

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA

Item No. 5b

ACTION ITEM

Date of Meeting February 5, 2013

DATE: January 25, 2013
TO: Tay Yoshitani, Chief Executive Officer
FROM: David Soike, Director Aviation Facilities and Capital Program
SUBJECT: Indefinite Delivery Indefinite Quantity (IDIQ) Contract for Energy Conservation Balancing and Annual Smoke Control Services

Amount of This Request: \$0	Source of Funds: Current and Future Operating Budgets
Est. State and Local Taxes: \$0	Est. Jobs Created: 0
Est. Total Project Cost: \$450,000	

ACTION REQUESTED:

Request Commission authorization for the Chief Executive Officer to execute an indefinite delivery, indefinite quantity (IDIQ) contract not to exceed \$450,000 for (1) Air Balancing Services on Seattle-Tacoma International Airport Heating Ventilation and Air Conditioning (HVAC) systems; and (2) annual smoke testing on Airport systems as required by building and safety codes, with a contract duration of three years.

SYNOPSIS:

This IDIQ contract is necessary to both find energy efficiency opportunities related to the Airport's HVAC, and to perform code required annual testing of the HVAC system to validate its capability and readiness to evacuate smoke from building areas in case of a fire.

In a set of buildings as large as the Airport, the HVAC system is very large and complex as a result of having been constructed at different times. Much of the existing system dates back to the 1970s and 1980s. In addition, when airlines or concessions have relocated their offices over time, modifications were made to the HVAC system as interior walls were moved. Minor remodels often affect ductwork vents and controls, but the overall system is rarely rebalanced from an airflow and temperature optimization perspective. As a result, there are opportunities now to investigate and recommend energy conservation measures within the system from both a holistic and seasonal perspective.

Building and life safety codes recommend that HVAC or separate systems exist to rapidly remove smoke from large buildings in order to allow greater safety and visibility for emergency

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exiting in case of a fire. The HVAC systems in the more modern areas of the Airport terminal facility include the ability to rapidly remove smoke. Current building codes and life safety codes require independent third party annual testing and certification of the smoke removal systems.

The contract will have a total maximum amount of \$450,000 within a contract period of three years. No budget request is associated with this authorization because the necessary funds will be included within annual operating budget requests. The approved 2013 budget already includes \$150,000 of the costs to be incurred in 2013 relating to this IDIQ contract.

BACKGROUND:

The HVAC system consists of approximately 200 mechanical rooms, the Central plant chillers and boilers, the Direct Distributed Control System and over 2,500 terminal devices throughout the Airport. The HVAC system is complex requiring the use of specialized professional personnel to optimize and test. Parts of the system are of varied ages and conditions in different sections of the Airport. By completing a process to assess and balance the mechanical systems at the Airport, energy optimization may occur.

In addition, the Port of Seattle is required to test the smoke control systems each year to obtain annual certification. Currently, smoke control systems are installed in the following areas: Airport Office Building, Central Terminal, Combined Communication Control Center including backup systems, Combined Baggage Screening Facility, Concourse A, and Gina Marie Lindsey Arrivals Hall. The smoke system controls the operation of the fans, blowers and terminal boxes in the HVAC system in the event of an emergency. Areas are tested in multiple modes (Smoke Removal, Pressurization and Smoke Purge). Areas are divided into multiple fire zones and contain multiple air handlers and the testing plan must address these zones separately. The testing requires the services of a balance/controls firm that satisfies the jurisdiction requirements for an independent third party confirmation that the system will operate in an emergency.

PROJECT JUSTIFICATION:

IDIQ contracts provide the Port with the flexibility to meet business requirements to accomplish tasks within a general, pre-defined scope of work on an as-needed basis for a fixed period of time and a maximum contract amount.

Project Objectives:

- Energy Savings
- Complete Legally required Annual Certification of Safety Systems

PROJECT SCOPE OF WORK AND SCHEDULE:

Scope of Work:

The consultant shall work with the Aviation Facilities and Infrastructure Energy Conservation Engineer to obtain and document an inventory of the air handling equipment and appurtenances serving the Airport concourse, bag well, lobby and ticketing areas. The consultant shall compile

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a complete inventory including all applicable requirements, of the HVAC, exhaust, make-up, and concession or tenant facilities. The focus of this work is to identify, investigate, recommend and document any energy savings opportunities with respect to the HVAC operations at the Airport.

The consultant shall work with staff to prepare, perform and document all work for the annual smoke testing on Airport systems with smoke control zones. The plan includes researching direct distributed control system code, engineering documents, control software, and previous smoke tests. Once planning is complete, the final annual testing is generally completed in a short time frame, approximately 5 to 7 night operations, once per year. Final reports record the test results and adjustments are made.

Schedule:

It is estimated that the contract will be executed by March 2013.

FINANCIAL IMPLICATIONS:

Budget Status and Source of Funds:

The total estimated cost for energy conservation balancing and annual smoke control services will have a total maximum value of \$450,000. No work is guaranteed to the consultant, and the Port is not obligated to pay the consultant. The budget for work performed under this contract will be included in the Airport's annual operating budget. The 2013 approved operating budget includes budget for work to be performed under this contract.

STRATEGIC OBJECTIVES:

This consultant request is consistent with the Port's Century Agenda strategic goal of being the greenest and most energy efficient port in North America.

BUSINESS PLAN OBJECTIVES:

This requested action supports the Airport's strategy to lead the U.S. airport industry in environmental innovation and minimize the Airport's environmental impacts. The balancing and re-commissioning of the Airport mechanical systems to operate in the most efficient manner while achieving acceptable passenger comfort levels works towards these goals. The objective of this initiative is to achieve overall energy savings well beyond the costs of implementation.

This requested action also supports the Airport's strategy to operate a world-class international airport by ensuring safe and secure operations. Assuring that vital safety fire systems operate correctly in the event of an emergency is consistent with this strategy.

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ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:

1. Do not perform the Energy Balancing and Smoke Control Testing. This would propagate the status quo wherein the Airport would continue using excess energy to control temperature in occupant spaces. This would also result in a noncompliance issue on the Smoke/Fire systems. This is not the recommended alternative.
2. Perform this work using only Port staff. The Airport does not currently have on staff a person with the certification to perform this type of work, therefore this option would require hiring a balancer full-time. This alternative would necessitate the creation of a permanent position before “proving” the concept. The work load does not appear to support a fulltime position and would not allow the option of cutting back on balance operations as desired while developing plans for future optimizations and reviewing areas of re-commissioning. This is not the recommended alternative.
3. Prepare separate procurements for Energy Balancing and Smoke Control Testing services and have consultants perform all the work. This alternative would require more procurement processes, therefore increasing administrative costs. These services are related as they both require an extensive knowledge of HVAC systems and the design and operation of the Airport specific systems. The companies that provide only HVAC testing and balancing services have inadequate experience in Airport operations to perform the work in an efficient manner and without disruptions to airlines or travelers. This is not the recommended alternative.
4. Perform this work using both a consultant and Port staff. The combination of both a consultant and in-house Facilities and Infrastructure staff is the most effective method for completing the Energy Balancing and Smoke Control Testing. This approach combines the best technically qualified personnel in their areas of specialty and provides coordination with the Fire Department and other Airport departments. **This is the recommended alternative.**

OTHER DOCUMENTS ASSOCIATED WITH THIS REQUEST:

- None

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS:

- None.