



COMMISSION
AGENDA MEMORANDUM

Item No. 8d

ACTION ITEM

Date of Meeting August 8, 2023

DATE : July 31, 2023

TO: Stephen P. Metruck, Executive Director

FROM: Eileen Francisco, Director Aviation Project management
Laurel Dunphy, Director Airport Operations

SUBJECT: N14 Wide-Body and N15 Narrow-Body Common Use Gates (C801333)

Amount of this request: \$3,875,000

Total estimated project cost: \$9,380,500

ACTION REQUESTED

Request Commission authorization for the Executive Director to authorize \$3,875,000 for final design, preparation of construction bid documents, and the procurement of long-lead material items for the N14 Wide Body and N15 Narrow Body Common-Use Gates at Seattle-Tacoma International Airport (SEA). This request is for \$3,875,000 for a total authorization of \$4,170,000.

EXECUTIVE SUMMARY

Planned upcoming construction projects will place a premium on the need for Wide-Body (WB) aircraft gates at SEA as several WB gates will be taken out of service. The N14 WB and N15 Narrow-Body (NB) Common Use Gates Project converts Gate N14 to be used for WB aircraft operations including international departures, while allowing Gate N15 to operate as a common-use NB aircraft gate, although not simultaneously. The project will also improve WB aircraft flexibility for Gate N16 through the addition of a starboard fuel hydrant pit (FHP) and associated infrastructure improvements. The long-lead material purchase maintains the construction schedule for Summer/Fall 2024.

JUSTIFICATION

There are limited number of WB aircraft gates at SEA, and several WB gates will be taken out of service because of upcoming planned construction projects, including reconstruction of the S Concourse, which will severely limit flight scheduling flexibility.

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This project will help mitigate the impacts of WB aircraft gate outages during planned construction, as it is necessary to meet current airport demand. Gate N14 improvements include apron Portland cement concrete pavement (PCCP) panels, lighting, pre-conditioned air (PCAir), 400 Hz power, Safedock, striping and two fuel hydrant pits and associated infrastructure. Additionally, this project includes adding a starboard fuel hydrant pit (FHP) and associated infrastructure improvements at Gate N16.

The project will improve safety, reduce emissions, and improve operational efficiencies at Gates N14 and N16.

- Safety improvements include the reduction of fuel trucks operating within the congested apron environment.
- Emissions reductions will be realized through upgrading ground power (400 Hz) and PCAir units servicing WB aircraft at Gate N14 allowing airlines to shut down on-board aircraft power units when parked at Gate N14.
- Operational efficiencies will be gained as Gates N14 and N16 will provide all airlines with the ability to fuel either (or both) wing(s) of their WB aircraft, providing necessary gate scheduling flexibility during planned construction projects.

Diversity in Contracting

The project team has been working with the Diversity in Contracting Department and will be returning to the Commission for construction authorization along with an aspirational goal for women and minority business enterprises (WMBE) participation in the construction contract. The design services contract (P-00320884) includes a 15% WMBE participation requirement and is currently trending below the requirement. However, Service Directive (SD) and associated Modification for this project are estimated to provide 30% utilization, which will help the overall Service Agreement utilization. The project management services contract (P-00320718) includes a 16% WMBE participation requirement and is currently trending above the requirement. The SD and associated Modifications for this project are estimated to continue the positive trend with an estimated 23% utilization.

Long-lead Material Procurement

Certain construction materials and necessary project equipment may have lead times exceeding standard contractor mobilization time frames. The project team has been analyzing the construction bidding market to identify these critical material items including, but not limited to utility covers, high mast light poles/luminaires, hydrant fuel pits, PCAir units, and Safedock units. Early procurement of these items as owner furnished/contractor installed (OFICI) items will help maintain the construction schedule and planned gate closures for Summer/Fall 2024. As final design progresses the project team will confirm critical OFICI items and work with the Central Procurement Office (CPO) to develop the most effective path forward.

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DETAILS

Final design for the project will investigate “islands” of old pavement surrounded by recently constructed PCCP panels and evaluate the cost-benefits of replacing the pavement now versus deferral. The design team will review pavement markings for standards compliance. Passenger loading bridge (PLB) configurations will be reviewed for WB aircraft at gates N14 and N16. The project will include improved apron lighting along with new high mast light foundation(s). The design team will also provide specifications for temporary lighting, and associated maintenance, during construction.

The project team will design three new FHP locations and associated infrastructure, including emergency shutoff valves. Channel drain locations and alignment within the project limits adjacent to the new FHP locations will be evaluated for efficacy to contain fuel spills.

The following ground support infrastructure will be reviewed and confirmed or designated for improvement through the project:

- (1) Potable water connections.
- (2) Electric ground support equipment (eGSE) charging stations, including access and staging.
- (3) Aircraft fueling systems.
- (4) PCAir to accommodate WB aircraft.
- (5) 400 Hz power to accommodate WB aircraft.
- (6) SafeDock locations and settings to accommodate WB aircraft.

The project will be combined with other airfield projects as a single construction contract for economies of scale, lower administrative costs, and lower impacts to airfield operations than from multiple construction contracts. The project team will be working with the Labor Relations Department and will be returning to the Commission for construction authorization along with a determination of applicability for a Project Labor Agreement (PLA) as part of the construction contract.

Scope of Work

Scope of work for this project is anticipated to include the following improvements:

- (1) Apron pavement replacement at Gates N14, N15, and N16.
- (2) Supplemental lighting installations at Gate N14.
- (3) PCAir unit for WB aircraft at Gate N14.
- (4) 400 Hz power unit for WB aircraft at Gate N14.
- (5) SafeDock aircraft guidance system unit for WB aircraft at Gate N14.
- (6) Airfield markings (striping) at Gates N14, N15, and N16.
- (7) Fuel hydrant pits and associated infrastructure.
 - a. Two at Gate N14.
 - b. One at Gate N16.

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Schedule

Activity

Commission construction authorization	2024 Quarter 1
Construction contract execution	2024 Quarter 2
Construction start	2024 Quarter 3
In-use date	2024 Quarter 4

Cost Breakdown

	This Request	Total Project
Design	\$1,375,000	\$1,670,000
Construction	\$2,500,000	\$7,710,500
Total	\$3,875,000	\$9,380,500

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Three alternatives were considered ranging from a no project alternative through the requested authorization for the recommended alternative. Narrative, cost implications, pros, and cons for each alternative are provided below.

Alternative 1 – Status quo (no project alternative). This alternative considers the pros and cons of not moving forward with the project scope described above.

Cost Implications: No capital or expense costs.

Pros:

- (1) Gate N14 operations continue without interruption.
- (2) Gate N16 operations continue without interruption.

Cons:

- (1) Gate N14 not fully capable to accommodate WB aircraft.
- (2) No hydrant fueling capability for the current interim WB aircraft parking position at Gate N14.
- (3) Gate N16 not fully capable to accommodate WB aircraft.
- (4) Slower WB aircraft turns due to slower fueling operations at Gate N16.
- (5) Loss of fuel system redundancy in the event the existing FHP at Gate N16 requires maintenance or in the event of aircraft maintenance on the port side of the WB aircraft at Gate N16.

This is not the recommended alternative.

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Alternative 2 – N14/N15 Only. (No additional FHP at Gate N16). This alternative considered the full project scope described above, limited to just the work areas for Gate N14 and Gate N15.

Cost Implications: 7,152,300.

Pros:

- (1) Gate N14 fully capable of accommodating WB aircraft.
- (2) Gate N16 operations continue without interruption.
- (3) Potential capital cost savings.

Cons:

- (1) Gate N16 not fully capable to accommodate WB aircraft.
- (2) Slower WB aircraft turns due to slower fueling operations at Gate N16.
- (3) Loss of fuel system redundancy in the event the existing FHP at Gate N16 requires maintenance or in the event of aircraft maintenance on the port side of the WB aircraft at Gate N16.

This is not the recommended alternative.

Alternative 3 – Proposed project. This alternative considered the full project scope described above.

Cost Implications: 9,380,500

Pros:

- (1) Gate N14 fully capable of accommodating WB aircraft.
- (2) Gate N16 fully capable of accommodating WB aircraft.
- (3) Meet current airport operational demand.
- (4) Help mitigate the impacts of WB aircraft gate outages during planned construction.

Cons:

- (1) Temporary interruption to Gate N14 and Gate N15 operations during phase 1 construction.
- (2) Temporary interruption to Gate N16 operations during phase 2 construction.

This is the recommended alternative.

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FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary

	Capital	Expense	Total
COST ESTIMATE			
Original estimate	\$7,390,000	\$0	\$7,390,000
Current change	\$1,990,500	0	\$1,990,500
Revised estimate	\$9,380,500	\$0	\$9,380,500
AUTHORIZATION			
Previous authorizations	\$295,000	0	\$295,000
Current request for authorization	\$3,875,000	0	3,875,000
Total authorizations, including this request	\$4,170,000	0	\$4,170,000
Remaining amount to be authorized	\$5,210,500	\$0	\$5,210,500

Annual Budget Status and Source of Funds

The N14 Wide-Body and N15 Narrow-Body Common Use Gates (CIP #C801333) is included in the 2023-2027 capital budget and plan of finance with a budget of \$7,390,000. The capital increase of \$1,990,500 was transferred from the Aeronautical Allowance¹ CIP C800753 resulting in no net change to the Airport capital budget. The funding sources will be the Airport Development Fund and existing revenue bonds.

Financial Analysis and Summary

Project cost for analysis	\$9,380,500
Business Unit (BU)	Gates
Effect on business performance (NOI after depreciation)	NOI after depreciation will increase due to inclusion of capital (and operating) costs in airline rate base.
IRR/NPV (if relevant)	N/A
CPE Impact	\$0.03 in 2025

Future Revenues and Expenses (Total cost of ownership)

An increase in annual operating & maintenance (O&M) costs is anticipated as a result of this project providing additional infrastructure to support larger aircraft activity. This will primarily affect the Electronic Technicians, with having an additional SafeDock unit, boarding gate readers, cameras, access controls and common use equipment to maintain in support of widebody operations. This will result in an annual increase of approximately 240 labor hours for Electronic Technicians.

¹ 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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ADDITIONAL BACKGROUND

The Project was originally studied as part of North Satellite Modernization. Due to reduced aviation demand driven by the pandemic, Alaska Airlines previously notified the Port of Seattle (Port) that they did not require all 20 gates at NSAT for their operations when the facility opened. In response, Port staff identified an opportunity to convert four NSAT gates to common-use (CUSE) operations. Gates N1 and N2 would serve CUSE narrow-body (NB) domestic aircraft, and gates N15 and N16 were provisionally selected to accommodate wide-body aircraft for international departures.

Subsequently, *Evaluation of Potential WB & NB CUSE Gates at NSAT*, published by AECOM on September 20, 2021, looked at the potential conversion of N14, N15, or N16 to accommodate WB aircraft. Ultimately the evaluation determined N14 and N16 to be viable candidates for conversion.

ATTACHMENTS TO THIS REQUEST

- (1) Presentation slides.

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

None.