

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA
ACTION ITEM

Item No. 4b
Date of Meeting September 13, 2016

DATE: September 6, 2016
TO: Ted Fick, Chief Executive Officer
FROM: Wayne Grotheer, Director, Aviation Project Management Group
Jeffery Brown, Director, Aviation Facilities and Capital Programs
SUBJECT: Electrified Ground Support Equipment (EGSE) Charging Stations Construction Authorization (CIP #C800335)

Amount of This Request:	\$4,600,000	Source of Funds:	Airport Development Fund and Existing Revenue Bonds
Est. Total Project Cost:	\$30,700,000		
Est. State and Local Taxes:	\$60,000		

ACTION REQUESTED

Request Commission authorization for the Chief Executive Officer to (1) advertise and award a major works construction contract for Phase 2A (Concourse A) of the Electric Ground Support Equipment (EGSE) Charging Stations project (the anticipated cost of \$4.6 million is within the amount already authorized by the Commission); (2) utilize Port crews to perform construction work.

SYNOPSIS

The Commission previously authorized funding necessary to complete the full EGSE design documents as well as the Phase 1 construction. This request is for the advertisement and award of a construction contract for phase 2A; no additional funding authorization is necessary for the construction of Phase 2A. In March 2012, the airlines approved the full project in a Majority in Interest vote.

During Phase 1 construction, small business was utilized and the plan is to utilize small business again for Phase 2A construction.

This request enables staff to complete Phase 2A of this project, which installs EGSE charging stations throughout the Concourse A ramp area and constructs telecommunications early work necessary for Phase 2B (Concourse B and South Satellite). EGSE Phase 2B will be a later separate authorization request to the Commission. The Phase 2A & 2B work completes full airport coverage to enable the phase-out of fossil-fueled ground support equipment such as baggage tugs and aircraft pushback tractors at Seattle-Tacoma International Airport. Delta,

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United and Southwest Airlines will utilize and benefit from the EGSE infrastructure provided by this project as soon as it becomes available in 2017.

This project will improve air quality by reducing particulate matter and carbon emissions from ground support equipment, reduce airline maintenance costs, save fuel costs, and contribute to the Century Agenda goal to “Be the greenest and most energy efficient Port in North America.” Assuming full airline participation, a fuel savings of \$2.8 million per year is anticipated with a carbon reduction of up to 10,000 tons per year.

BACKGROUND

To accommodate recent growth in airline demand for EGSE, Port staff has divided the Phase 2 work into two construction packages (Phase 2A and Phase 2B). The EGSE charging stations can be installed relatively quickly on Concourse A (Phase 2A) because no additional power distribution switchgear is necessary. The phase 2B work is complex because sufficient power distribution equipment does not currently exist to support charging stations on Concourse B and the South Satellite. The Phase 2A work installs 20 charging stations by year-end and allows airlines operating out of the south half of the airport to proceed with their immediate plans to deploy EGSE in early 2017.

The overall EGSE program consists of the following three packages:

- Phase 1 - Actual cost \$14.3 million (*This work is complete*)
 - Install 286 charger ports on Concourses C and D, North Satellite and Central Terminal bag well
- Phase 2A - Estimated cost \$4.6 million (*This authorization*)
 - Install 76 charger ports on Concourse A
- Phase 2B - Estimated cost \$17.2 million (This estimate exceeds the current *authorized budget of \$30.7M and requires future commission action*)
 - Install 142 charger ports on Concourse B and the South Satellite
 - Install new Power Centers at B Concourse and the South Satellite

The Phase 2B design will be 90% complete in Q3 of 2017 and will include an updated Phase 2B construction cost estimate. Staff anticipates returning to Commission in Q3 of 2017 requesting an estimated \$5.4 million budget increase to construct Phase 2B for a revised total project budget of \$36.1 million. The required budget increase is a result of the scheduled delay in Phase 2 construction. The Phase 2 design documents were completed in 2013. However, due to low demand on the south half of the airport for EGSE, phase 2 construction was deferred. Demand has since increased dramatically, with Delta, United, and Southwest all deploying EGSE in 2015-6 and demanding more charging infrastructure in the South half of the airport.

Previous Commission authorizations include \$1.51 million on October 26, 2010, for preliminary design; \$8 million on April 3, 2012, to install 20 chargers at the demonstration site, order

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charging units, and design the installation; and \$16.2 million on October 23, 2012 to pre-purchase EGSE chargers, and execute the Phase 1 construction contract.

Currently, Washington law allows a waiver of state sales tax on the purchase and installation of energy-saving equipment until 2020, which will save approximately \$2 million in taxes for the entire project.

PROJECT JUSTIFICATION AND DETAILS

Project Objectives

This Project will install EGSE Charging Stations at Seattle-Tacoma International Airport and will:

- Reduce air pollutants such as particulate matter and carbon emissions
- Reduce fuel consumption by approximately one million gallons per year
- Reduce airline maintenance costs
- Take advantage of Washington state sales tax waivers that expire in 2020 for the project elements related to utilizing electrical power vs. fossil fuel

Scope of Work

This authorization provides for the advertisement and award of a major works construction contract that will install 76 charging points on Concourse A.

Staff will return to commission in Q3 of 2017 seeking authorization for Phase 2B which will upgrade two power centers and install approximately 142 charging points on concourse B and the South Satellite.

The entire program will ultimately install approximately 252 EGSE charging stations throughout the Airport passenger terminal ramps capable of charging 504 pieces of ground service equipment simultaneously.

Schedule

Phase 2A

Design Complete	4 th Quarter 2016
Advertise for Construction	4 th Quarter 2016
Substantial Completion	4 th Quarter 2017

Phase 2B

Design Complete	3 rd Quarter 2017
Advertise for Construction	3 rd Quarter 2017
Substantial Completion	3 rd Quarter 2019

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FINANCIAL IMPLICATIONS

<i>Budget/Authorization Summary</i>	Capital	Expense	Total Project
Original Budget	\$30,198,000	\$502,000	\$30,700,000
Previous Authorizations	\$25,348,227	\$300,000	\$25,648,227
Current request for authorization	\$0	\$0	\$0
Total Authorizations, including this request	\$25,348,227	\$300,000	\$25,648,227
Remaining budget to be authorized	\$4,849,773	\$202,000	\$5,051,773
Total Estimated Project Cost	\$30,198,000	\$502,000	\$30,700,000

<i>Project Cost Breakdown</i>	This Request	Total Project
Design Phase	\$0	\$4,000,000
Construction Phase	\$0	\$26,640,000
State Tax	\$0	\$60,000
Total	\$0	\$30,700,000

Budget Status and Source of Funds

The EGSE Charging Stations CIP #C800335 is included in the 2016-2020 capital budget and plan of finance. The remaining source of funds for this project will include the Airport Development Fund and existing revenue bonds

Financial Analysis and Summary

CIP Category	Renewal/Enhancement
Project Type	Renewal & Replacement
Risk adjusted discount rate	N/A
Key risk factors	N/A
Project cost for analysis	\$4,600,000 Phase 2A
Business Unit (BU)	Terminal /Gates
Effect on business performance	NOI after depreciation will increase
IRR/NPV	N/A
CPE Impact	\$0.02 in 2018

STRATEGIES AND OBJECTIVES

The Port's purchase and installation of EGSE charging stations will promote and expedite carrier adoption of EGSE vehicles such as electric pushback tractors and tugs. Implementation of EGSE reduces emissions at the Airport. The EPA considers electric vehicles the best alternative vehicle fuel option for emission reductions.

This project helps to clean the environment by reducing air pollutants such as particulate matter and greenhouse gases, creates short-term construction jobs, and incorporates small business opportunities to encourage small business participation in a major construction contract.

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This project helps the environment by reducing fossil fuel consumption at the Airport and allows our business partners to expand their operations.

During phase one construction, small business was utilized and the plan is to utilize small business again for Phase 2A construction.

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Status Quo – Do not complete this project

Cost Implications: Approximately \$2.2 million in design fees will need to be expensed.

Pros:

- (1) No additional capital costs

Cons:

- (1) Most airlines will not be able to take advantage of EGSE
- (2) The Port of Seattle will not be able to realize the environmental benefits of EGSE on the south half of Sea-Tac Airport

This is not the recommended alternative.

Alternative 2 – Complete Phase 2 of this project (Provides Full Airport Coverage)

Cost Implications: Project Cost Estimate \$21.8 million

Pros:

- (1) Installs 218 EGSE charge ports on Concourse A, B and the South Satellite
- (2) Maximizes the reduction in carbon emissions from ground service equipment
- (3) Allows all airlines operating out of Sea-Tac Airport to take advantage of EGSE

Cons:

- (1) Additional capital cost

This is the recommended alternative.

ATTACHMENTS TO THIS REQUEST

- Computer slide presentation

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

- October 23, 2012, the Commission authorized \$16,200,000 to: (1) advertise and execute a construction contract for Phase 1 of the Ground Support Equipment-Electrical Charging Stations Project-Installation of Chargers; and (2) pre-purchase electrified ground support equipment (EGSE) chargers for Phase 2 of the project.

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- On April 3, 2012, the Commission authorized \$ 8,000,000 to: (1) prepare full design documents for the Electrified Ground Support Equipment charging station Project; (2) for PCS to install approximately 20 chargers as a demonstration project; (3) approve budget for the EGSE overall project; and (4) contract for long lead time electrical equipment for power center upgrades.
- On September 12, 2011, the Commission authorized signing no-cost contracts for EGSE vehicles and EGSE chargers.
- On May 10, 2011, the Commission was briefed regarding progress on the EGSE project prior to soliciting pricing for rolling stock.
- On October 26, 2010, the Commission authorized \$1,510,000 for preliminary design, necessary contracts, and work by Port forces to begin to implement the ultimate project; pre-purchase specialized equipment and materials through competitive bid processes; and to authorize Port Construction Services to perform Regulated Materials Management (RMM) investigations and self-perform necessary associated work.
- On September 28, 2010, the Commission was briefed on the 2011 capital budget that included the above-mentioned EGSE projects.
- On September 8, 2005, the Commission was briefed on the benefit of changing from fossil fuel based GSE vehicles to EGSE based vehicles at Seattle-Tacoma International Airport.