



**COMMISSION
AGENDA MEMORANDUM**

Item No. 8c

ACTION ITEM

Date of Meeting April 26, 2022

DATE : April 15, 2022

TO: Stephen P. Metruck, Executive Director

FROM: Sandra Kilroy, Senior Director Environment, Sustainability, and Engineering
Mike Tasker, Senior Manager Aviation Facilities and Infrastructure
Krista Sadler, Director Technology Delivery

SUBJECT: Energy Management System (CIP #C801166)

Amount of this project request: \$540,000
Total estimated project cost: \$540,000
Ten-year maintenance contract: \$3,500,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to 1) proceed with the Energy Management System project and 2) execute contract(s) for software, equipment, vendor services, and ten years of software license and maintenance fees. The amount requested for project implementation is \$540,000 and the estimated ten-year software license and maintenance fee is \$3,500,000.

EXECUTIVE SUMMARY

This project will procure and implement a Port-wide energy management system (EMS) capable of tracking, managing, analyzing, and reporting on facility energy consumption and performance data. The system will be used for both Aviation and Maritime properties and will be designed to be highly scalable and customizable to match the Port's diverse lines of business and incorporate future needs. During implementation, the project will connect approximately 85 existing smart meters for utilities on Waterfront properties, SEA North Concourse, and Port solar panel inverters and will be designed to add meters as they are installed by other projects.

Accurate, readily available data on current and historical facility energy and fuel use is critical to make informed, sustainable investments and operational improvements that advance the Port's Century Agenda and maintain regulatory compliance. This data is currently collected as a by-product of cost recovery efforts and requests for building energy data require long lead-times, significant staff resources, and rigorous data manipulation and accuracy checks. The EMS will provide a centralized, cross-departmental database and management system to facilitate the capture and reporting of this information.

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Information and Communication Technology, Environment, Sustainability, and Engineering, Aviation Facilities, Economic Development will partner to deliver this project. The capital project was included in the 2022-2026 capital budget and plan of finance as a \$400,000 Maritime and Economic Development project. During development of the business case, the scope was expanded to include Aviation in a Port-wide EMS implementation so CIP C801166 has been reassigned as a Corporate CIP and the additional \$140,000 will be added to the capital budget and plan of finance for 2023, for a total estimated project cost of \$540,000. Project funding will be fifty percent Airport Development Fund and fifty percent General Fund.

This authorization also includes a contract for recurring software license and maintenance fees for up to ten years, estimated at \$3,500,000. This includes an annual escalation for the addition of smart meter connections through the life of the contract. This will be budgeted by individual operating budgets depending on the number of data points captured.

JUSTIFICATION

The EMS provides an innovative approach that advances the Century Agenda goals to be the greenest, most energy efficient port in North America and to be a highly effective public agency. Specifically, the EMS supports Port of Seattle Resolution 3792 to adopt Charting the Course to Zero: Port of Seattle’s Maritime Climate and Air Action Plan, Port of Seattle resolution 3768, a Sustainable Evaluation Framework Policy Directive, and Washington Clean Buildings Act (HB1257).

Other benefits include:

- (1) Ability to isolate performance data at a variety of levels such as portfolio, campus, building, or asset.
- (2) Aggregate building-level energy use information to meet compliance and regulatory requirements more efficiently and to support investment decision-making, operations, and maintenance.
- (3) Inform strategic investment in Port assets and facilities using asset performance metrics.
- (4) Support Asset Condition Tracking Program related to building and energy assets.
- (5) Serve as the foundational tool to remotely integrate smart facility technologies and controls software across the Port.
- (6) Enable remote meter reading to reduce safety risks to staff and costs.
- (7) Provide faster notification to staff when there is abnormally high usage, indicating possible problems needing immediate attention.
- (8) Support port-wide awareness of resource consumption and enable data-driven internal and external communications.

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Diversity in Contracting

Project staff will work with the Diversity in Contracting Department to determine if a direct women-and-minority-owned business enterprise (WMBE) aspirational goal should be assigned. Typically, subcontracting opportunities under technology projects are limited.

DETAILS

Scope of Work

- (1) Competitively procure and implement an EMS to collect, track, and report on energy consumption and performance data.
- (2) Connect approximately 85 existing smart meters for Maritime and Aviation Properties.
- (3) Upload historical energy use data.

The purchase and installation of additional smart meters that can be integrated with the EMS will occur with other projects.

Schedule

System Procurement Complete	2022 Quarter 4
In-use date	2023 Quarter 3

Cost Breakdown

	This Request	Total Project
Hardware, Software, and Vendor Services	\$300,000	\$300,000
Port Labor	\$240,000	\$240,000
Total	\$540,000	\$540,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Procure and install EMS and additional smart meters for Waterfront and Aviation properties.

Cost Implications: Capital Range: \$1,500,000 - \$2,000,000

Pros:

- (1) Provides a more complete energy usage picture for Port buildings with project completion.

Cons:

- (1) The addition of meter installation significantly increases the complexity, schedule, and change management challenges from the recommended phased approach. A measured implementation will allow the project team to set a foundation for the new platform that can easily be expanded as more smart meters are added through other projects.

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- (2) It is likely more cost efficient to add smart meters to many locations with larger, planned construction efforts.

This is not the recommended alternative.

Alternative 2 – Postpone procurement and implementation of an EMS

Cost Implications: \$0

Pros:

- (1) Capital funds and resources are available for other efforts.

Cons:

- (1) Port staff continue with inefficient manual processes to gather and report on energy use, which fails to meet business demands for more current, accessible, and accurate data.
- (2) Delays valuable data support for decision making to improve energy performance and effective energy reporting.

This is not the recommended alternative.

Alternative 3 – Procure and implement an EMS and connect existing smart meters

Cost Implications: \$540,000

Pros:

- (1) Allows staff to implement a foundational, scalable EMS solution and provides a required data repository for tracking, managing, and reporting on energy usage.
- (2) Will provide easily accessible online access to resource consumption data, reports, and analytics that is known to be of significant value to many Port departments.
- (3) Supports Port Century Agenda Goals and our LEED electricity monitoring commitment with state energy code, initially at Airport North Concourse and expanding with new projects.

Cons:

- (1) Will not provide a complete energy usage picture for all Port buildings without additional investments.

This is the recommended alternative.

FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary

	Capital	Expense	Total
COST ESTIMATE			
Original estimate	\$400,000	\$0	\$420,000
Current change	\$140,000	\$0	\$140,000
Revised estimate	\$540,000	\$0	\$540,000

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AUTHORIZATION			
Previous authorizations	\$0	0	0
Current request for authorization	\$540,000	\$0	\$540,000
Total authorizations, including this request	\$540,000	\$0	\$540,000
Remaining amount to be authorized	\$0	\$0	\$0

Annual Budget Status and Source of Funds

The project was budgeted in the 2022-2026 plan of finance as a Maritime and Economic Development project for \$400,000. During development of the business case, the scope was expanded to include Aviation in a Port-wide EMS implementation so CIP C801166 has been reassigned as a Corporate CIP and the additional \$140,000 will be added to the capital budget and plan of finance for 2023, for a total estimated project cost of \$540,000. Project funding will be fifty percent Airport Development Fund and fifty percent General Fund. Training, estimated at \$20,000, will be funded by individual departments benefiting by the training.

Financial Analysis and Summary

Project cost for analysis	\$540,000
Business Unit (BU)	Aviation’s cost center would be Terminal Building
Effect on business performance (NOI after depreciation)	NOI after depreciation will increase due to inclusion of capital (and operating) costs in airline rate base.
IRR/NPV (if relevant)	NA
CPE Impact	Less than .01 in 2023

Future Revenues and Expenses (Total cost of ownership)

Annual recurring service, license, or maintenance fees, estimated initially at \$220,000 per year, will be budgeted in annual operating budgets beginning in 2023. As smart meters are added, the cost will likely increase so the estimated total over a ten-year contract term is \$3,500,000 in addition to the vendor costs for implementation.

ATTACHMENTS TO THIS REQUEST

- (1) Presentation slides

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

None