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COMMISSION

AGENDA MEMORANDUM Item No. 8e

ACTION ITEM Date of Meeting December 12, 2023

DATE : December 1, 2023

TO: Stephen P. Metruck, Executive Director

FROM: Mike Tasker, Aviation Maintenance Director

Krista Sadler, Technology Delivery Director

SUBJECT: Airport Networks Refresh (CIP #C801321)

Amount of this request: \$3,400,000

Total estimated project cost: \$3,400,000

Seven-year maintenance cost: \$1,400,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to 1) proceed with the Airport Networks and Storage Refresh project; 2) execute contract(s) for software, equipment, vendor implementation services, and seven years of support and license fees and 3) use Port staff for implementation. The amount requested for project implementation under this authorization is \$3,400,000. The estimated seven-year support and license agreement is \$1,400,000.

EXECUTIVE SUMMARY

This project will refresh aging network switch and storage equipment and upgrade network management software for three critical Aviation networks that support hundreds of security cameras throughout the airport, flight information systems, common-use check-in kiosks, boarding pass printers and readers at airline gates, the baggage messaging system, and the Port free Wi-Fi system that provides internet access to the traveling public. Network equipment was last updated in 2016 and is at end-of-life.

The Aviation Maintenance (AVM) organization supports the Access Control System (ACS), Industrial Control System (ICS) and Terminal Wide Voice Paging System (TWVPS) networks. These networks provide the communications backbone for Security, Video Management System, Terminal Wide Voice Paging, Conveyor System and many other key systems at SEA. Without the switching backbone, none of these mission critical systems would be able to function. The network core, distribution and some edge switches are reaching end of support and need to be replaced. Requirements for these networks are increasing and additional capacity at the core and distribution layers is needed. In addition, the network storage system is also nearing end of support. Storage and storage network devices are closely coupled with the network core and

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distribution systems, so there's labor efficiency to refresh the storage systems at the same time. New network devices are required to maintain support, accommodate system and data growth and to continue to receive critical security patches.

AVM, Information & Communications Technology (ICT) and Port Construction Services (PCS) will be involved in this project estimated at \$3,400,000. Annual recurring maintenance and support costs are estimated at \$1,400,000 for the seven-year term and are budgeted within the AVM department budget.

JUSTIFICATION

This Airport Networks Refresh project provides the following benefits:

- (1) Ensures continued support of critical security and operational systems at SEA.
- (2) Continued vendor support and security updates of critical network switching equipment and storage systems.
- (3) Frees up substantial fiber infrastructure between equipment rooms, distribution rooms and data centers that is becoming over utilized.

Diversity in Contracting

Project staff will work with the Diversity in Contracting Department to determine if a direct women-and-minority-owned business enterprise (WMBE) aspirational goal should be assigned.

DETAILS

Scope of Work

- (1) Replace all core, distribution and legacy edge switches in ACS, ICS and TWVPS networks reaching end of support in 2025 or sooner.

- (2) Upgrade network storage array and switching elements that support the ACS network hosting the video management and physical access control systems.
- (3) Provide power, conduits and circuitry to core and distribution switches and network storage components in main and communications equipment rooms.
- (4) Firewall upgrades at main and communications equipment rooms.
- (5) Utilize vendor services for system configuration and deployment assistance.

Schedule

Activity

Commission authorization 2023 Quarter 4

Procurement begins 2024 Quarter 1

Planning complete 2024 Quarter 2

In-use date 2026 Quarter 2

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Cost Breakdown This Request Total Project

Hardware, software and vendor services \$2,700,000 \$2,700,000

Port labor \$700,000 \$700,000

Total \$3,400,000 \$3,400,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Upgrade all ACS, ICS and TWVPS network switches reaching end of support through 2026.

Cost Implications: ~\$6,000,000

Pros:

- (1) Brings all core and distribution elements to latest releases to allow for 10-year service life.
- (2) Replaces all access layer switches with end of support of 2026 or earlier.

Cons:

- (1) Replaces access layer switches with up to 3 years of support remaining sooner than needed, increasing project and recurring costs.
- (2) Increases size and complexity of project.
- (3) Highest cost option.

This is not the recommended alternative.

Alternative 2 – Replace equipment as it fails.

Cost Implications: \$0

Pros:

- (1) Capital funds are available for other projects.

Cons:

- (1) Allowing network systems to deteriorate puts mission critical systems at risk as components become unavailable.
- (2) Security updates will not be able to be applied to legacy equipment.

This is not the recommended alternative.

Alternative 3 – Upgrade all ACS, ICS and TWVPS network core, distribution and legacy edge switches with end of support in 2025 or sooner and refresh network storage array and switching elements.

Cost Implications: \$3,400,000

Pros:

- (1) Continues vendor support for network switch and storage components.

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- (2) Frees up substantial fiber infrastructure between equipment rooms, distribution rooms and data centers.
- (3) Improves distribution of network routing loads.

Cons:

- (1) Requires Port staff support in an already project rich environment at the airport.

This is the recommended alternative.

FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary Capital Expense Total

COST ESTIMATE

Original estimate \$2,600,000 \$2,600,000

Budget increase \$800,000 \$800,000

Revised estimate \$3,400,000 \$3,400,000

AUTHORIZATION

Previous authorizations \$0 \$0

Current request for authorization \$3,400,000 \$3,400,000

Total authorizations, including this request \$3,400,000 \$3,400,000

Remaining amount to be authorized \$0 \$0

Annual Budget Status and Source of Funds

This project was included in the 2023 – 2027 capital budget and plan of finance with a budget of \$2,600,000. The capital budget increase of \$800,000 was transferred from the Aeronautical Allowance CIP C800753 resulting in no net change to the Airport capital budget. The funding source is Airport Development Fund.

Financial Analysis and Summary

Project cost for analysis \$3,400,000

Business Unit (BU) Terminal Building

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 \$0.01 in 2027

Future Revenues and Expenses (Total cost of ownership)

Annual maintenance and support costs estimated at \$1,400,000 for the seven-year term will be budgeted in the Aviation Maintenance's operating expense budget.

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ATTACHMENTS TO THIS REQUEST

None

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

None

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