PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA
ACTION ITEM

Item No. 5d

Date of Meeting May 14, 2013

DATE: May 6, 2013

TO: Tay Yoshitani, Chief Executive Officer

FROM: David Soike, Director, Aviation Facilities and Capital Program
Wayne Grotheer, Director, Aviation Project Management Group

SUBJECT: Fire Station Electrical Service Upgrade (CIP #C800479)

Amount of This Request:	$346,000	**Source of Funds:**	Airport Development Fund
Est. State and Local Taxes:	$122,000	**Est. Jobs Created:**	24
Est. Total Project Cost:	$2,033,000		

ACTION REQUESTED:

Request Commission authorization for the Chief Executive Officer to proceed with design of the Sea-Tac Airport Fire Station Electrical Service Upgrade project and use Port crews to support site investigation needed to develop the construction contract documents in the amount of $346,000 for a total estimated project cost of $2,033,000.

SYNOPSIS:

This project upgrades aging electrical infrastructure. Commission authorization is requested to proceed with design of the Fire Station Electrical Service Upgrade project. The existing system is over 40 years old and at capacity. In order to maintain a reliable and adequate source of power for current as well as future needs, the power service to the station must be renewed and replaced. This project would install a new service, switchgear, and an emergency generator. Staff intends to combine design and construction of this project with the Feeder 101 Tap Replacement Upgrade project for cost efficiency.

Design services will be performed using an existing mechanical electrical indefinite delivery, indefinite quantity service agreement that was competitively procured.

This project was included in the approved 2013-2017 capital budget and plan of finance.

BACKGROUND:

The source of electrical power to the Fire Station is provided through a 300 kilovolt amps (kVA) 120/208 volt (V) transformer and switchgear. The existing equipment is a decade beyond its predicted life, is loaded to its capacity, and therefore has caused circuit breaker outages at the Fire Department.

The existing 120/208V transformer and switchgear will be replaced with equipment with an increased capacity and a new generator will be added. The new generator will serve the entire facility enabling the Fire Station to be fully operational during an emergency and will allow for the addition of future loads.

This project will also add 480V power to meet current and future electrical upgrades as well as provide for a future Fire Station Heating, Ventilation, Air Conditioning (HVAC) project to address HVAC deficiencies. This project will be combined with the nearby Feeder 101 Taps Replacement project into one construction contract. Both projects have similar medium voltage equipment requirements and are tied to Feeder 101, which is adjacent to Air Cargo Road, adjacent to the Fire Station. Combining the projects takes advantage of potential cost efficiencies. The Feeder 101 Taps Replacement project was previously authorized for design by Commission on January 22, 2013.

PROJECT JUSTIFICATION:

This request will authorize design services to replace the 300 kVA, 208/120V transformer and switchgear that provides power to the Fire Station. As stated above, the equipment is over 40 years old, fully loaded, and well past the predicted life of 30 years. Also, the Fire Station has had power failures due to overloading. New 480V service will be added to support future HVAC improvements planned for the Fire Station.

Project Objectives:

- Replace the existing limited capacity, unreliable power source with a new, code-compliant power source capable of meeting current and projected demand.
- Add a 480V transformer, associated switchgear, and an emergency generator to meet future needs and provide backup power to support continuous operations.

PROJECT SCOPE OF WORK AND SCHEDULE:

Scope of Work:

- Field Investigation to support design
- Provide Good Faith Survey
- Design for Electrical Service Upgrade

Schedule:

• Commission Design Authorization	May 7, 2013
• Complete Design	November 5, 2013
• Commission Authorization to Advertise for Construction	November 19, 2013
• Complete Construction	October 7, 2014

FINANCIAL IMPLICATIONS:

Budget/Authorization Summary:	Capital	Expense	Total Project
Original Budget	$2,033,000	$0	$2,033,000
Previous Authorizations	$0	$0	$0
Current request for authorization	$346,000	$0	$346,000
Total Authorizations, including this request	$346,000	$0	$346,000
Remaining budget to be authorized	$1,687,000	$0	$1,687,000
Total Estimated Project Cost	$2,033,000	$0	$2,033,000

Project Cost Breakdown:	This Request	Total Project
Construction	$0	$1,286,000
Construction Management	$36,000	$233,000
Design	$193,000	$193,000
Project Management	$104,000	$186,000
Permitting	$13,000	$13,000
State & Local Taxes (estimated)	$0	$122,000
Total	$346,000	$2,033,000

Budget Status and Source of Funds:

This project, CIP #C800479, was included in the 2013-2017 capital budget and plan of finance with a budget of $2,033,000. The funding source is the Airport Development Fund (ADF).

Financial Analysis and Summary:

CIP Category	Renewal/Enhancement
Project Type	Airport Infrastructure
Risk adjusted discount rate	N/A
Key risk factors	N/A
Project cost for analysis	$2,033,000
Business Unit (BU)	Admin – primarily allocated to Airfield
Effect on business performance	NOI after depreciation will increase
IRR/NPV	N/A
CPE Impact	$0.01 in 2014; no change from the business plan forecast

Lifecycle Cost and Savings:

The project replaces existing electrical infrastructure with a higher capacity. The potential for higher electrical use is included to meet long-term Fire Department needs. Maintenance trouble calls will decrease. Estimated operating costs will be verified during the design stage.

STRATEGIC OBJECTIVES:

This project will support the Century Agenda objective of meeting the region's air transportation needs at Sea-Tac Airport for the next 25 years. In order to support existing operations, and further growth, the Airport must maintain critical assets such as the Fire Station.

ENVIRONMENTAL SUSTAINABILITY:

This project demonstrates environmental sustainability by improving existing Port assets and better utilizing existing resources. This project will replace existing equipment with new, more efficient systems. Existing materials will be recycled.

BUSINESS PLAN OBJECTIVES:

This project will support the Airport Strategy of ensuring a safe and secure airport by improving aging and inefficient physical assets.

TRIPLE BOTTOM LINE SUMMARY:

This project provides a cost-effective means of accomplishing necessary renovation of the Fire Station electrical power source. Without reliable electrical power, the Fire Station cannot operate to fully benefit our business customers, travelers, and the region. An effective Fire Station benefits both the Airport and surrounding communities.

This project provides the potential for small business participation on the subcontractor level particularly for the sitework trades.

ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:

Alternative 1 – Do nothing. The aging equipment would be replaced when there are failures. This option will increase the costs to the Port for emergency replacement and there is a high possibility that the Fire Station would be out of commission for an extended period of time. This option is not considered viable. *This is not the recommended alternative.*

Alternative 2 – Replace the existing 120/208V equipment in-kind. This option addresses the aging equipment; however, it does not address the current overloaded equipment or any future needs requiring a 480V service. *This is not the recommended alternative.*

Alternative 3 – Replace the existing 120/208V equipment with a larger capacity system. This option addresses the aging overloaded equipment; however, it does not address any future needs requiring a 480V service. *This is not the recommended alternative.*

Alternative 4 – Replace the existing 120/208V equipment with a larger capacity system and add a 480V service. This alternative addresses all of the electrical needs of the Fire Station for the next 15 years. **This is the recommended Alternative.**

OTHER DOCUMENTS ASSOCIATED WITH THIS REQUEST:

- None.

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS:

- On January 22, 2013, the Commission authorized funding for design of the Feeder 101 Taps Replacement project in the amount of $500,000.