COMMISSION AGENDA   **Item No.**   5d

ACTION ITEM   **Date of Meeting**   January 22, 2013

DATE: January 11, 2013

TO: Tay Yoshitani, Chief Executive Officer

FROM: David 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: $2,031,000   **Source of Funds:** Airport Development Fund

Est. State and Local Taxes: $67,000   **Est. Jobs Created:**   0

Est. Total Project Cost: $3,431,000

ACTION REQUESTED:

Request Commission authorization for the Chief Executive Officer to prepare full design and construction bid documents and purchase equipment to upgrade the Facilities Monitoring System (FMS) at the Seattle-Tacoma International Airport in the amount of $2,031,000, with a total estimated budget for the completed project of $3,431,000.

SYNOPSIS:

This request authorizes the Facilities Monitoring System Renewal project to move forward with the 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 a critical baggage conveyance reporting system (BCRS) to our customers. This work will be performed under an existing mechanical/electrical design indefinite delivery, indefinite quantity (IDIQ) contract with a current ordering period end date of April 26, 2014. This project was included in the 2013-2017 capital budget and plan of finance.

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 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.

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 (STEP). Over 18,000 points were added to monitor subsequent baggage systems in 2006. Currently the FMS monitors over 30,000 points. This project would upgrade the network connection and expand monitoring for an additional six parking garage escalators, 19 Airport-wide escalators, six moving walks, and integrate 29 currently unmonitored Port-owned PLBs and two 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 in a single database and provide user friendly reporting and analytics tool to the Airlines. The BCRS will provide baggage system specific reporting to efficiently track status and performance metrics, including utilization, capacity, trending, and provide individual bag locations within the system.

PROJECT JUSTIFICATION:

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 airline customers; and
- Provide stable and secure networking that is flexible to support the Airport's future growth.

PROJECT SCOPE OF WORK AND SCHEDULE:

Scope of Work:

The project will be delivered in two work projects:

1) FMS upgrade and the major construction will be managed by the Aviation Project Management Group (PMG). This 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. The final configuration into the FMS will be performed by Port Maintenance staff in conjunction with the design consultants. Once the system has been updated, it will be expanded to include an additional 25 escalators, six moving walks, and two elevators. Concurrent with the FMS upgrade, the design consultant will be performing full design and preparing construction bid documents for Phase 2.

Phase 2 is the expansion to the PLBs through a major construction contract. 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.

FMS Upgrade Schedule:

Commission Authorization for Design	January 2013
Commission Authorization to Advertise Construction	June 2013
Advertise	August 2013
Notice to Proceed	November 2013
Construction Complete	September 2014

FINANCIAL IMPLICATIONS:

Budget/Authorization Summary:	Capital	Expense	Total Project
Original Budget	$5,000,000	$0	$5,000,000
Budget Reduction	($1,574,000)	$5,000	($1,569,000)
Revised Budget	$3,426,000	$5,000	$3,431,000
Previous Authorizations	$0	$0	$0
Current request for authorization	$2,026,000	$5,000	$2,031,000
Total Authorizations, including this request	$2,026,000	$5,000	$2,031,000
Remaining budget to be authorized	$1,400,000	$0	$1,400,000
Total Estimated Project Cost	$3,426,000	$5,000	$3,431,000

FMS Upgrade Project Cost Breakdown (Project 1):	This Request	Total Project
Construction	$ 0	$1,082,000
Construction Management	$10,000	$207,000
Design	$1,149,000	$1,149,000
Project Management	$130,000	$130,000
Permitting	$ 0	$ 22,000
State & Local Taxes (estimated)	$67,000	$166,000
TOTAL FMS UPGRADE PROJECT:	$1,356,000	$ 2,756,000

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

Budget Status and Source of Funds:

This project was included in the 2013-2017 capital budgets (CIP #C800495) with a budget of $5,000,000. The budget decrease of $1,574,000 has been transferred to CIP #C800404, Aeronautical New Projects; thus there is no change to the 2013-2017 capital budget. The funding source will be the Airport Development Fund.

The project cost reduction is a result of scope decrease to include only Port-owned passenger loading bridges (PLBs) that have connectivity features that allow FMS to provide monitoring. The number of PLBs decreased from 79 to 29. The remaining Port-owned bridges are due for replacement/upgrades in the near future and will include FMS connectivity in their scope of work.

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 2014; 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 under their 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 operating budget.

STRATEGIC OBJECTIVES:

The project supports the Century Agenda goal to "Meet the region's air transportation needs at Sea-Tac Airport for the next 25 years."

BUSINESS PLAN OBJECTIVES:

This project is consistent with the Airport's business plan objective to operate a world-class international airport by anticipating and meeting the needs of our tenants, passengers, and the region's economy. The upgrade will minimize downtimes and provide prompt response times to meet the needs of the Airlines and ultimately the customers. This project also supports the strategic objective of becoming one of the top ten customer service airports in the world by 2015.

ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:

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 but will not allow for system expansion to monitor critical systems such as baggage systems, elevators, escalators, moving walks, and passenger boarding bridges. This is not the recommended alternative.

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

OTHER DOCUMENTS ASSOCIATED WITH THIS REQUEST:

- None

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS:

- None