



**COMMISSION  
AGENDA MEMORANDUM**

**Item No.** 8f

**ACTION ITEM**

**Date of Meeting** August 10, 2021

**DATE:** July 21, 2021  
**TO:** Steve Metruck, Chief Executive Officer  
**FROM:** Erik Knowles, Senior Manager, Aviation Maintenance  
Stuart Mathews, Director, Aviation Maintenance  
**SUBJECT: Siemens DDC Service Contract**

**Amount of this request:** \$4,800,000

**ACTION REQUESTED**

Request Commission authorization for the Executive Director to execute a service agreement for Maintenance Services for the Airport’s (SEA’s) Direct Digital Control System for up to five years, 2022-2026. Total dollar value for the 5-year term is estimated at \$4,800,000.

**EXECUTIVE SUMMARY**

This procurement will allow the Port staff to continue to operate and maintain the SEA Direct Digital Control (DDC) System. This system controls and operates most airport terminal mechanical systems such as heating and cooling, air flow and vibration set-points, and is considered critical to monitoring the airport infrastructure. With the expansion of the airport due to IAF and North Star, the system has grown from 108,000 control points to 157,000 control points, an increase of roughly 40%.

The Siemens DDC system is a proprietary system with proprietary software updates, tools and training provided only to Siemens technicians. As such, a CPO-5 Policy Waiver was approved to allow the Port to enter into a contract with Siemens without competing the service contract. Through the Central Procurement Office, contract negotiations will take place with Siemens to develop the contract scope and pricing.

The Siemens Direct Digital Controls (DDC) system was originally procured through a competitive process dating back to the 1980’s. At that time, Siemens was the low bidder on the original Concourse A expansion. Siemens was also the low bidder on the 1991 Concourse B, C, and D Upgrade project. Both of these projects were “open” bids with no competition waiver requirements.

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In 2008, Siemens was the low bidder on the Rental Car Facility Project, designed as a stand-alone DDC system that was “open” bid with no competition waiver requirements.

In 2010, Siemens was the successful low bidder for the PC Air system that was “open” bid with no competition waiver requirements. Between and after these major projects, the DDC system has been expanded in a “Sole Source” capacity.

During the current contract period, the number of points being monitored has grown 46% and the number of field panels has grown 39%, while costs have remained constant. This contract’s service levels were reduced in 2021 due to COVID-19.

For reference, a point is defined as any item in the system that can be monitored or controlled by the system. Examples of points include thermostat temperatures in a localized space or a damper position on a terminal box in an office ceiling. Field panels contain the control units that operate the control devices in the field and communicate with the main control system. As such, these points and field panels must be properly maintained to ensure the efficient operation of the system. As the system has grown in size, complexity, and criticality, so has the staff’s need for support due to the growth in volume of our passengers.

This execution of a new 5-year contract will incorporate an option to cancel the contract at the completion of any year of the contract with 60 days written notice.

### **JUSTIFICATION**

The objective of this request is to allow the Aviation Maintenance Department to continue to maintain the Siemens DDC System in an effective manner, ensuring the Airport continues to operate effectively.

### **DETAILS**

- The system monitors multiple functions throughout the airport via a variety of existing infrastructure and components such as fans, pumps, temperature sensors throughout the terminal and air flow monitors.
- Examples of important systems monitored, controlled and maintained utilizing the DDC system include the Central Mechanical Plant (which provides nearly all heating and cooling for the facility), the Pre-Conditioned Air Plant (providing heating and cooling to aircraft), smoke control systems (part of our fire suppression system), and the domestic and fire suppression water system for the Airport.
- The recommended option places us at a price point comparable with other Siemens supported airports on a cost-per-monitoring-point basis.
- The current 5-year Service Agreement ends December 31, 2021.
- Two new major installations with included DDC systems, which increase the size of the system by approximately 40%, have come on-line since the last negotiated

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contract; IAF and North Star.

***Scope of Work***

There are multiple elements that collectively make up the scope of work of this service agreement. Those elements are summarized in the bullet points below:

- This agreement will provide services to optimize the system control software, which ensures the Heating, Ventilation and Cooling (HVAC) Control System is operating properly. The service will minimize any software problems that would negatively impact system performance. This service will also ensure reliable and optimized communication throughout the Port’s HVAC Control System’s Building Level Network (BLN) of field panels.
- Automation controls can drift out of calibration with changes in mechanical component performance characteristics, building use, and climatic conditions. This service will extend equipment life, reduce energy consumption, and reduce the risk of costly and disruptive breakdowns through appropriate system component calibration.
- This service agreement will provide the Port with new features and enhancements that will improve building operations and take advantage of the latest software version updates, while extending the life of the system investment. This service will provide the Port with software and documentation updates to the existing system as they become available (approximately annually) throughout the life of the contract.
- The Port will receive protection for the HVAC Control System’s databases of business information from unforeseen catastrophic events (lightning strike, electrical power surge, hard drive or controller failure, flood, physical damage, etc.). This service will provide quarterly database back-ups.
- As part of this service, the contractor will provide unlimited system and software troubleshooting and diagnostics via remote and direct phone support. The contractor will also provide on-site service during normal business hours.
- This service will provide on-site training to in-house personnel to better respond to system issues to decrease downtime on operations.

***Schedule***

New service contract is scheduled to be executed in Q3, once approved by commission. The current agreement ends December 31, 2021.

**ALTERNATIVES AND IMPLICATIONS CONSIDERED**

Three different variations of the new service contract are proposed below.

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**Alternative 1) 1-year Contract at current service levels**

Cost Implications: Estimated \$650,000 for 1 year.

Pros:

- (1) Lowest cost option, providing only bare-bones service levels.
- (2) Allows the Port additional time to negotiate a longer-term contract.
- (3) Only commits the Port to a short term.

Cons:

- (1) Does not account for the 40% system growth coming online like the IAF and North Star.
- (2) This alternative continues the 20% reduction in service that was negotiated during the COVID-19 pandemic due to 2020 budget constraints.

**This is not the recommended alternative.**

**Alternative 2) Procure a 3-year Contract**

Cost Implications: Estimated \$2,760,000 for 3 years.

Pros:

- (1) Returns service levels to those prior to the Pandemic, including 40% growth by IAF and North Star.
- (2) Reduces risk of system failure due to correct and adequate service levels.
- (3) Aligns the service contract value (per COMP data) to those utilized by other airports, e.g. Dulles, LAX, and San Diego.

Cons:

- (1) Annual cost returns to pre-COVID level, plus escalation, plus WSST.
- (2) Commits the Port to a 3-year Contract while the Port still has 5-years left on the CPO-5 Waiver.
- (3) Requires negotiating a new contract sooner than the 5-year option.

**This is not the recommended alternative.**

**Alternative 3) Procure a 5-year Contract**

Cost Implications: Estimated \$4,800,000 for 5 years.

Pros:

- (1) Returns service levels to those prior to the Pandemic, including 40% growth by IAF and North Star.
- (2) This option aligns the length of the service contract with the CPO-5 Policy Waiver.
- (3) This option guarantees a high level of proficiency and consistency over the term in operating the system and training for our own staff.
- (4) Reduces Staff time in negotiating a new contract earlier than necessary.

Cons:

- (1) This is the highest projected cost option due to the overall length of the term. Escalation is 3% consistent with all options.

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- (2) Commits the Port to a 5-year contract, however clauses in the contract would allow the Port to terminate the contract after years 3 and 4.

**This is the recommended alternative.**

**FINANCIAL IMPLICATIONS**

The costs of this service agreement are included in the annual Aviation Maintenance expense budget.

***Annual Budget Status and Source of Funds***

Contract payments are included as a specific line item in the Aviation Maintenance expense budget, account 64770.

**ATTACHMENTS TO THIS REQUEST**

None

**PREVIOUS COMMISSION ACTIONS OR BRIEFINGS**

In 2011 and in 2016 - The Commission authorized five-year service agreements with Siemens for DDC system maintenance.