Port of Seattle

COMMISSION AGENDA MEMORANDUM

ACTION ITEM

Item No. 10c

Date of Meeting August 8, 2023

DATE: July 6, 2023

TO: Stephen P. Metruck, Executive Director

FROM: Linda Springmann, Director Cruise & Maritime Marketing
Kelly Purnell, Capital Project Manager, Waterfront Project Management

SUBJECT: **Terminal 91 Cruise Shore Power Mobile Cable Positioning Devices Procurement (C801293)**

Amount of this request:	$2,500,000
Total estimated project cost:	$2,750,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to enter a contract for the procurement of a proprietary shore power system consisting of two (2) mobile cable positioning devices for Pier 91. This authorization is for $2,500,000 of a total estimated project cost of $2,750,000. (CIP# C801293).

EXECUTIVE SUMMARY

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. To capitalize on the opportunity, the Port is committed to collaborating with cruise lines to increase the number of annual shore power-equipped homeport calls to 100 percent with a 100 percent connection rate by 2030. Reaching these goals will require innovation and enhanced technology. Currently, the Port's Smith Cove Cruise Terminal at Pier 91 provides shore power at its two cruise berths. However, the ability to connect to shore power is constrained due to the fixed-location technology.

The Terminal 91 Shore Power Extension project will add flexibility to the existing shore power connection points on the east and west berths and will increase the connection rate of shore power capable cruise ships by modifying the technology used today. Given the unique needs of each cruise vessel, leveraging the CPD innovation will enable more vessels to plug in. This approach ensures the highest optimization of the Port's assets and lifespan.

The first phase of the project requires the purchase of two (2) mobile cable positioning devices (CPD) and minimal modification to the current shore power system. This approach uses the existing cabling and switch gear from the fixed jib crane and plugs them into the new CPD. The

current jib cranes have minimal reach because of their fixed location and can only accommodate cruise ships with certain shore power plug configurations. Replacing the jib cranes on the east and west berths of Pier 91 with mobile CPDs will allow a higher opportunity for cruise ships to use shore power while at berth and will also result in operational flexibility in how ships use the berths.

A competition waiver has been executed to purchase the CPDs from Watts Marine, a local company leading in shore power technology around the globe. Watts Marine currently operates the shore power system and jib cranes at Pier 91 and will perform much of the work to transition to the mobile CPDs.

A second phase of the shore power extension project will be completed later to extend a new shore power cable and plug-in to the north end of the west berth. Planning for that phase of the project is anticipated to start in Q4 2023.

JUSTIFICATION

This project supports the following Century Agenda and Maritime Division strategic goals:

Century Agenda:

1. Responsibly Invest in the Economic Growth of the Region and All Its Communities
2. Be the Greenest and Most Energy Efficient Port in North America
3. Be a Highly Effective Public Agency

Maritime Division:

1. Asset Management
2. Sustainability

In addition, the project specifically addresses several near-term Ocean-Going Vessel (OGV) strategic actions of the Port of Seattle's Maritime Climate and Air Action Plan (MCAAP, 2021) contributing to the overall 2030 goal of reducing annual emissions by approximately 13,000 Metric Tonnes CO2 and 8 Metric Tonnes diesel particulate matter (DPM) by maximizing the potential for shore power connections:

- By 2025: Require shore power use by shore power-equipped homeport cruise ships at Terminal 91 for all shore power equipped ships.
- By 2030: Collaborate with cruise lines to increase the number of annual shore power equipped calls at the Port with a goal to reach 100 percent shore power-equipped homeport calls and a 100 percent connection rate by 2030.

This investment also contributes to the Port's long-term commitment to reduce greenhouse gas emissions as follows:

- 50 percent reduction by 2030
- Net zero or better by 2040 for port-controlled or indirect emissions
- Carbon neutral or better by 2050 for port-influences emissions

Furthermore, the Port's continued investment in shore power connectivity underscores the organization's commitment to near-port communities and the priority to decrease the impact of operations on adjacent neighborhoods. A transition to the mobile CDPs will have an immediate benefit to the Magnolia, Interbay and Queen Anne neighbors by increasing the potential for more ships to use shore power while at the facility.

In 2022, 69 of 83 equipped homeport calls connected to shore-power, an 83% rate, avoiding 2,000 tonnes greenhouse gas emissions. However, if all shore power-equipped homeport calls at Pier 91 plugged in, 5,300 tonnes greenhouse gas emissions would be avoided (estimated based on 2023 season).

To meet the goal of 100 percent of shore-power capable vessels connecting to shore power, cruise facilities need to accommodate a wide-range of vessel types and connection configurations to minimize the times ships cannot plug in, including for weather and safety issues, technical equipment challenges either on board or at the berth and alignment issues. For example, in 2023 two shore-power equipped ships at Pier 91 had alignment issues that required moving gangways weekly to establish a shore power connection. Combined, these cruise ships account for 39 calls or 20% of total calls at Pier 91 and have a GHG reduction potential of 1,000 tonnes GHG.

By replacing two (2) fixed jib cranes with mobile CPDs, this project enhances the flexibility of cruise operations by providing more berthing options that allow cruise ships of various types, sizes, and plug-in configurations to connect to shore-power, further eliminating fossil fuel dependency while at the Port. Increasing operational flexibility of the shore power at Pier 91 moves the Port closer to achieving its sustainability goals.

Diversity in Contracting

WMBE goals have not been established for purchasing of the mobile CPDs. A competition waiver has been executed to procure the proprietary mobile CPDs from Watts Marine.

DETAILS

The procurement of two (2) mobile CPDs will include a complete package contracted to Watts Marine for the devices and associated modifications to the existing system.

Scope of Work

A competition waiver has been executed to procure a proprietary shore power system from Watts Marine. The contract will consist of a complete package for the following work:

1. Design and engineering of the equipment
2. Delivery of two (2) Mobile Cable Positioning Devices including any customization of power cables, plugs, and minor site modifications.

3. Certification of the provided equipment.
4. Spare parts.
5. Installation, commissioning, and testing of the equipment, including the service manuals and warranties.

Schedule

Activity	
Commission authorization for procurement of two (2) proprietary CPDs, installation, and commissioning services from Watts Marine	2023 Quarter 3
Procurement of Mobile CPDs	2023 Quarter 3
Delivery and installation of Mobile CPDs	2024 Quarter 2
In-use date	2024 Quarter 2

Cost Breakdown

	This Request	Total Project
Mobile CPDs Procurement Package (including design and engineering, delivery, installation, and commissioning), modifications to plug/power cables.	$2,500,000	$2,500,000
Soft costs	$0	$250,000
Total	$2,500,000	$2,750,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Do nothing – maintain the current shore power set up with the fixed jib cranes on the east and west berths.

Cost Implications:

Pros:

(1) Retains Port capital for other priority projects and financial initiatives.
(2) Avoids temporary construction impacts to existing cruise operations and commercial shipping business operations.

Cons:

(1) Lost opportunity to allow a greater range of vessels to plug-in to shore power.
(2) Missed opportunity to implement long term goals and strategic objectives for Cruise operations to become sustainable and to increase business opportunities.
(3) Continues to contribute to greenhouse gas emissions.
(4) Potential lost revenue from increased flexibility to allow more ships to call to port and plug-in.

This is not the recommended alternative.

Alternative 2 – Defer procurement of the mobile CPDs to a later date as part of the overall T91 Shore Power Extension project to include shore power cable and plug-in on the north end of the west berth of Pier 91.

Cost Implications: At 6% escalation per year, procuring the CPDs later could cost between $100,000 to $250,000 assuming a 2-year delay.

Pros:

(1) Retains Port capital for other priority projects and financial initiatives.
(2) Avoids a second season of temporary construction impacts to existing cruise operations and commercial shipping business operations.
(3) Realizes efficiencies in consolidating construction into a single project, rather than phasing over two or three years.

Cons:

(1) Missed opportunity to implement long term goals and strategic objectives for Cruise operations to become sustainable and to increase business opportunities.
(2) Continues to contribute to greenhouse gas emissions.
(3) Potential lost revenue from increased flexibility to allow more ships to call to port and plug-in earlier.
(4) Adds complication to an easily phased project.

This is not the recommended alternative.

Alternative 3 – Procure two (2) mobile CPDs as the first phase of the Termina 91 Shore Power Extension project.

Cost Implications: No additional escalation will be applied to the overall cost. Savings of potentially $250,000, more if the project is deferred longer than two years.

Pros:

(1) Contributes to implementation of long-term goals and strategic objectives for Cruise operations to become sustainable and to increase business opportunities.
(2) Reduces cruise contributions to greenhouse gas emissions.
(3) Increased revenue from additional flexibility to allow more ships to call to port and plug-in.
(4) Minimizes potential future supply chain issues should another globally impactful event occurs (Covid, war, inflation).

Cons:

(1) Requires large Port investment of funds.
(2) Creates temporary construction impacts to existing commercial shipping and tenant business operations.

This is the recommended alternative.

FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary	Capital	Expense	Total
COST ESTIMATE			
Original estimate	$2,750,000	$0	$2,750,000
AUTHORIZATION			
Previous authorizations	$250,000	0	$250,000
Current request for authorization	2,500,000	0	2,500,000
Total authorizations, including this request	$2,750,000	0	$2,750,000
Remaining amount to be authorized	$0	$0	$0

Annual Budget Status and Source of Funds

This project was included in the 2023 Capital Plan C801293 T91 Cruise Shore Power Extension with a total project cost of $4,000,000.

This project will be funded by the Tax Levy.

Financial Analysis and Summary

Project cost for analysis	$2,750,000
Business Unit (BU)	Cruise Operations
Effect on business performance (NOI after depreciation)	•No incremental operating revenue or cost-savings is directly associated with this project. • On-going maintenance expenses, if any, are not yet known. • Annual depreciation is expected to increase by approximately $55,000.
IRR/NPV (if relevant)	N/A
CPE Impact	N/A

ADDITIONAL BACKGROUND

N/A

ATTACHMENTS TO THIS REQUEST

(1) Presentation slides

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

None