PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA **Item No.** 5b

Date of Meeting October 11, 2011

DATE: September 30, 2011

TO: Tay Yoshitani, Chief Executive Officer

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

SUBJECT: Phase II Mechanical Energy Conservation Project at Seattle-Tacoma International Airport (CIP # C800268)

Amount of This Request: $3,204,400 **Source of Funds:** Airport Development Fund

State and Local Taxes Paid: $223,000 **Jobs Created:** 12

ACTION REQUESTED:

Request Port Commission authorization for the Chief Executive Officer to execute a contract with the Washington State General Administration Engineering and Architectural Services Department for the Stage II Mechanical Energy Conservation project and to proceed with the design and construction of these energy saving initiatives identified by the State's Energy Service Company (ESCO) audit report of June 2011 at Seattle-Tacoma International Airport (Airport). The amount of this request is $3,204,400. The total cost of the project is $3,289,900.

SYNOPSIS:

This project will improve the energy performance of the mechanical infrastructure systems at the Airport and reduce the Airport's energy consumption. It demonstrates the Airport's long-term commitment to minimizing the Airport's environmental impact on the region. The initial phase of the project measured and calculated the energy savings and determined the requirements and initiatives required to achieve those savings. This phase of the project will design and construct those initiatives. The Interagency Agreement between the Port of Seattle and the State of Washington General Administration allows the Port to use the Washington State contracting procedures to execute an ESCO contract. This project will not require the Port to solicit for Architecture/Engineering services or advertise and execute a construction contact. The ESCO will self-perform all design and construction services. The ESCO guarantees the costs for design, construction and the energy savings as identified in the audit report.

BACKGROUND:

On July 2, 2009, the Port of Seattle Commission authorized the Interagency Agreement between the Port of Seattle and the State of Washington for Energy Conservation Project Management

Services. That project included the installation of sensors that gathered energy usage data from mechanical systems throughout the airport. That data was used to inform the Airport of viable energy conservation projects. The State General Administration Office (GA) has contracts with ESCO which allows these firms to assess and produce a detailed study outlining mechanical systems that could be upgraded and or modified to improve their performance and reduce energy consumption. The ESCO guarantees a minimum amount of energy savings as identified in the audit so that any shortfall in those guaranteed savings is paid for by the ESCO. The ESCO guarantees a maximum project cost for design and construction.

The Port has an interagency agreement with the State GA office which allows the Port to use the ESCO to design and construct these energy savings initiatives. For this project, the annual utility savings guaranteed is $173,000. In addition to the annual savings, the Airport will be eligible for one-time energy incentives in the amount of $238,000 under the Bonneville Power Administration's customer incentive program. Finally the on-going annual operational cost savings to the Airport have been estimated to be $18,000 as a result of the interconnection of 100 terminal air delivery boxes to the central control and monitoring system and elimination of manual changeover for plate frame free cooling.

PROJECT JUSTIFICATION:

This project will reduce the Airport's mechanical systems energy usage.

Project Objectives:

Improve the energy performance of the mechanical infrastructure systems at the Airport in order to reduce the energy costs to the Airport and its tenants.

PROJECT SCOPE OF WORK AND SCHEDULE:

Scope of Work:

- Replace Constant Volume distribution boxes with Variable Air Volume distribution boxes and provide New Direct Digital Controls
- Isolate Central Mechanical Plant Cooling Towers to allow for extended Plate & Frame Operation that includes replacement and installation of new isolation control valves and associated Direct Digital Controls and piping modifications
- Sequencing and Optimization of Central Mechanical Plant Chiller Programming
- Modification of Airside Economizing to allow for increased heat recovery in the Main Terminal building

Schedule:

- Commission Authorization to Start Design — October 2011
- Start Design — November 2011
- Design Complete — March 2012
- Construction Start — April 2012
- Construction Complete — December 2012
- Performance Monitoring and Verification — December 2012 - December 2013

FINANCIAL IMPLICATIONS:

Budget/Authorization Summary:

The original budget did not include Port of Seattle costs for Project and Construction Management, design reviews, Central Procurement Office charges and Regulated Material Management. The Design and Construction costs for this project are a guaranteed maximum based on the State of Washington GA contracting procedures for ESCO contracts.

Original Budget	$2,100,000
Revised Budget	$3,289,900
Previous Authorizations	$ 85,500
Current request for authorization	$3,204,400
Total Authorizations, including this request	$3,289,900
Remaining budget to be authorized	$ 0

Project Cost Breakdown:	**This Request**	**Total Project**
Construction Costs	$2,182,500	$2,268,000
Sales tax	$ 223,000	$ 223,000
Aviation PMG and other soft costs	$ 798,900	$ 798,900
Total	$3,204,400	$3,289,900

Budget Status and Source of Funds:

This project was included in the 2011 capital budget and plan of finance as a business plan prospective project within CIP C800268 with a budget of $2.1 million. In 2009 the project was authorized by the Commission in its preliminary estimation phase prior to full design work and prior to necessary Port project management additions. As a result of final analysis costs have increased. The necessary added budget will be transferred from existing available budget within the Aeronautical Allowance CIP. The funding source will be the Airport Development Fund. Related construction costs identified as expense costs will also be funded with the Airport Development Fund.

Financial Analysis and Summary:

CIP Category	New/Enhancement
Project Type	Infrastructure Renewal/Replacement
Risk adjusted Discount rate	N/A
Key risk factors	N/A
Project cost for analysis	$3,289,900

Business Unit (BU)	Terminal
Effect on business performance	NOI after depreciation will increase
IRR/NPV	NPV is slightly negative, IRR = 5.3%
CPE Impact	Operating cost savings essentially offset increased capital costs resulting in no impact to CPE.

Lifecycle Cost and Savings:

ENVIRONMENT AND SUSTAINABILITY:
This project demonstrates environmental sustainability by improving existing Port assets and better utilizing existing resources. This project has a positive effect on the environment through reduction in energy consumption.

STRATEGIC OBJECTIVES:

This project promotes the Airport's strategic goals to Reduce Cost per Enplanement and implement Environmental Innovation by reducing the Airport's energy consumption. This project also promotes the strategic objective of leading US Airport industry in environmental innovation and minimizing the Airport's environmental impact through the stated goal of reducing annual energy consumption.

BUSINESS PLAN OBJECTIVES:

The aeronautical business strategy aims to strike a right balance between meeting the needs of our airline customers and the traveling public through cost effective means. Minimizing new construction by making new operational improvements with up-to-date equipment and technology helps to minimize costs to the airlines. The use of technology and thoughtful long-term planning are key elements of the strategy.

TRIPLE BOTTOM LINE SUMMARY:

This project reduces customers' utility bills without diminishing comfort for travelers in the Airport terminal. In addition, the Airport continues to strive to demonstrate innovative environmental solutions like this project.

ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:

ALTERNATIVE 1: Execute the contract with the State for the Stage II Energy Conservation Project and have the ESCO design and build the energy savings initiatives outlined in the audit. **This is the recommended action.**

ALTERNATIVE 2: Do nothing: Leave the Airport's mechanical systems unchanged. This action is not recommended.

OTHER DOCUMENTS ASSOCIATED WITH THIS REQUEST:

None

PREVIOUS COMMISSION ACTION:

On July 2, 2009, the Commission Authorized the Interagency Agreement between the Port of Seattle and the State of Washington for Energy Conservation Project Management Services and a not-to-exceed amount of $ 85,500 to perform the study.