of this request: \$7,600,000

Total estimated project cost: \$17,000,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to (1) advertise, award and execute a procurement contract for the purchase of a submarine cable and associated cable termination devices; (2) enter into a contract for the procurement of a proprietary shore power system; and (3) execute a service agreement with Seattle City Light to supply cruise shore power at Pier 66, for a combined amount not to exceed \$7,600,000 for a new total authorized amount of \$8,855,000 out of a total estimated project cost of \$17,000,000.

EXECUTIVE SUMMARY

The Port is an industry and regional leader in economic development and sustainability. As Seattle's cruise industry continues to grow, the Port recognizes its responsibility and the importance of concerted efforts to balance economic growth with sustainability. The Seattle Waterfront Clean Energy Strategic Plan and the recently adopted Maritime Climate and Air Action Plan provide a port investment strategy to protect the environment and improve community health. Through this approach the Port seeks to achieve its vision of being the greenest, most energy efficient port in North America and transition to zero-emission operations by 2050.

The provision of shore power for cruise ships, is the port's greatest opportunity to reduce greenhouse gas (GHG) emissions and improve local air quality. Currently, the port's Smith Cove Cruise Terminal at Terminal 91, which began operations in 2009, provides shore power at its two cruise vessel berths. The single berth facility at Pier 66's Bell Street Pier Cruise Terminal, which opened in 1999, does not have shore power for cruise vessels.

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To enable future shore power connections by shore power capable cruise ships that call on Pier 66, the Port has been working closely with Seattle City Light (City Light), Northwest Seaport Alliance, City of Seattle and other partners to plan and provide shore power to the Bell Street Pier Cruise Terminal. Shore power at Pier 66 will be accomplished through an innovative approach: installing a submarine cable from Terminal 46 to Pier 66 in lieu of bringing power through the congested City right-of-way. This approach significantly reduces project costs and avoids construction-related impacts to the waterfront.

The Port Commission authorized staff to proceed with the design and permitting phase of the project in December 2019. In Fall 2020, City Light informed the Port that the planned power supply connection to a feeder located in the S. King Street area adjacent to Terminal 46 was no longer available. Working closely with City Light and City of Seattle, the stakeholders explored and evaluated alternatives both on Port property and City right-of-way, which led to an agreement to connect power from the S. Atlantic Street area and route infrastructure through Terminal 46. Staff has since completed State Environmental Policy Act (SEPA) reviews this past summer, advanced the design, and submitted application packages for various environmental permits while engaging other important stakeholders such as the Tribal Governments, City of Seattle's Department of Construction and Inspection, Washington State Ferries, the Army Corps of Engineers, Department of Natural Resources, US and Washington State Fish and Wildlife, NOAA Fisheries, US Coast Guard, and the Puget Sound Pilots in the design development.

A submarine cable and shore power equipment are two key components to the very specialized shore power system and they require long lead time to procure and deliver. We received a competition waiver for the proprietary shore power equipment/system, same manufacturer at Terminal 91, to be located on Pier 66's apron structure. The submarine cable would be procured competitively. Approval of funding for these two long-lead items now will help ensure the cable and shore power system can be manufactured, delivered and ready for installation in time to meet the 2023 cruise season's shore power needs. This authorization will also allow the Port to enter into a service agreement with City Light to provide the necessary power to serve Pier 66's cruise berth.

JUSTIFICATION

The Bell Street Pier Cruise Terminal at Pier 66 is a single berth cruise facility in the heart of downtown Seattle's waterfront. Pier 66 is the Port's first cruise terminal—opened in 1999—and is homeport to Norwegian Cruise Line and its subsidiary Oceania Cruises. This terminal, along with the Smith Cove Cruise Terminal at T91 contributes significantly to the region's economy on an annual basis, generating more than 5,500 jobs and nearly \$900 million in total business revenue each cruise season.

In addition to its economic development mission, the Port is also an industry regional leader in sustainability and is committed to addressing global climate change and improving local air quality. In 2017 the Port's Commission adopted GHG reduction targets in alignment with the Paris Climate Agreement and has been planning and implementing projects and programs to achieve

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these critical air emission reductions. In October of this year, the Port updated its GHG reduction targets to be even more ambitious in recognition the climate crisis. In November of this year, the Port Commission adopted the Maritime Climate and Air Action Plan which identifies strategies and actions the Port can take over the next 10 years to achieve the Port's Century Agenda GHG target to reduce emission 50% by 2030 and to position the Port to phase out emissions entirely by mid-century. By installing shore power at the Port's Bell Street Cruise Terminal at Pier 66 by 2023, the Port will meet the Northwest Ports Clean Air Strategy objective to provide shore power at all major cruise berths by 2030 seven years early. The electricity needed to power ships berthed at Pier 66 is available from City Light without extensive infrastructure upgrades or transmission changes. This project does require the Port to invest in the new connection from the south, but the unique solution of utilizing a submarine cable for power delivery, instead of trenching in the right of way, significantly reduces the overall cost.

The Port's two shore power connected cruise berths at T91 are already resulting in significant emission reductions. In 2019, 89 percent of shore power capable ships at T91 successfully connected and avoided an estimated 4,300 metric tons (tons) of CO₂. In 2021, 97 percent of shore power capable ships at T91 successfully connected and avoided an estimated 1,700 tons of CO₂ during the limited cruise season due to the pandemic.

On a cost per ton basis, assuming a 27-year infrastructure life (2023-2050) and \$17 million cost, staff estimates the cost in 2021 dollars of the cumulative carbon reduction by 2050 to be approximately \$280 per tonne if 50% of all calls to Pier 66 connected and approximately \$140 per tonne if 100% of all calls to Pier 66 connected. If every single one of the shore power capable calls at Pier 66 in 2019 connected each year through 2050, the cost of emissions avoided would be an estimated \$192 per tonne. As a measure of comparison, the estimated cost per tonne of CO₂ reduced from the Port's purchase of Green Direct wind power from Puget Sound Energy was \$11 per tonne and the cost per tonne of conservation achieved through the Airport's Stage 3 Mechanical Upgrades was \$300 per ton.

To-date Port has been awarded three grants: EPA's Diesel Emission Reduction Act (DERA) grant; VW Settlement grant through Washington State Department of Ecology; and Centralia Coal Transition (TransAlta) grants, totaling \$2,930,000 and the \$1,000,000 TransAlta grant has already been received. Staff will continue to explore and seek additional state, federal, and private funding opportunities. Cost sharing strategies and discussions with the Port's leasehold partner, Norwegian Cruise Line Holdings, are continuing and will be further developed. Staff anticipates presenting the funding strategy to the Commission at the construction funding authorization request.

The Port is also working with Seattle City Light to draft a memorandum of agreement that would provide an overarching approach for costs and responsibilities in delivering the Pier 66 Shore Power Project, and for long-term operations and maintenance. The agreement also includes City Light's system extension within Terminal 46, which would further support the Port's waterfront

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electrification efforts and the Maritime Climate and Air Action Plan. Staff is aiming to present the memorandum of agreement to the Commission in Q1, 2022.

Staff will continue to explore cost savings opportunities during the remaining design efforts and coordinate with upcoming projects at both Pier 66 and Terminal 46.

Diversity in Contracting

The proprietary shore power equipment is to be supplied by Cochran, Inc., a certified Women’s Business Enterprise. Companies that manufacture the specialized submersible shore power cable are located abroad, where diversity-related certification programs do not exist, and therefore a diversity in contracting aspiration goal is not set for the cable procurement.

DETAILS

Scope of Work

The major components of the P66 shore power project’s work scope include the following:

- (1) Pier 66 onsite shore power infrastructure/equipment/system inclusive of shore power cable management device and system monitoring
- (2) Approximately one mile of submarine cable and associated armoring
- (3) Environmental impact mitigations as required by the agencies and Tribal Governments
- (4) Terminal 46 onsite shore power infrastructure/switch gears
- (5) Offsite shore power related infrastructure and feeders by City Light
- (6) Design development/permitting and environmental review for project
- (7) Develop agreement, shared funding and implementation strategies with lease holder and partner agencies

Schedule

Design and Permitting	January 2020 – Q3, 2022
Long lead item and City Light Service Agreement commission funding authorization (this authorization)	December, 2021
Memorandum of Agreement with Seattle City Light	Q1, 2022
Construction funding authorization(s)	Q2, 2022
Construction start	Q4, 2022
In-use date	2023 Cruise Season

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Cost Breakdown	This Request	Total Project
Design Authorization	0	\$1,255,000
Long Lead Items and City Light Service Agreement	\$7,600,000	\$7,600,000
Construction	0	\$8,145,000
Total	\$7,600,000	\$17,000,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Procure submarine cable that has shorter service life which would be more readily available and does not require the longer lead time.

Cost Implications: Initial cable cost is approximately 70% of the currently specified submarine cable

Pros:

- (1) Cable would be available in the US and require less lead time
- (2) Cable would cost less

Cons:

- (1) The service lives for the cables available in the US is expected to be less than half of the more durable submarine cable available outside the US. Cost of permitting and installation a second time to achieve the same service life would be very significant from a life cycle perspective

This is not the recommended alternative.

Alternative 2 – Defer procurement the submarine cable and shore power equipment once the pandemic settles down

Cost Implications: Unknown but may be some savings

Pros:

- (1) Cost of materials/equipment may be more stable and be less once the pandemic settles down

Cons:

- (1) Cost implications are unknown and the project completion would be delayed

This is not the recommended alternative.

Alternative 3 – Procure long lead items per plan and execute service agreement with Seattle City Light

Cost Implications: \$7,600,000

Pros:

- (1) Allow project to stay on schedule

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Cons:

- (1) Requires capital investment

This is the recommended alternative.

FINANCIAL IMPLICATIONS

<i>Cost Estimate/Authorization Summary</i>	Capital	Expense	Total
COST ESTIMATE			
Original estimate	\$17,000,000	\$0	\$17,000,000
AUTHORIZATION			
Previous authorizations	\$1,255,000	0	\$1,255,000
Current request for authorization	\$7,600,000	0	\$7,600,000
Total authorizations, including this request	\$8,855,000	0	\$8,855,000
Remaining amount to be authorized	\$8,145,000	\$0	\$8,145,000

Annual Budget Status and Source of Funds

This project has been included in the approved 2022 Plan of Finance under C800120 P66 Shore Power with a total project cost of \$17M.

The Port’s cost share of the project is being funded by the Tax Levy. Approximately \$3M of the project is funded with grants from U.S. EPA, WA Dept of Ecology, and TransAlta.

Ongoing discussions with the Port’s leasehold partner, Norwegian Cruise Line Holdings, may result in additional non-Port funding for the project. Updated funding information will be presented to Commission at the time of construction funding authorization.

Financial Analysis and Summary

Project cost for analysis	\$17M Total, \$14M in Port funds
Business Unit (BU)	Cruise Operations
Effect on business performance (NOI after depreciation)	<ul style="list-style-type: none"> • No incremental revenue or cost-savings is directly associated with this project • On-going maintenance expenses, if any, and cost-share are not yet known. • Estimated useful life of shore power infrastructure is 28 years, resulting in a depreciation expense of approximately \$630,000 annually. NOI after depreciation will reduce by that respective amount.

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IRR/NPV (if relevant)	N/A
CPE Impact	N/A

Future Revenues and Expenses (Total cost of ownership)

Potential opportunities for additional grant revenue and cruise line project investment will continue to be explored to offset the Port’s cost-share of the project. Cost-share of any ongoing maintenance costs and possible support from relevant partners will also be explored.

ATTACHMENTS TO THIS REQUEST

- (1) Presentation

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

December 4, 2019 – The Commission authorized funding for the design and permitting phase of the Pier 66 Shore Power Project in the amount of \$960,000 for a total authorization of \$1,255,000.