

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA
ACTION ITEM

Item No. 5d
Date of Meeting September 10, 2013

DATE: August 28, 2013
TO: Tay Yoshitani, Chief Executive Officer
FROM: David Soike, Director, Aviation Facilities and Capital Program
Wayne Grotheer, Director, Aviation Project Management Group
SUBJECT: Centralized Pre-Conditioned Air Project at Seattle-Tacoma International Airport
CIP # C800238

Amount of This Request: \$ 600,000 **Source of Funds:** Airport Development Fund,
Revenue bonds, Grants
Est. Total Project Cost: \$ 47,825,000
Est. State and Local Taxes: \$ 3,403,209

ACTION REQUESTED

Request Commission authorization to increase funding for the Centralized Pre-Conditioned Air Project (PC Air) at the Seattle-Tacoma International Airport by \$600,000 for the project design consultant and Port staff support through the completion of the project. In accordance with RCW 53.19.060, this memorandum constitutes notification to the Commission that the amended amount of the design contract exceeds 50 percent of the original not-to-exceed contract value.

SYNOPSIS

On September 13, 2010, the Port executed a construction contract for PC Air with Lydig Construction. During construction, many issues were discovered that were not addressed in contract documents. In previous Commission actions, change orders were approved to make the required modifications, increase construction direct costs and extend the project schedule by 258 days to August 26, 2013.

However, these earlier requests did not address indirect costs related to the extended project schedule including:

- The consultant design team
- Port of Seattle staff

Additionally, contract time extension impact costs are being negotiated with the contractor, and a separate request for additional funding for these costs will follow when negotiations are complete. This project was included in the 2013 – 2017 capital budget and plan of finance, and additional funding to cover this budget increase of \$600,000 will be transferred from CIP #C800404, Aeronautical Allowance, resulting in no net change in the 2013 – 2017 capital budget.

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BACKGROUND

Lydig Construction was the low bidder with contract execution on September 13, 2010. The original contract completion date was December 12, 2012. There have been two contract extensions granted, extending the current contract completion by 258 days to August 26, 2013.

This request is for a \$600,000 increase in project soft costs associated with the contract extension.

Including this request for \$600,000, the project budget has increased from \$40,600,000 to \$47,825,000. The budget increase has paid for change orders, added to construction contingency for potential change orders, and covered additional consulting and additional Port crew costs. The change orders have been due to design errors or omissions due to an accelerated design period, access challenges for piping installation, resolution of conflicts and interferences for piping installation given existing conditions, revisions in building and electrical codes, and changes in Port requirements since the project was bid. The Port incurred additional costs to review change orders and to resolve design issues during construction. Additional Port crew costs were also expended to open and close ceilings and walls in occupied areas, shut down utilities during construction, and test equipment following construction.

On July 29, 2009, the Port executed a contract with Stantec Consulting for design and engineering support during construction for the PC-Air project at the Airport in the amount of \$2,011,564. Subsequent to execution of the initial contract, a total of nine amendments have been executed. Amendments Nos. 1, 2, 3, and 5 were for clarification of positions and adjustment of rates. Amendment No. 4 was approved for the use of overtime to complete the design to meet revised FAA grant application deadlines. Amendments 6, 7, 8, and 9 added scope and addressed necessary design revisions during construction and provided for additional construction support. With the execution of amendment No. 9, the total contract value was \$3,260,903. Due to construction contract completion delays, ongoing consultant support is needed to complete the project. The Port is seeking to execute amendment No. 10 for an estimated value of \$200,000. Amending the contract with Stantec Consulting will allow the Port to support project completion and adequately document the many contract changes. Staff is negotiating the fee with Stantec and will finalize the amendment for execution should this request be approved.

As this amendment and prior amendments exceed 50% of the original value of the service agreement, per the requirements of RCW 53.19.060, this memorandum will be made publicly available at the Port's Bid Desk.

Despite the design and contracting challenges, the project is beginning to operate at Concourse A and B and the South Satellite. Cost growth is far less than the value of the \$21.9 million in FAA grants that were made possible by the expedited design prior to awarding the contract. Project completion is now scheduled for the fourth quarter of 2013.

PROJECT JUSTIFICATION AND DETAILS

The Centralized PC Air project is a very large and complex project that benefits airlines and travelers. Regardless of the outside weather conditions, a traveler expects the temperature of the inside of an aircraft to be a comfortable 68 to 70 degrees. Generally, an airplane is able to

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achieve the right temperature inside by running an auxiliary jet engine. To properly condition the inside of that airplane cabin, the auxiliary engine burns fossil jet fuel. If all the jet auxiliary engines across all gates are considered, the carbon dioxide generated over a year equates to about 8,000 cars on the road, or 40,000 metric tons of greenhouse gases. The estimated amount of jet fuel burned is about 5 million gallons per year.

Instead of burning fossil fuel, the PC Air project is a system of chillers, heaters, and pipes that provide both the heating and cooling to the aircraft from a central plant at the Airport. The Airport central plant can more effectively keep the airplane at a comfortable temperature when it is at any one of SeaTac's gates. The flight crews can turn off aircraft auxiliary engines and plug in at the gate to receive both heated and cooled air.

This will lower costs to the airlines while producing significant environmental benefits by reducing the release of tens of thousands of tons of carbon dioxide (CO₂) emissions each year. This project is a cost-effective way to aid the airlines while improving the quality of the environment. While the airlines have approved funding for this project, a Federal Aviation Administration (FAA) Voluntary Airport Low Emission (VALE) grant was obtained for this project. The FAA provided \$21,912,679 in grants for this project.

The most challenging part of building this project has been the piping installation. Conditioned (chilled and heated) glycol is circulated in these pipes from a central location to every aircraft gate. The passenger loading bridge structure is used as the final link to provide warm or cooled air to the airplane passenger cabin. The glycol piping is large (6", 8" and 10" in diameter) and because it is full of liquid, it is very heavy. It is hung from large hangers that penetrate walls, is supported by structural beams and columns across the varying concourses, and has to run for miles across building walls and roofs. This project includes the installation of 15 miles of piping within our existing terminals and going to each jet doorway at 73 gates. The piping installation is completed. Testing, startup and commissioning a system this large is challenging; however, that work is underway and airlines are beginning to use the system.

Although the contract direct costs and time extensions have been addressed via previously issued change orders, there are indirect costs associated with the project time extension. These costs include the design team and Port staff who support the project through close-out. Additionally, the indirect costs related to the construction contract have not been fully addressed. Since the amount of the compensation due is currently disputed, staff will return to Commission when those are resolved.

Although the cost of the project has increased, the financial benefits remain attractive. The following is based on today's jet-a price of \$3.06 per gallon minus 10% for energy costs (rough number).

The benefit is the potential annual savings of 5 million gallons of jet fuel.

5,000,000 gallons of jet fuel saving per year @ \$2.75 net benefit = \$13,750,000 per year.

- \$45M project cost minus \$21.9M VALE: \$23.1M Port cost. Payback period = 1.7 years
- \$50M project cost minus \$21.9M VALE: \$28.1M Port cost. Payback period = 2.0 years

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FINANCIAL IMPLICATIONS

<i>Budget/Authorization Summary</i>	Capital	Expense	Total Project
Original Budget	\$40,600,000	\$0	\$40,600,000
Previous Authorizations	\$46,635,000	\$590,000	\$47,225,000
Current request for authorization	\$600,000	\$0	\$600,000
Total Authorizations, including this request	\$47,235,000	\$590,000	\$47,825,000
Remaining budget to be authorized	\$0	\$0	\$0
Total Estimated Project Cost	\$47,235,000	\$590,000	\$47,825,000

<i>Project Cost Breakdown</i>	This Request	Total Project
Construction	\$0	\$35,823,242
Construction Management	\$200,000	\$3,116,244
Design and Construction support	\$200,000	\$3,759,000
Project Management	\$200,000	\$1,486,449
Permitting	\$0	\$236,856
State & Local Taxes (estimated)	\$0	\$3,403,209
Total	\$600,000	\$47,825,000

Budget Status and Source of Funds

This project (CIP # 800238) was included in the 2013-2017 capital budget and plan of finance with a budget of \$ 45,535,000. The budget was increased by \$1.1 million in January 2013. The current budget increase of \$600,000 will be transferred from CIP # C800404, Aeronautical Allowance, resulting in no net change to the 2013-2017 capital budget. The funding plan includes \$21.9 million in VALE program grants, existing revenue bonds, and the Airport Development Fund. This project was reviewed by the airline representatives and approved through a Majority-In-Interest vote in June 2008.

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Financial Analysis Summary:

CIP Category	New/Enhancement
Project Type	infrastructure
Risk adjusted Discount rate	10%
Key risk factors	Realization of savings due to lower jet fuel usage
Project cost for analysis	\$25,925,000 (total cost excluding grants)
Business Unit (BU)	Terminal Cost Center
Effect on business performance	NOI after depreciation will decrease due to recognizing depreciation on the full cost yet recovering capital costs for the non-VALE funded portion only
IRR/NPV	NPV range of net saving to airlines: \$5 million to \$30 million. (calculated in 2010)
CPE Impact	CPE will increase by \$.13 in 2014; however, this costs will be offset by decreased airline operating costs. This project was included in the business plan forecast.

ATTACHMENTS TO THIS REQUEST

None.

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

On May 28, 2013, the Commission authorized a contract extension of 221 days, which established a new project completion of August 26, 2013.

On November 7, 2012, the Commission authorized a budget increase of \$1,100,000 to replenish construction contingency due to disputed costs. Additionally, the Commission authorized the execution of Change Order No. 121 in the amount of \$344,558 to resolve the remaining disputed costs related to Change Order No. 113 due to changes in the routing of PC Air piping at Concourse D.

On October 2, 2012, the Commission authorized a budget increase of \$2,000,000 to cover additional costs related to construction, design support, and Port Construction Services and Port Maintenance support for the project. Additionally, the Commission authorized the execution of Change Order 119 in the amount of \$509,013 for additional costs related to the North Satellite Tunnel pipe routing.

On September 11, 2012, the Commission authorized execution of Change Order 113 in the amount of \$776,910 for changes to the pipe routing at Concourse D. Total project funding authorization remained at \$40,600,000.

On September 27, 2011, the Commission authorized a budget increase \$3,525,000 to cover additional costs to the construction budget, outside professional services and project management soft costs. Total project funding authorization increased to \$44,125,000.

On May 24, 2011, the Commission authorized execution of a \$400,000 amendment to the professional service agreement with Stantec Consulting. Total project funding authorization remained at \$40,600,000.

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On May 11, 2010, the Commission authorized staff to advertise for bids, apply a Project Labor Agreement (PLA), and authorize Port Construction Services to perform pre-construction work, including moving tenants, for Phase I and Phase II of the PC Air Project (CIP # C800238) at the Airport and execute a construction contract. This authorization was for \$36,830,000. The estimated total project cost is \$40,600,000.

On January 13, 2009, the Commission authorized procurement and execution of service agreements with consultants to perform design, prepare contract documents, and perform contract administration for the Pre-Conditioned Air project at Seattle-Tacoma International Airport in the amount of \$3,770,000.