

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA
ACTION ITEM

Item No. 4c
Date of Meeting February 10, 2015

DATE: February 3, 2015
TO: Ted Fick, Chief Executive Officer
FROM: Dave Soike, Director, Aviation Facilities and Capital Program
Wayne Grotheer, Director, Aviation Project Management Group

SUBJECT: Parking Garage Lighting (CIP #C800581)

Amount of This Request:	\$4,952,000	Source of Funds:	Airport Development Fund (ADF)
Est. Total Project Cost:	\$6,235,000		
Est. State and Local Taxes:	\$340,000		

ACTION REQUESTED

Request Commission authorization for the Chief Executive Officer to (1) advertise, award, and execute a major public works contract for the construction of the project; and (2) authorize the purchase of LED retrofit kits to be installed by Port Maintenance in an amount not to exceed \$4,952,000. This request is in addition to the previous design authorization of \$1,243,000 and brings the total project authorization to \$6,235,000.

SYNOPSIS

This project is an energy conservation project that will retrofit or replace all the lights on normal power circuits on all eight floors of the Airport parking garage. In addition, this project will install additional fixtures on the first floor and in the fourth floor plaza area to increase light levels and provide a better customer experience. Use of LED lighting technology will reduce energy consumption by over 60 percent while maintaining or improving existing lighting levels. This project was included in the 2015-2019 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 or improve while decreasing energy consumption. In 2013, an initial garage energy conservation project was undertaken that reduced energy consumption by 60 percent on the emergency lighting circuits by retrofitting fixtures with LED kits. 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

- Install new lighting technology to reduce energy consumption in the parking garage by over 60 percent while providing the same or better lighting levels.

Scope of Work

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

Schedule

Design	2 nd Quarter 2014 – 2 nd Quarter 2015
Commission Authorization for Construction	1 st Quarter 2015
Construction – Major Construction 1 st and 4 th floor	3 rd Quarter 2015 – 3 rd Quarter 2016
Construction – Port Maintenance	2 nd Quarter 2015 - 4 th Quarter 2019

FINANCIAL IMPLICATIONS

Budget/Authorization Summary

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

Project Cost Breakdown

	This Request	Total Project
Construction	\$4,347,000	\$ 4,347,000
Construction Management	\$265,000	\$ 265,000
Design	\$0	\$ 979,000
Project Management	\$0	\$ 283,000
Permitting	\$0	\$ 21,000
State & Local Taxes (estimated)	\$340,000	\$ 340,000
Total	\$4,952,000	\$ 6,235,000

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Budget Status and Source of Funds

This project was included in the 2015 – 2019 capital budget and plan of finance. The funding source will be the Airport Development Fund

Financial Analysis and Summary

CIP Category	Renewal and Enhancement
Project Type	Renewal and replacement and customer service
Risk adjusted discount rate	7%
Key risk factors	Low risk
Project cost for analysis	\$5,532,000 (cost excluding additional light fixtures)
Business Unit (BU)	Landside
Effect on business performance	When all floors are completed, it is anticipated that annual energy savings will exceed annual depreciation resulting in an increase in NOI.
IRR/NPV	NPV = \$1.1 million, Modified IRR = 11%
CPE Impact	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.

The yearly ongoing operations & maintenance (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. Annual O&M savings at project completion is estimated at \$185,000.

The estimated life of this product is eight to ten years. As such, beginning in 2023, the retrofit kits will need to be replaced in kind or with new technology.

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.

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ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1) – Maintain Status Quo and do not implement this project. This option foregoes the opportunity to realize a return on investment, reduce Sea-Tac Airport energy consumption, and make considerable progress towards the Airport’s strategic objective to meet all increased energy needs through conservation. Based on a cost/benefit analysis, the initial cost of alternative 1 is zero with an NPV of negative \$2.2 million, and there is no payback, as reference below. This is not the recommended alternative.

Alternative 2) – Implement this project by replacing all existing metal halide light fixtures with new LED light fixtures. Although the energy savings would be comparable to that of Alternative 3, the initial installation costs would be at least 30% more due to higher fixture cost and increased construction time. In addition, the 5,000 existing metal halide fixtures would be disposed of in the local landfill rather than reused utilizing the latest LED retrofit technology. Based on a cost/benefit analysis, the initial cost of alternative 2 is \$8.1 million, with an NPV of negative \$300k, and a payback period of 7.8 years, as referenced below. This is not the recommended alternative.

Alternative 3) – Implementing this project with LED fixtures and LED retrofit kits will provide the greatest return on investment, reduce energy consumption and further the Port’s Century Agenda goals. This alternative will recycle and reuse over 5,000 outdated metal halide light fixtures eliminating a substantial waste stream from entering local landfills. This approach provides the best return on investment while minimizing landfill waste. Based on a cost/benefit analysis, the initial cost of alternative 3 is \$6.2 million, with an NPV of positive \$1.1 million, and a payback period of 5.6 years, as referenced below. **This is the recommended alternative.**

Alternatives	Investment Capital	New Added Lights	Grant Funding	Savings (Today's Rates)	Annual O&M	NPV	IRR	Payback (Yrs)
#1	\$0	N.A.	\$0	\$0	\$200k	(2.2M)	N.A.	N.A.
#2	\$8.1M	\$700k	\$750k	\$670k	\$15k	(300k)	6%	7.8
#3	\$6.2M	\$700k	\$750k	\$670k	\$15k	1.1M	11%	5.6

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.

Environmental Responsibility

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

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Community Benefits

This project aligns with the Port's Century Agenda 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.

ATTACHMENTS TO THIS REQUEST

- None

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

- June 24, 2014 – the Port Commission authorized preparation of design and construction bid documents for the Parking Garage Lighting project at Seattle-Tacoma International Airport. That authorization was for \$1,243,000 of a total estimated project cost of \$6,235,700.