COMMISSION AGENDA
ACTION ITEM

Item No. _____ 5c _____

Date of Meeting _____ December 10, 2013 _____

DATE: December 2, 2013

TO: Tay Yoshitani, Chief Executive Officer

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

SUBJECT: Facilities Monitoring System Renewal Project at Seattle-Tacoma International Airport (CIP #C800495)

Amount of This Request:	$1,400,000	**Source of Funds:**	Airport Development Fund and Future Revenue Bonds
Est. Total Project Cost:	$3,431,000		
Est. State and Local Taxes:	$99,000		

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 Facilities Monitoring System (FMS) Renewal Project at Seattle-Tacoma International Airport; (2) purchase necessary equipment and software; and (3) authorize the use of Port crews in support of the project and for removal of regulated materials. This request of $1,400,000 is in addition to the $2,031,000 that was previously authorized for a total project authorization of $3,431,000.

SYNOPSIS

The FMS currently monitors over 30,000 system data and status monitoring points at the Airport. It includes critical systems such as the baggage conveyors, elevators, escalators, and moving walks. The system currently provides the annunciation and status visualization of the systems, which allows maintenance and operations personnel to respond quickly and efficiently to system events. The ability to promptly respond to an equipment downtime event directly affects the Airport's customer satisfaction and quality of travel experience. The system was installed in 2004 and is comprised of early 2000 technology hardware and software that have reached the end of their useful lives and are no longer supported by their manufacturers.

This request authorizes the Facilities Monitoring System Renewal project to move forward with necessary upgrades to keep the current system operational, integrate selected Port-owned passenger loading bridges (PLBs) to the system, connect additional elevators to the system for monitoring, upgrade the network connection to selected escalators and moving walks and provide critical baggage conveyance reporting system (BCRS) information to our customers.

This project will provide an upgrade to the system, add monitoring to 29 Port-owned PLBs, add monitoring to two elevators, upgrade the network connection to six parking garage escalators, 19 Airport wide escalators and 6 moving walks, and provide critical real-time monitoring of baggage conveyance systems. This project is included in the 2014-2018 capital budget and plan of finance.

BACKGROUND

The Airport is a large complex facility that includes extensive baggage handling systems, conveyance systems, elevators, escalators, moving walks, and passenger loading bridges that require continuous monitoring and centralized reporting to be efficiently operated and maintained. In 2003, Phase I of the FMS was implemented to replace obsolete monitoring systems with a new state of the art system that monitored over 7,000 points. Phase II of the FMS was implemented in 2004, adding approximately 5,600 new monitoring points for baggage handling systems and new elevators and escalators that were added as part of the South Terminal Expansion Project that built Concourse A. Over 18,000 points were added to monitor subsequent baggage systems in 2006. Currently the FMS monitors over 30,000 points and will continue to increase as baggage conveyance projects are implemented. This project will upgrade the network connection and expand monitoring for an additional 6 parking garage escalators, 19 Airport-wide escalators, 6 moving walks, and integrate 29 currently unmonitored Port-owned PLBs and 2 currently unmonitored elevators.

The FMS is also comprised of a set of software systems to monitor and maintain critical baggage handling systems that include 37 different conveyance systems. The current system provides real-time monitoring, visualization, activity logging, and system event annunciation to minimize downtime and facilitate prompt response when a failure occurs. This project will include a BCRS that will capture all real-time data from FMS monitored baggage systems in a single database and provide a user-friendly reporting and analytics tool to Airport Operations and the airlines. The BCRS will provide baggage-system-specific reporting to efficiently track status and performance metrics, including utilization, capacity, and trending, and provide individual bag locations within the system.

PROJECT JUSTIFICATION AND DETAILS

The purpose of this project is to provide a system upgrade to maintain current operations and expand monitoring of critical systems for elevators, escalators, moving walks, passenger-loading bridges and baggage systems to continue to meet the needs of our customers.

Project Objectives

- Increase reliability and improve ability to maintain the FMS network;
- Maintain response time to equipment anomalies;
- Minimize equipment downtime;
- Expand the system to include currently unmonitored critical systems;

- Provide baggage system utilization, efficiency, and customized reporting to Airport Operations and airlines; and
- Provide stable and secure networking that is flexible to support the Airport's future growth.

Scope of Work

The project will be delivered in two work projects:

1) The Aviation Project Management Group (AV PMG) will manage the major construction and FMS upgrade. This work project will have two phases. Phase 1 entails the upgrade of the current system that includes the replacement of outdated hardware and software with newer technology that will allow for system expansion. The hardware and software will be furnished and installed by the Port. Port Maintenance Staff will perform the final configuration into the FMS in conjunction with the design consultants. Once the system has been updated, it will be expanded to include an additional 25 escalators, 6 moving walks, and 2 elevators. Concurrent with the FMS upgrade, the design consultant has prepared full design and prepared construction bid documents for Phase 2.

Phase 2 is the expansion to the PLBs through a major construction contract. It also includes Port crews to manage any incidental regulated materials management and communication and electrical relocation. This phase requires new network infrastructure and final configuration into the FMS.

2) The BCRS project will be managed by the Information & Communication Technology Department (ICT). This project will procure and deploy a commercial off-the-shelf solution to consolidate data from all FMS monitored baggage conveyance systems into a single data store. This phase will be completed after the FMS system infrastructure is available. This was authorized on January 22, 2013.

FMS Upgrade Schedule

Commission Authorization for Design	January 2013
Commission Authorization to Advertise Construction	December 2013
Advertise	January 2014
Notice to Proceed	April 2014
Construction Complete	September 2014

BCRS Implementation Schedule

System Procurement Complete	December 2013
Implementation Complete	July 2014

FINANCIAL IMPLICATIONS

Budget/Authorization Summary	Capital	Expense	Total Project
Original Budget	$5,000,000	$0	$5,000,000
Previous Budget Reduction	($1,577,320)	$8,320	($1,569,000)
Revised Budget	$3,422,680	$8,320	$3,431,000
Previous Authorizations	$2,022,680	$8,320	$2,031,000
Current request for authorization	$1,400,000	$0	$1,400,000
Total Authorizations, including this request	$3,422,680	$8,320	$3,431,000
Remaining budget to be authorized	$0	$0	$0
Total Estimated Project Cost	$3,422,680	$8,320	$3,431,000

FMS Upgrade Project Cost Breakdown (Project 1):	This Request	Total Project
Construction	$1,082,000	$1,082,000
Construction Management	$197,000	$207,000
Design	$0	$1,145,680
Project Management	$0	$130,000
Permitting	$22,000	$22,000
State & Local Taxes (estimated)	$99,000	$166,000
Expense	$0	$3,320
Total	$1,400,000	$2,756,000

BCRS Project Cost Breakdown (Project 2):	This Request	Total Project
Software	$0	$100,000
Vendor Services	$0	$325,000
ICT Labor	$0	$68,000
Aviation Maintenance	$0	$50,000
Contingency (~20%)	$0	$117,500
Sales Tax (9.5%)	$0	$9,500
Total Capital:	$0	$670,000
System Training	$0	$5,000
Total Expense:	$0	$5,000
TOTAL BCRS PROJECT:	$0	$675,000

Budget Status and Source of Funds

This project, CIP #C800495, is included in the 2014-2018 capital budget with a budget of $3,422,680. The funding source will be the Airport Development Fund and future bonds. As discussed with the plan of finance, the Port anticipates issuing bonds in 2014 to fund a number of projects.

Financial Analysis and Summary

CIP Category	Renewal/Enhancement
Project Type	Infrastructure Upgrade
Risk adjusted discount rate	N/A
Key risk factors	N/A
Project cost for analysis	$3,431,000
Business Unit (BU)	Terminal
Effect on business performance	NOI after depreciation will increase
IRR/NPV	N/A
CPE Impact	$0.01 in 2015; however, no change from business plan forecast as this project was included.

Lifecycle Cost and Savings

The FMS renewal will continue to require software updates and limited on-call support through the vendors. Facilities and Infrastructure (F&I) has included approximately $25,000 within its annual operating budget for the updates and support that are necessary to keep the system functional. An annual increase of $16,000 is estimated for the BCRS software license and maintenance agreements and will be included in the ICT annual operating budget.

STRATEGIES AND OBJECTIVES

The project supports the Port's Century Agenda objectives to make Sea-Tac Airport the West Coast "Gateway of Choice" for international travel, meet the region's air transportation needs at Seattle-Tacoma International Airport for the next 25 years, and encourage the cost-effective expansion of domestic and international passenger and cargo service.

TRIPLE BOTTOM LINE

Economic Development

This project will minimize downtimes and provide prompt response times to meet the needs of the airlines and ultimately the Airport's travelling customers.

The Office of Social Responsibility (OSR) will provide support in determining small business participation, as described in small business Resolution No. 3618. The project manager will work with the OSR to determine small business participation opportunities.

Environmental Responsibility

The project demonstrates environmental sustainability by improving existing Port assets.

Community Benefits

This project will support future airline growth. Long-term vitality of the Airport benefits the regional economy, the local environment, and nearby communities.

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1) – Do nothing. This alternative would be to operate the FMS as is, replace failed components as needed and upgrade the software as the opportunity arises. This approach has kept the system operating so far; however, it will not allow system modernization and expansion to monitor critical systems such as baggage systems and connection to more elevators, escalators, moving walks, and passenger loading bridges. This is not the recommended alternative.

Alternative 2) – Provide system upgrade to allow future expansion to integrate critical systems to be monitored. **This is the recommended alternative.**

ATTACHMENTS TO THIS REQUEST

- None.

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

- January 22, 2013 – the Commission authorized the preparation of full design and construction bid documents and purchase of equipment to upgrade the Facilities Monitoring System (FMS).