

**PORT OF SEATTLE**  
**MEMORANDUM**

**COMMISSION AGENDA**  
**ACTION ITEM**

<b>Item No.</b>	<u>4f</u>
<b>Date of Meeting</b>	<u>June 24, 2014</u>

**DATE:** June 16, 2014  
**TO:** Tay Yoshitani, Chief Executive Officer  
**FROM:** David Soike, Director, Aviation Facilities and Capital Program  
Wayne Grotheer, Director, Aviation Project Management Group  
**SUBJECT:** Parking Garage Lighting (CIP #C800581)

<b>Amount of This Request:</b>	\$1,243,000	<b>Source of Funds:</b>	Airport Development Fund and future revenue bonds
<b>Est. Total Project Cost:</b>	\$6,235,700		
<b>Est. State and Local Taxes:</b>	\$340,000		

**ACTION REQUESTED**

Request Commission authorization for the Chief Executive Officer to prepare design and construction bid documents for the Parking Garage Lighting project at Seattle-Tacoma International Airport. This authorization is for \$1,243,000 of a total estimated project cost of \$6,235,700.

**SYNOPSIS**

This project is an energy conservation project that will retrofit all the lights on normal power circuits, on all eight floors in the parking garage. By utilizing new LED lighting technology, energy consumption can be reduced by over 60% while still providing the same lighting levels. In addition, this project will install additional lighting on the first floor and in the fourth floor plaza area to increase light levels and provide a better customer experience. This project was included in the 2014 – 2018 capital budget and plan of finance.

**BACKGROUND**

Lighting technology in the parking garage is over 15 years old. New LED technology enables lighting levels to remain the same while decreasing energy consumption. In 2013, we reduced energy consumption by 60% by retrofitting fixtures on the emergency circuits. This project will retrofit the remaining fixtures in the garage to realize the same energy savings for lights on normal power circuits.

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## **PROJECT JUSTIFICATION AND DETAILS**

### ***Project Objectives***

- Utilize new lighting technology to reduce energy consumption in the parking garage by over 60% while providing the same lighting levels.

### ***Scope of Work***

- Perform full design for all eight floors;
- Provide additional lights to the first and fourth floors to increase light levels and retrofit existing normal lights through a major construction contract; and
- Retrofit the existing normal lights on all remaining floors and helices to be performed by Port Maintenance Electricians.

### ***Schedule***

Commission Authorization	June 2014
Design	June 2014 - May 2015
Construction – Major Construction 1 <sup>st</sup> and 4 <sup>th</sup> floor	May 2015 - December 2016
Construction – Port Maintenance	2017-2019

## **FINANCIAL IMPLICATIONS**

### ***Budget/Authorization Summary***

	Capital	Expense	Total Project
Original Budget	\$5,000,000	\$0	\$5,000,000
Budget Increase	\$1,235,700	\$0	\$1,235,700
Revised Budget	\$6,235,700	\$0	\$6,235,700
Previous Authorizations	\$40,000	\$0	\$40,000
Current request for authorization	\$1,243,000	\$0	\$1,243,000
Total Authorizations, including this request	\$1,283,000	\$0	\$1,283,000
Remaining budget to be authorized	\$4,952,700	\$0	\$4,952,700
Total Estimated Project Cost	\$6,235,700	\$0	\$6,235,700

### ***Project Cost Breakdown***

	This Request	Total Project
Construction	\$0	\$ 4,347,700
Construction Management	\$0	\$ 265,000
Design	\$ 979,000	\$ 979,000
Project Management	\$ 283,000	\$ 283,000
Permitting	\$ 21,000	\$ 21,000
State & Local Taxes (estimated)	\$0	\$ 340,000
Total	\$1,283,000	\$ 6,235,700

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### ***Budget Status and Source of Funds***

This project (C800581) was included in the 2014- 2018 capital budget and plan of finance with a budget of \$5.0 million. Upon completion of the notebook, the cost to accomplish the lighting replacement increased by approximately \$1,235,700. The budget increased as a result of several factors. First, new scope totaling \$334,000 was added to the project to improve light levels on the 4<sup>th</sup> Floor Plaza area. Second, the original cost estimate did not account for the need to increase light levels on the 1<sup>st</sup> floor that are necessary to bring that floor up to current building code requirements or the need to replace rather than retrofit the existing 1<sup>st</sup> floor light fixtures. The additional work on the 1<sup>st</sup> floor accounts for the remaining \$901,700. In addition, scope was added to increase the number of lighting fixtures on the first and fourth floors to achieve the same standard of illumination on the other floors. This will add approximately \$704,000 to the cost. The cost increase will be transferred from the Non-Aeronautical allowance CIP, C800405, resulting in no net change to the Airport capital budget.

The funding sources will include the Airport Development Fund and future revenue bonds. The Port anticipates issuing revenue bonds in late 2014 or early 2015 to fund multiple projects.

### ***Financial Analysis and Summary***

<b>CIP Category</b>	Renewal and Enhancement
<b>Project Type</b>	Renewal and replacement and customer service
<b>Risk adjusted discount rate</b>	7%
<b>Key risk factors</b>	Low risk
<b>Project cost for analysis</b>	\$5,532,000 (cost excluding additional light fixtures)
<b>Business Unit (BU)</b>	Landside
<b>Effect on business performance</b>	When all floors are completed, it is anticipated that annual energy savings will exceed annual depreciation resulting in an increase in NOI.
<b>IRR/NPV</b>	NPV = \$1.2 million, Modified IRR = 11%
<b>CPE Impact</b>	None

The financial analysis is based on the scope and cost of retrofitting lighting fixtures to achieve energy savings (excludes scope and cost for added light fixtures) and assumes a total of \$750,000 in incentives and grants are received (see below). Energy savings have been calculated using the Tier II rate from Bonneville Power Administration. At the margin, this is the rate that will be in effect in future years if energy savings are not realized.

### ***Lifecycle Cost and Savings***

This project qualifies for \$250,000 in Bonneville Power Administration (BPA) conservation incentives and has been awarded a \$500,000 grant from Washington State Department of Commerce (DOC). The DOC grant award is assured as long as the project has started construction by June 2015.

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It's anticipated that the yearly ongoing O&M costs for the parking garage lighting will decrease beginning in years 2016 –2018 as the garage lighting is replaced (phased in) utilizing LED lights. Year 2019 should have only minimal (incidental) O&M costs related to garage lighting.

Beginning in 2020, if the Port chooses not to replace the LED retrofit fixtures with a new technology it is anticipated that the Aviation Maintenance department will be experiencing repair and replacement costs ranging from \$250K -\$466K per year to replace the LED lamps and repair or replace fixtures over a period of approximately nine years.

## **STRATEGIES AND OBJECTIVES**

This project aligns with the Port's objective to be the greenest, and most energy efficient port in North America by meeting all increased energy needs through conservation and renewable sources.

### **TRIPLE BOTTOM LINE**

#### ***Economic Development***

The project supports economic development by investing in an upgraded parking garage to serve the public need at the Airport and it helps the environment by reducing energy consumption at the Airport.

#### ***Environmental Responsibility***

This project will provide the opportunity to apply environmental sustainability principles primarily through the use of energy-efficient light fixtures. These will reduce the energy use by an estimated 60% while providing more than four times the lamp operating life compared to what is currently installed.

#### ***Community Benefits***

This project aligns with the Port's objective to minimize the Airport's environmental impacts and reduce energy demand through conservation while operating a world-class international airport by ensuring safe, secure, and sustainable operations.

## **ALTERNATIVES AND IMPLICATIONS CONSIDERED**

**Alternative 1)** – Do nothing. Do not implement this project. This is not the recommended alternative because energy will be wasted and the Port may not meet its goal of supplying all new load growth with conservation.

**Alternative 2)** – Implementing this project with the best available technology will help the Port reduce energy consumption and supports our Century Agenda goals. **This is the recommended alternative.**

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## **ATTACHMENTS TO THIS REQUEST**

- None.

## **PREVIOUS COMMISSION ACTIONS OR BRIEFINGS**

- None.