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COMMISSION

AGENDA MEMORANDUM Item No. 8g

ACTION ITEM Date of Meeting October 24, 2023

DATE: October 12, 2023

TO: Stephen P. Metruck, Executive Director

FROM: Keri Stephens, Director, Aviation Facilities and Capital Programs

Eileen Francisco, Director, Aviation Project Management

SUBJECT: PLB Renewal & Replacement Phase 4 (CIP# 801308) – Design & Construction  
Authorization

Amount of this request: \$16,850,000

Total estimated project cost: \$17,000,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to (1) Prepare design and construction bid documents for the Passenger Loading Bridge (PLB) Renewal Replacement Phase 4 project; (2) Purchase six PLBs and associated gate equipment for specified gates; (3) Use Port of Seattle crews, and small and major works on-call contracts to support design activities and to perform the construction work; and (4) Advertise, bid, and execute up to four major works construction projects. The amount of this request is \$16,850,000 for an estimated total project cost not to exceed \$17,000,000.

EXECUTIVE SUMMARY

This project will replace the next set of six (6) passenger loading bridges that are at the end of their functional service. This project will remove the existing PLBs, including columns, and install new aspects that will bring the systems up to current design standards. The foundations for each PLB column will also be modified/replaced to comply with the current seismic code. To improve the customer experience, acrylic coating paint will be applied to up to two of the new PLBs to evaluate the thermal effect in hot weather scenarios. The existing ancillary equipment will be removed and reinstalled as-is.

JUSTIFICATION

Seattle-Tacoma International Airport (SEA) is among the busiest airports in the United States with over approximately 46 million passengers processed yearly (2022). In 2022, each PLB serviced approximately 520,000 passengers including loading and unloading operations. In July of 2023,

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we observed a single day record of approximately 198,000 passengers travelling through SEA, illustrating the regional growth and importance of airport facilities. Reliable, well-operating PLBs are critical to airline and airport operations. With an expected service life of approximately 25 years, replacing these PLBs at the appropriate time is important in maintaining smooth airport operations. Any unplanned gate outages, due to PLB or fixed walkway failure, impacts the airports' ability to properly process the growing number of passengers that are travelling through SEA.

Due to the extended manufacturing time for PLBs, maintaining a phased schedule is critical for reducing the gate outage time during replacement. The work for this project will replace existing assets that are highly utilized by customers and employees as they travel through the airport. Disruption to the bridge operations have direct impact to airport-wide operations.

Diversity in Contracting

The design services will be completed using an existing IDIQ contract that was established in 2020 which has a 24% WMBE participation utilization requirement.

DETAILS

Scope of Work

(1) Replacement of a total of six (6) PLBs, support columns, rotunda columns, and associated control boxes. PLBs to be replaced for this project:

- A1
- A2
- A3
- A4

- A5
  - A14
- (2) Modify existing column foundations, where applicable, to meet current seismic code requirements.
- (3) Installation of bridge telecommunication connections to the MDC or COM room.
- (4) Install new 400Hz gate boxes for Gates A1, A2, A5, and A14.
- (5) Reconnect hydronics and electrical power to bridge systems.
- (6) Regulated Materials Management (RMM) – Coordination and containment.
- (7) Disconnect and reinstall existing equipment if necessary or required, which includes PC Air Units (install isolation valves, if necessary), Potable Water Cabinet (PWC), and charging equipment for electric servicing vehicles.
- (8) Apply Acrylic Coating Paint on exterior of up to two (2) PLBs to evaluate effect on thermal properties. This was originally created as standalone project (C801323) but will be merged with this project.

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Schedule

Activity

Design complete Q4 2024

Construction Notice to Proceed (First PLB) Q1 2025

Substantial completion (Final PLB) Q2 2027

Cost Breakdown This Request Total Project

Design \$4,752,000 \$4,902,000

Construction \$12,098,000 \$12,098,000

Total \$16,850,000 \$17,000,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Status Quo. Do not proceed with the project.

Cost Implications: Approximately \$150,000 for Notebook Development and preliminary design investigations would be expensed.

Pros:

- (1) Defers capital investment.

Cons:

- (1) Passenger Loading Bridges will be operating beyond their service life.
  - (2) Passenger Loading Bridges will be operating with foundations under old seismic code, posing significant risks in the case of a seismic event.
  - (3) Emergency PLB replacements will cost more and have a greater impact to operations.
  - (4) Increased risk of unplanned gate outages.
  - (5) Smaller separate project will be needed to replace components of PLB to keep it operational.
  - (6) Outdated technology may not support other bridge improvements (Safedock, Jetdock).
- This is not the recommended alternative.

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Alternative 2 – Proceed with project as scoped. PLB Replacement, 400Hz Gatebox Replacement, PLB Replacements/Modifications

Cost Implications: \$17,000,000 in capital costs.

Pros:

- (1) Replace all six PLBs that are nearing their end of service life.
- (2) Upgrade PLB foundations to adhere to current code requirements.
- (3) Replace four aging 400Hz gate boxes.

(4) Install new equipment with capacity for future improvements.

Cons:

(1) Capital costs.

This is the recommended alternative.

#### FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary Capital Expense Total

#### COST ESTIMATE

Original estimate \$24,800,000 \$0 \$24,800,000

Current change (\$7,800,000) \$0 (\$7,800,000)

Revised estimate \$17,000,000 \$0 \$17,000,000

#### AUTHORIZATION

Previous authorizations \$150,000 \$0 \$150,000

Current request for authorization \$16,850,000 \$0 \$16,850,000

Total authorizations, including this request \$17,000,000 \$0 \$17,000,000

Remaining amount to be authorized \$0 \$0 \$0

The change in cost from the original Status 2 estimate is due to (1) a reduction in the number of PLB replacements for this project; (2) further scope clarification regarding each PLBs foundation requirements (modification vs. full replacement); and (3) better accuracy of scope and activity costs, based on lessons learned from previous PLB Renewal and Replacement phases.

#### Annual Budget Status and Source of Funds

The PLB Renewal & Replacement Phase 4 (CIP #C801308) was included in the 2023-2027 capital budget and plan of finance with a budget of \$24,800,000. The capital decrease of \$7,800,000 was transferred to the Aeronautical Allowance<sup>1</sup> CIP C800753 resulting in no net change to the Airport capital budget. This project will be submitted for Majority-In-Interest approval from the airlines

<sup>1</sup> The Aeronautical Allowance is included in the Capital Improvement Plan to ensure funding capacity for unspecified projects, cost increases for existing projects, new initiatives, and unforeseen needs. This ensures funding capacity for unanticipated spending within the dollar amount of the Allowance CIP.

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in December 2023. The funding sources will be the Airport Development Fund and revenue bonds.

#### Financial Analysis and Summary

Project cost for analysis \$17,000,000

Business Unit (BU) Passenger Loading Bridges

Effect on business performance NOI after depreciation will increase due to inclusion of (NOI after depreciation) capital (and operating) costs in airline rate base

IRR/NPV (if relevant) N/A

CPE Impact \$0.05 in 2028

Future Revenues and Expenses (Total cost of ownership)

This project will likely have no impact on Aviation Maintenance operating & maintenance (O&M) costs. This is a renewal and replacement project that replaces PLBs that are old. Replacement will require a similar level of maintenance. Therefore, there will not be a material impact on Aviation O&M costs.

#### ATTACHMENTS TO THIS REQUEST

(1) Presentation slides.

#### PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

None.

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