



**COMMISSION
AGENDA MEMORANDUM**

Item No. 6c

ACTION ITEM

Date of Meeting April 28, 2020

DATE: April 16, 2020

TO: Stephen P. Metruck, Executive Director

FROM: Eileen Francisco, Acting Director Aviation Facilities and Capital Programs
Wayne Grotheer, Director, Aviation Project Management Group

SUBJECT: Concourse C New Power Center Project (CIP #C800724)

Amount of this request: \$8,525,000

Total estimated project cost: \$10,500,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to (1) advertise and award a major works construction contract for the Concourse C New Power Center Project at Seattle-Tacoma International Airport, 2) use Port of Seattle crews and small works contracts for preconstruction activities. The amount of this request is \$8,525,000 for a total estimated project cost of \$10,500,000.

EXECUTIVE SUMMARY

This project will install a new power center and new electrical distribution panels in Concourse C near the C10/12 gates in a new electrical room. The project will rectify three problems in Concourse C.

- 1) The existing Power Center on Concourse C is close to maximum capacity. Additional capacity is needed on Concourse C to support future projects.
- 2) The Fire Zones (each power center serves a separate geographic area of the concourse) in Concourse C will be restored by re-feeding existing equipment located in the north end from the new Power Center. This will provide a safer environment for emergency responders in the event of a fire within a specific geographic area, as the power center serving that area can be shutdown.
- 3) Obsolete equipment on Concourse C will be replaced with new, serviceable equipment. Some existing equipment is no longer maintainable (no spare parts) and is also not expandable to allow for power for new projects.

This project was submitted to the airlines for a majority-in-interest vote. The project was approved.

Meeting Date: April 28, 2020

JUSTIFICATION

Concourse C is near maximum capacity for electrical power. This can result in reduced asset life and power outages due to overloaded equipment, causing a disruption in operations. Additionally, the Airport will be unable to implement any project on Concourse C that will require the installation of new equipment with electrical requirements.

Staff expects that the existing Concourse C power center will not be able to meet operational requirements within the next three years. Electrical installations of this type typically take two years to complete and that is our project schedule. This project will install a new power center that will allow the Airport to provide reliable electrical power on the north end of Concourse C and meet current and future electrical power needs for this area.

Diversity in Contracting

The project staff, in coordination with the Diversity in Contracting department, have set a 7% woman and minority-owned business enterprise (WMBE) aspirational goal for the major works construction contract.

Scope of Work

- 1) Renovate existing space for a new electrical room on the north end of Concourse C.
- 2) Install a new 3200A rated electrical power center in the new electrical room. Install two 1600A 480V distribution switchboards, and multiple 208V panelboards. Provide HVAC and fire protection for the new electrical room.
- 3) Replace two (2) 600A tenant distribution panels in the 41D electrical room.
- 4) Refeed three (3) existing electrical panels in the 41D electrical room from the new power center.
- 5) Install electrical required metering for new distribution feeders and panels, per Port standards and per State of Washington energy code requirements.

Schedule

<i>Activity</i>	
Construction start	2021 Quarter 1
In-use date	2022 Quarter 4

Cost Breakdown

	This Request	Total Project
Design	\$0	\$1,975,000
Construction	\$8,525,000	\$8,525,000
Total	\$8,525,000	\$10,500,000

Meeting Date: April 28, 2020

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Maintain the status quo. Do nothing

Cost Implications: An estimated \$1,355,235 in costs to date will need to be expensed if this option is pursued.

Pros:

- (1) No additional capital cost.

Cons:

- (1) This alternative does not provide electrical power for capacity growth of Concourse C.
- (2) If no action is taken, the existing power center will operate at maximum electrical power capacity, increasing the risk of system overloading and power outages.

This is not the recommended alternative.

Alternative 2 – Install a new power center on the north end of Concourse C. This will meet the current needs of the Airport and allow for future growth on Concourse C.

Cost Implications: \$10,500,000

Pros:

- (1) This alternative will provide the best solution in providing additional electrical power capacity for future growth on all of Concourse C.
- (2) This alternative will provide the following:
 - o Capacity for future growth on all of Concourse C.
 - o A robust and reliable distribution system on Concourse C.
 - o Infrastructure to support future tenant projects and airline utilization equipment at the north end of Concourse C.
 - o Re-establish the fire zones and eliminate a hazardous situation in the event of an emergency.

Cons:

- (1) Large capital project required to build out this new electrical infrastructure facility.

This is the recommended alternative.

FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary

	Capital	Expense	Total
COST ESTIMATE			
Original estimate	\$9,850,000	\$250,000	\$10,100,000
Previous changes – net	\$595,000	(\$195,000)	\$400,000
Revised estimate	\$10,445,000	\$55,000	\$10,500,000
AUTHORIZATION			

Meeting Date: April 28, 2020

Previous authorizations	\$1,975,000	0	\$1,975,000
Current request for authorization	\$8,470,000	\$55,000	\$8,525,000
Total authorizations, including this request	\$10,445,000	\$55,000	\$10,500,000
Remaining amount to be authorized	\$0	\$0	\$0

Annual Budget Status and Source of Funds

This project, CIP C800722, was included in the 2020-2024 capital budget and plan of finance with a budget of \$10,445,000. The funding sources will be the Airport Development Fund and existing revenue bonds.

Financial Analysis and Summary

Project cost for analysis	\$10,500,000
Business Unit (BU)	Terminal Building
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	\$.03 in 2023

Future Revenues and Expenses (Total cost of ownership)

This project will increase electrical power capacity for Concourse C, increase availability of electrical power for future loads, reduce power outages, improve the electrical system reliability and will not appreciably increase the number of preventative maintenance activities performed on the electrical system.

ADDITIONAL BACKGROUND

The existing Concourse C power center is nearly at capacity and does not have adequate remaining reserve capacity for projected future electrical power loads on Concourse C. The existing electrical distribution on Concourse C is not in compliance with fire zones defined by the Port Fire Department. This could result in delays and complications in responding to a fire. In addition, some of the distribution equipment at the end of Concourse C is outdated and obsolete. There are no parts available to repair the equipment in the event of a failure, and as the equipment approaches end of life, the likelihood of failure increases.

This project will install a new power center in the North end of Concourse C. This will support future projects on Concourse C including increased utilization and deployment of 400Hz Aircraft ground power, Pre-Conditioned Air, Electric Ground Service Equipment (eGSE) charging stations, future airline tenant utilization of mezzanine space, increased operational needs including ramp level hold rooms, and new retail and dining needs to meet growing traveler demand.

Meeting Date: April 28, 2020

Existing distribution equipment will be re-fed from the new Power Center, thus re-establishing the Fire Zones. The purpose of the fire zones is to have all electrified equipment within a zone fed from a single source within that zone. Currently several distribution panels are fed from the C1 building. This project will remove the feeds from the C1 Power Center and re-route them to the new Power Center (which will also free up capacity on the C1 power center for the Baggage Optimization Project and for future C1 building expansion.) This will create a new fire zone for all power derived from the Concourse C new power center providing a means to readily isolate all normal electrical power and therefore minimize a hazardous condition for the Fire Department in the event of a fire in this fire zone.

The existing electrical distribution equipment at the North end of Concourse C is also near rated capacity and some of the equipment is obsolete. This project will add new distribution equipment and will replace the obsolete equipment. The obsolete equipment is of concern because parts are no longer manufactured and if there is a failure with this equipment, we could face an extended power outage as we scramble to find alternate sources of power for the equipment and tenants it serves. The new distribution equipment will provide electrical infrastructure to support new projects at the north end of Concourse C.

The project design phase was extended due to the following.

- The project schedule was originally developed based on an established location for the new power center on the west side of the concourse. When the project preliminary design was nearly complete, the project was directed by Aviation Management to move the new power center to the east side of the concourse. This required significant redesign and delayed the completion of the project.
- The Port determined standardization of major electrical equipment including programmable logic controllers, meters, and switchgear was required via an RFP process. Because this project included all the equipment proposed for the standardization memo, it was determined the project would benefit from this, therefore the design schedule was delayed until completion of the RFP process.

ATTACHMENTS TO THIS REQUEST

- (1) Presentation slides

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

September 22, 2015 – The Commission authorized \$1,900,000 to execute a design contract, prepare design and construction bid documents, and authorized the use of Port crews for preliminary work in support of this project.