COMMISSION
AGENDA MEMORANDUM **Item No.** 8g

ACTION ITEM **Date of Meeting** December 9, 2025

DATE: November 3, 2025

TO: Stephen P. Metruck, Executive Director

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

SUBJECT: **Terminal 91/Pier 66 Cruise Shore Power Extension – Post-Validation contract amendment (CIP # C801983)**

Amount of this request:	$5,000,000
Total estimated project cost:	$48,665,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to approve funding to execute a Post-Validation Amendment to the alternative public works Progressive Design Build contract, MC-0322060, for the T91/P66 Cruise Shore Power Extension (C801983) project to further advance design and complete the development and negotiation of a Guaranteed Maximum Price. Total requested for this action is $5,000,000 for a total project authorization of $15,450,000.

EXECUTIVE SUMMARY

In July 2024, the Port passed Commission Order No. 2024-08 mandating all homeport cruise ships to connect to shore power by 2027, three years earlier than the 2030 goal set in the Port's adopted Maritime Climate and Air Action Plan. 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 Pier 91 (P91) which opened in 2009 provides shore power at its two cruise berths. The single berth at the Bell Street Pier Cruise Terminal at Pier 66 (P66) which opened in 1999 has a new shore power system completed in September 2024. While all three of the Port's cruise berths are now electrified, upgrades to the systems are required to provide the additional flexibility needed to accommodate all vessel and berthing configurations to meet Commission Order No. 2024-08.

The team is utilizing the Progressive Design Build (PDB) alternative delivery and selected Skanska USA Building, Inc. (Skanska) as the design-builder. As a PDB project, a robust validation period

and preliminary design work were required to determine the full scope of the project in partnership with the Port project team and the supplier of the shore-power equipment, Watts Marine. With Validation now completed, the Port and Skanska have negotiated and reached agreement on a target scope, schedule, and budget for the project.

The requested action will provide funding to further advance design and complete the development and negotiation of a Guaranteed Maximum Price (GMP) for the work of the project. This in turn will provide sufficient information to reliably decide whether to proceed with construction for the full elements of the project, or only the elements need to address current vessel schedule. A decision on whether to proceed with the full scope of P66 will be determined between 60% and 90% design as the existing shore power system already accommodates all current homeport cruise ships at that location. If P66 is deferred, the overall project costs are anticipated to decrease between $9M to $11M.

JUSTIFICATION

The Port of Seattle is an industry and regional leader in economic development and sustainability. The Port's investment in cruise terminals at P66 and P91 result in a significant contribution to the region's economy, generating more than 5,500 jobs and nearly $900 million in total local business revenue each cruise season. The Port also recognizes its responsibility and the importance of concerted efforts to balance economic growth with sustainability. The Seattle Waterfront Clean Energy Strategic Plan and the adopted Maritime Climate and Air Action Plan provide a Port investment strategy to protect the environment and improve community health.

As a global leader in sustainability, the Port 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, then updated goals in October 2021 in recognition of the climate crisis. In November 2021, the Port Commission adopted the Maritime Climate and Air Action Plan which identifies strategies and actions the Port can take through 2030 to achieve Port's Century Agenda GHG target to reduce GHG emissions 50% by 2030 and to position the Port to phase out seaport-related emissions entirely by 2050. The plan includes a specific commitment to install shore power at all cruise berths and maximize connections by 2030. In May 2022, the Port launched a collaborative effort to explore the feasibility of a maritime green corridor aimed at accelerating the deployment of low and zero GHG emission cruise ships and operations between Alaska, British Columbia, and Washington. Most recently, the Port passed Commission Order No. 2024-08 mandating that all home ported cruise ships must connect to shore power by 2027, three (3) years earlier than the Maritime Climate and Air Action Plan 2030 goal.

Shore power can significantly reduce GHG and air pollution emissions with each connection. Staff estimate shore power can avoid approximately 268 thousand metric tons of carbon (CO_2e) cumulatively through 2050. Assuming a 25-year infrastructure life and $44 million cost, that represents a cost per ton of carbon reduced over the full lifespan to range from $164 to $406 per metric ton CO_2e. This range is based on the 2025 cruise schedule with the current ability to connect cruise ships to shore power at P91 and P66 (86% of homeport calls). If 100% of homeport

ships plug-in consistent with the Commission Order No. 2024-08 in 2027, shore power use would result in an additional 45 thousand metric tons of cumulative carbon emissions avoided over a 25-year infrastructure life.

Diversity in Contracting

The project team in coordination with the Diversity in Contracting Department has included a 6% WMBE aspirational goal in the Progressive Design Build major work contract for this work to design and construct the pathway for the shore power system and other structural elements of the project and to install the Watts designed and procured shore power equipment.

Additionally, Watts Marine, LLC is a WMBE firm. The sole-source contract with Watts for design and procurement of the shore power equipment is 100% WMBE.

DETAILS

Status:

The T91/P66 Cruise Shore Power Extension project is progressing on schedule to meet the Commission order to plug-in all homeport ships by 2027.

Due to the proprietary nature of the electrical shore power equipment and the anticipated long lead time, a sole source purchasing contract with Watts Marine was executed to ensure that design and procurement of the equipment is completed and ready for installation in Q4 of 2026. Since the Commission authorization to purchase Watts shore power equipment, the transformer for the T91 West berth has been ordered and design of the remaining equipment has advanced.

The project received Commission authorization for Validation phase funds for the Progressive Design Build contract in July 2025. The Validation phase of the contract was executed in August 2025 and completed in November. This phase included a thorough berthing study, mooring analysis, and fieldwork to validate existing conditions of both P91 and P66 cruise berths and to develop the Target GMP.

Validation Outcomes:

A key part of the validation period included a robust berthing study and mooring analysis at P91 and P66 that evaluated the optimal positioning of all homeported cruise ships, as well as known cruise ships with potential to call to port in the future. As a result of the berthing and mooring study, Skanska recommended installation of two (2) additional sawtooth boxes each for shore power connection on both the west and east berths of P91, and one (1) additional shore power connection point on P66. The existing sawtooth box on both the east and west berths of P91 were installed during the original shore power system installation in 2009 and are nearing the end of serviceable life. These are also recommended for replacement with new, modernized sawtooth boxes that will allow for the maximum flexibility of the mobile cable positioning devices purchased in 2024. Two (2) new 100-ton mooring bollards at the north end of P91 West are

required to accommodate modified berthing arrangements for certain ships to allow for shore power connection at the new connection locations.

In addition, up to ninety-three (93) deck panels within the west apron area of P91 are currently assumed to be replaced. These panels were initially incorporated into the Terminal 91 Dock Rehabilitation project and due for replacement as result of their condition. However, given the accelerated schedule of the shore power project and the preferred pathway placement of the shore power conduit duct bank in the ballast above the deck panels, the identified deck panels within the project route should be replaced as part of the shore power project to avoid unnecessary and costly rework to replace the panels at a later date as part of the dock rehabilitation project. The cost of the panels can be moved over from the Terminal 91 Dock Rehabilitation project CIP# C801294.

Additionally, P66 was analyzed. While the current system is sufficient for all current and scheduled vessels through 2027, this additional sawtooth box would allow for ships that may call in the future.

Scope:

This funding request is for the Design and GMP Development phase for the full scope of Terminal 91 and P66 shore power extensions. The decision to advance P66 shore power to construction will be determined after future ships and berth arrangement options are further analyzed through the Design phase and cost considerations can be evaluated through final GMP negotiations.

Design will assume the following scope elements:

- **Pier 91**
    - West Berth
        - Install Watts Marine Transformer, Secondary Switch Gear, and Ground Switch and associated foundation upgrades.
        - Install (2) New Sawtooth boxes and associated cable and pathway
        - Replace the (1) existing jib crane sawtooth boxes with new sawtooth boxes to support the Mobile Cable Positioning Device
        - Replace approximately 93 precast deck panels that are assumed to be failing
        - Install two new bollards and associated structural upgrades
    - East Berth
        - Install Watts Marine Ground Switch and Capacitor Bank
        - Install (2) New Sawtooth boxes and associated cable and pathway
        - Replace the (1) existing jib crane sawtooth boxes with new sawtooth boxes to support the Mobile Cable Positioning Device
- **Pier 66**
    - Install (1) New Watts Marine Sawtooth box

Key Challenges & Solutions:

- Homeport Vessel Definition: Comprehensive berthing plan using 2025, 2026, and 2027 cruise schedules. Homeport Vessels were selected by the joint project team.
- Utility Conflicts: Subsurface utility engineering and potholing to confirm routing feasibility.
- Seasonal Constraints: Off-season work scheduling and phased construction plans.
- Concurrent Projects: Clash detection and coordination with gangway and dock rehab projects.
- A major design restriction for P66 is the fixed gangway, Bertha. It was found that a new articulating gangway would add more flexibility for future shore power as there is limited gangway flexibility.

Schedule

The schedule to meet Commission Order No. 2024-08 is aggressive. Project constraints including other concurrent or overlapping critical projects at P91, permitting delay potential, supply chain uncertainty, and highly constrained construction work windows due to cruise operations, commercial fishing operations, and tribal agreements create the risk of schedule slippage. Schedule assumptions account for best case permitting scenarios, including avoidance of in-water work. A Progressive Design Build project delivery with a sole source contract to Watts Marine for shore power equipment design and procurement was selected to mitigate schedule risk to the extent possible. This Progressive Design Build contract with Skanska allows for some acceleration of the design process and minimizes potential for unknown construction risks that cause delays assuming that all milestone dates are met, including this authorization of additional funding. Failure to meet schedule milestones will put the 2027 in-service date at risk.

Activity

Commission Authorization – T91 Mobile Cable Positioning Devices (CPDs) and T91 Cruise Shore Power Extension North initial design funding	August 8, 2023
DORA – Progressive Design Build Procurement and Preliminary Design	October 16, 2024
Commission Authorization – Watts Marine, LLC Purchasing Contract	April 22, 2025
Commission Authorization - Progressive Design Build Contract – Validation Phase	July 8, 2025
Progressive Design Build Validation Period Execution	August 22, 2025
Commission Authorization – Post-Validation Amendment funding	December 9, 2025
Commission Authorization – GMP Amendment funding	Q2 2026
Construction	Q4 2026 – 2027
In-use date	2027

Cost Breakdown

	This Request	Total Project
Planning through Validation	**$0**	**$2,450,000**
Pier 91	$0	$1,620,000
Pier 66	$0	$830,000
Design	**$5,000,000**	**$5,000,000**
Pier 91	$3,800,000	$3,800,000
Pier 66	$1,200,000	$1,200,000
Material Pre-Procurements (Watts)	**$0**	**$8,000,0000**
Pier 91	$0	$7,000,000
Pier 66	$0	$1,000,000
Construction	**$0**	**$33,215,000**
Pier 91	$0	$10,600,000
Pier 66	$0	$7,600,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Defer extension of cruise shore power systems at P91 and P66. Continue to enable limited shore power connections for ships that are compatible with the existing shore power infrastructure.

Cost Implications: While the full cost has not been estimated, per the mandate of Commission Order No. 2024-08, cruise ships that cannot connect to shore power by 2027 may not be able to dock at Port cruise berths impacting the cruise revenue for each ship turned away.

Pros:

(1) Provides time for Port to apply for grants to fund extension of shore power system.

Cons:

(1) Does not meet the mandate of Commission Order No. 2024-08 to connect all home-ported cruise ships to shore power by 2027.
(2) Impacts cruise revenues.
(3) Maintains status quo on GHG emissions.

This is not the recommended alternative.

Alternative 2 – Advance Design and GMP development for shore power system at P91 only.

Cost Implications: Based on the Validation Period and determination of design costs, and the developed Target GMP, this will increase the current CIP budget by $4.7M.

Pros:

(1) Optimizes approved CIP budget to target the most impactful shore power site where the most ships can be connected. Based on berthing and mooring analyses performed by Skanska, the P66 extension will only connect two (2) additional ships at three (3) calls per season each. These are not homeported ships.

Cons:

(1) Does not allow for necessary additional analysis of P66 to determine benefit of advancing shore power extension.
(2) Does not provide for maximum flexibility of the shore power capability at P66. Will not allow all ships that call to port at P66 to connect to shore power. The long-term flexibility of the system to allow for currently unknown future homeported ships may not be realized.

This is not the recommended alternative.

Alternative 3 – Advance Design and GMP development for the full scope of the shore power extension project at both P91 and P66.

Cost Implications: Increase in overall CIP costs of $15.6M.

Pros:

(1) Meets the mandate of Commission Order No. 2024-08.
(2) Allows for maximum flexibility for shore power connection of all known ships that could call to port at Port cruise terminals.
(3) Provides additional flexibility opportunities for future ships that are not yet known.

Cons:

(1) P66 extension will only allow two (2) additional, non-homeport ships, to connect to shore power. These ships only have three (3) calls each at P66. The cost to build the infrastructure may not provide the cost/benefit to justify the expense.

This is the recommended alternative.

FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary	Capital	Expense	Total
COST ESTIMATE			
Original estimate	$4,000,000	$0	$4,000,000
Previous changes – net*	$44,665,000	0	$44,665,000
Revised estimate	$48,665,000	0	$48,665,000
AUTHORIZATION			
Previous authorizations	**$10,450,000**	**0**	**$10,450,000**
Pier 91	$1,620,000		$1,620,000

Pier 66	$830,000		$830,000
Watts Marine Sole Source Contract	$8,000,000		$8,000,000
Current request for authorization	**$5,000,000**	**0**	**$5,000,000**
Pier 91	$3,620,000	0	$3,620,000
Pier 66	$1,380,000	0	$1,380,000
Watts Marine Sole Source Contract	$0		$0
Total authorizations, including this request	**$15,450,000**	**0**	**$15,450,000**
Pier 91	$5,240,000		$5,240,000
Pier 66	$2,210,000		$2,210,000
Watts Marine Sole Source Contract	$8,000,000		$8,000,000
Remaining amount to be authorized * *	**$33,215,000**	**$0**	**$33,215,000**

* The work completed through the Validation phase of the contract resulted in the determination that that optimal locations or the sawtooth boxes were further apart than original assumptions, adding significant costs due to the length of trenching, structural concrete calculations, need for off hour work due to operational constraints, and nearly double the assumed deck panels that need to be replaced.

**This amount will depend on the outcome of the further study of P66. This number includes the full scope for both P66 and T91. $9M to $11M could be eliminated if P66 is determined to not need further upgrade to meet the Commission order at this time. This would reduce the remaining amount to be authorized under this CIP to between $22M - $24M.

Annual Budget Status and Source of Funds

This project was included in the 2025 Capital Plan C801983 P66/ C801293 P91 Shore Power Extension with a total project cost of $23,111,000.

This project will be funded by the General Fund

Financial Analysis and Summary

Project cost for analysis	$48,665,000
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. • Estimated annual depreciation is $1.9M
IRR/NPV (if relevant)	N/A
CPE Impact	N/A

ADDITIONAL BACKGROUND

Originally, P91 and P66 cruise shore power projects were envisioned as two separate projects under two CIP #s. Initial funding for the P91 Cruise Shore Power Extension North was authorized by Commission on August 8, 2023, inclusive of the purchase of two (2) mobile cable positioning devices (CPD) under CIP # C801293. P66 Cruise Shore Power Extension was under CIP # C801983. As part of a DORA executed on October 16, 2024 for a Progressive Design Build procurement and early design for both projects, P91 Cruise Shore Power Extension, except for the costs associated with the purchase of the CPDs which remained under C801293, was transferred to CIP # C801983 with P66 to consolidate the projects under a single CIP and to help expedite both projects to meet the mandate of Commission Order No. 2024-008 to connect all home ported cruise ships to shore power by 2027.

ATTACHMENTS TO THIS REQUEST

(1) Presentation

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

July 8, 2025 – Funding authorization in the amount of $1,100,000 for award and execution of the Validation Period of the major public works Progressive Design Build project.

April 22, 2025 – Funding authorization in the amount of $8M for Watts Marine contract to purchase shore power equipment.

August 8, 2023 - The Commission authorized funding for P91 Cruise Shore Power Extension and CPDs in the amount of $2,500,000 for the purchase of the CPDs and early design funding of the extension.