

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA

Item No. 6b

Date of Meeting October 25, 2011

DATE: October 14, 2011

TO: Tay Yoshitani, Chief Executive Officer

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

SUBJECT: Vertical Conveyance (Elevator) Modernization Project at Seattle-Tacoma International Airport (CIP # C800251).

Amount of This Request: \$2,991,850 **Source of Funds:** Airport Development Fund and Existing Revenue Bonds

Total Project Cost: \$11,120,000

ACTION REQUESTED:

Request Port Commission authorization to (1) prepare full design documents; (2) authorize Port Construction Services (PCS) to perform Regulated Material Management (RMM) design and monitoring; and (3) bid and award a major construction contract for RMM abatement in existing elevator shafts and related spaces for the Vertical Conveyance (Elevator) Modernization Project, Aero Phase I Project (CIP# C800251) at Seattle-Tacoma International Airport (Airport) for \$2,991,850. The total project cost is \$11,120,000.

SYNOPSIS:

The Airport has developed a renewal and replacement program for both the elevators and escalators throughout the Main Terminal and Satellites. Many of the elevators and escalators are over 40 years old and are at the end of their service lives. The Vertical Conveyance Modernization, Aero Phase I project, one of four individual projects in this program, will incorporate complete elevator modernization upgrades for eight existing traction elevators and for the addition of hydraulic oil cooling units to eleven existing hydraulic elevators in the Main Terminal. The design work for this project will be accomplished utilizing a previously authorized IDIQ contract. The total project cost is \$11,120,000 (including \$1,346,850 expense). This request is to complete design of this elevator modernization project and to authorize the first construction contract to remove regulated materials from all of these elevator shafts. Staff will return in the spring to request the remaining funds and authorization to advertise and award the follow-on construction contract for upgrading the elevators. The Port is evaluating whether it will utilize a project labor agreement (PLA) for the RMM abatement work and/or the follow-on elevator construction contract.

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BACKGROUND:

In 2000/2001 an airport-wide elevator modernization program was planned as part of the Airport Modernization Program. However, the events of September 11, 2001, forced the Airport to significantly scale back those plans. Of the 79 escalators and 80 elevators in the Airport terminal, only 12 elevators and six escalators have been modernized. Since 2001, additional elevators and escalators have been identified for modernization or upgrades due to the increased time in service. Currently the Terminal Escalator Modernization project (\$55,000,000 authorized February 1, 2011) is modernizing 42 existing escalators throughout the Main Terminal and South Satellite and installing two new escalators in the South Satellite. This project (Aero Phase 1- \$11,120,000) will modernize eight elevators and overhaul the hydraulics of 11 existing elevators, which were all identified as the most critical to upgrade quickly. The follow-on projects for next year (Aero Phase 2 - \$17,227,000 and Non-Aero Phase 1 - \$9,806,000) will modernize an additional 15 elevators and 12 escalators. After all of the above projects are completed, 19 escalators and 34 elevators will remain at the terminal that have not been upgraded; however, they are all less than 20 years old and have expected service lives of five years or more remaining. The two follow-on projects for next year may be modified to install new elevators or escalators for the South Satellite Federal Inspection Services mid-term improvements and changes proposed by Alaska Air Group for the C Concourse, both of which are now under study.

The elevators included in this project were installed in 1970 and 1971. Due to their age and technology, the controls, drives and door actuators of these elevators have become uneconomical to maintain. In addition, the replaced systems, i.e., new motors and controls, would be more efficient and meet current energy codes, resulting in energy savings.

Elevator #	Location	Action
SSAF	South Satellite – Freight	Modernize
SSB	South Satellite – Passenger	Modernize
SSC	South Satellite – Passenger	Modernize
MT-2	Main Terminal – South/Center	Modernize
MT-6	Main Terminal – North/Central	Modernize
MT-7	Main Terminal – North	Modernize
C-4	Main Terminal – End of Concourse C	Modernize
NSCF	North Satellite – Freight	Modernize
C-2	Concourse C, Gate C-2	Hydraulic Cooling
B	Main Terminal, between Ckpts #1 & #2	Hydraulic Cooling
J, K, L	Main Terminal – International Carriers	Hydraulic Cooling
MT-20, MT-30, MT-40, MT-50	Main Terminal – Glass Elevators	Hydraulic Cooling
D1	Concourse D Alaska Board Room	Hydraulic Cooling
MT-9	Main Terminal, North STS Station	Hydraulic Cooling

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PROJECT DESCRIPTION/SCOPE OF WORK:

Project Statement:

This project will provide complete modernization of the eight elevators listed above. The comprehensive Port of Seattle elevator modernization program includes the following objectives:

- Improve overall system reliability and performance by providing efficient microprocessor logic for elevator dispatch and individual motor control.
- Replace aged components to ensure 20+ years of reliable service without the need for additional investments besides normal maintenance costs.
- Provide Firefighters' operation to comply with current life safety code requirements.
- Upgrade existing car and hoist way door equipment to provide safe and reliable operation.
- Upgrade elevator car and corridor pushbuttons and signal fixtures to comply with current requirements of the Americans with Disabilities Act (ADA).
- No "worn" parts will be retained. All installed equipment will be replaced with new items.
- Upgrade existing building conditions to comply with current National, State and City elevator safety codes and building code requirements.
- Remove regulated materials (Asbestos Fireproofing) to eliminate the cost and litigation risk of ongoing hazardous material containment and clean-up protocol requirements in the elevator shafts.
- Work with building officials to accommodate code-required upgrades to structural seismic and shaft wall fire rating performance criteria.
- Provide components that reduce overall energy consumption.
- Connect to the existing Port elevator/escalator monitoring system, LiftNet, for quick response in case of failure.

Project Objectives:

1. Improve reliability of elevators to handle current and future passenger loads.
2. Provide a safe and reliable delivery route for concessionaires at both South and North Satellites.
3. Improve passenger travel at South Satellite and Main Terminal by installing new ADA-compliant fixtures and signage.
4. Improve International arrivals passenger travel at South Satellite within the FIS area for those passengers unable to use the existing escalators or stairs.

Scope of Work:

Develop infrastructure to modernize eight existing elevators and retrofit hydraulic oil cooling systems for 11 existing hydraulic elevators. Infrastructure development will, at a minimum, include:

1. Site preparation for installation of elevators and oil cooling systems.
2. Removal of regulated materials as required.
3. Installation of electrical power and control systems.
4. Installation of communication system.

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5. Installation of elevator and oil cooling equipment.
6. Installation and revisions to fire sprinkler systems.
7. Structural, electrical and mechanical revisions to the base building.
8. Commissioning of elevator systems.
9. Testing of installed elevator systems.
10. Closeout of completed project.

STRATEGIC OBJECTIVES:

Ensure Airport and Seaport Vitality

The project provides enhanced capacity and flexibility in critical terminal infrastructure, both for airline customers and for the Airport's concessionaire customers at both the South and North Satellites. This project supports the Airport strategy that provides world-class facilities that anticipate and provide for the needs of travelers and customers.

Exhibit Environmental Stewardship through Our Actions

This project is in alignment with the Port's goal of improving the long-term sustainability of its facilities and operations. This project has a generally positive effect on the environment to the extent that modernized elevators will reduce Airport reliance on less energy efficient vertical conveyance alternatives and will allow more efficient movement of passengers and retail product. Passengers and tenants will benefit from faster, more reliable elevators.

FINANCIAL IMPLICATIONS:

<u>Budget/Authorization Summary</u>	<u>Capital</u>	<u>Expense</u>	<u>Total</u>
Original Budget	\$10,160,000	\$ 960,000	\$11,120,000
Budget increase (decrease)	-\$ 386,850	\$ 386,850	\$ 0
Revised Budget	\$ 9,773,150	\$1,346,850	\$11,120,000
Previous Authorizations	\$ 0		
Current request for authorization	\$ 1,645,000	\$1,346,850	\$ 2,991,850
Total Authorizations, including this request	\$ 1,645,000	\$1,346,850	\$ 2,991,850
Remaining budget to be authorized	\$ 8,128,150	\$ 0	\$ 8,128,150

<u>Project Cost Breakdown – RMM Expense</u>	<u>This Request</u>	<u>Total Project</u>
Construction costs (RMM)	\$1,230,000	\$1,230,000
Sales tax (RMM)	\$ 116,850	\$ 116,850
Total	\$1,346,850	\$1,346,850

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<u>Project Cost Breakdown - Capital</u>	<u>This Request</u>	<u>Total Project</u>
Construction costs	\$ 0	\$ 6,350,000
Sales tax	\$ 0	\$ 603,250
Outside professional services	\$1,045,000	\$ 1,045,000
Aviation PMG and other soft costs	\$ 600,000	\$ 1,774,900
Total	\$1,645,000	\$ 9,773,150
Totals: Capital and Expense	\$2,991,850	\$11,120,000

Source of Funds

This project (CIP # C800251) was included in the 2011-15 capital budget and plan of finance as a business plan prospective project. The funding source will be existing revenue bonds.

Expense funds (Airport Development Fund) will be used for the RMM abatement major construction contract, and supporting/monitoring work to be performed by Port Construction Services.

Financial Analysis

<i>CIP Category</i>	Renewal/Enhancement
Project Type	Infrastructure Upgrade
Risk adjusted Discount rate	N/A
Key risk factors	N/A
Project cost for analysis	\$9,773,150
Business Unit (BU)	Terminal Cost Center
Effect on business performance	NOI after depreciation will increase
IRR/NPV	N/A
CPE Impact	Will increase CPE by \$.04 by 2014. However, no change to business plan forecast since this project was included. The expense costs will cause CPE to increase on a one-time basis by \$.08 spread over two years (approximately \$.04 in 2012 and 2013)

There are no anticipated increases in annual elevator O&M costs associated with this project.

ECONOMIC IMPACTS:

The Port will spend less maintenance funds on emergency and/or urgent repairs to existing vertical conveyance equipment.

ENVIRONMENTAL SUSTAINABILITY/COMMUNITY BENEFITS:

There are significant benefits with reductions in handling of concessionaire's retail product on the ramp, as they will be able to use freight elevators, in lieu of service elevators or freight elevators that are not co-located where their retail product is stored. Reduced ramp vehicular traffic will result in lower fuel consumption and therefore less carbon air emissions.

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TRIPLE BOTTOM LINE SUMMARY:

This project will provide tangible improvements to the Airport's vertical circulation capability. Passengers will be able to depend on reliable vertical circulation means to safely and quickly move between floors in the South Satellite, Concourse C and Main Terminal. In addition, the modernized freight elevators will allow goods to be reliably delivered to the concession storage areas, and safely and efficiently retrieved by concession tenants when needed. Reduced freight and service use of passenger elevators in the North and South Satellite will also enhance passenger travel experiences.

PROJECT SCHEDULE:

(For the Capital Funded Major Construction Contract)

- | | |
|---|---------------|
| • Commission Authorization to Start Design | October 2011 |
| • Start Design | November 2011 |
| • Design Complete | June 2012 |
| • Commission Authorization to Bid and Increase Budget | June 2012 |
| • Bid Advertisement | July 2012 |
| • Commission Authorization to Award | August 2012 |
| • Construction Start | October 2012 |
| • Construction Complete | December 2013 |

(For the Expense funded RMM Major Construction Contract)

- | | |
|---|---------------|
| • Commission Authorization to Bid and Increase Budget | October 2011 |
| • Design Start | October 2011 |
| • Design Complete | November 2011 |
| • Bid Advertisement | November 2011 |
| • Commission Authorization to Award (if necessary) | December 2011 |
| • Construction Start | January 2012 |
| • Construction Complete | August 2013 |

ALTERNATIVES CONSIDERED/RECOMMENDED ACTION:

Alternative 1: The age and their obsolete technology require these elevators to be modernized to current standards. This is the recommended alternative.

Alternative 2: The "Do Nothing" alternative results in continued customer service disruptions and increased maintenance costs. Many parts are no longer available and have to be custom manufactured, where possible. At some point in time, even custom fabricated replacement parts will not be available, and the elevators will be modernized using maintenance funds, all at a greater cost than proceeding with a designed and competitively bid modernization project.

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS:

None.

OTHER DOCUMENTS ASSOCIATED WITH THIS REQUEST:

Map – Key Plan, Vertical Conveyance Modernization, Aero Phase 1