



**COMMISSION  
AGENDA MEMORANDUM**

**Item No.** 6c

**ACTION ITEM**

**Date of Meeting** January 28, 2020

**DATE:** November 18, 2019

**TO:** Stephen P. Metruck, Executive Director

**FROM:** Jeffrey Brown, Director, Facilities and Capital Program  
Mike Tasker, Sr. Manager, Aviation Facilities and Infrastructure

**SUBJECT:** Testing, Balancing, and Smoke Control System Certification

**Total estimated contract cost:** \$ 1,600,000

**ACTION REQUESTED**

Request commission authorization for the Executive Director to execute one consulting services indefinite delivery, indefinite quantity contract for testing and air balance and smoke control system certification services at Seattle-Tacoma International Airport. The contract will have a three-year ordering period plus an additional two-year renewal option, not to exceed the amount of \$1,600,000. There is no funding request associated with this authorization.

**EXECUTIVE SUMMARY**

Testing of the airport's smoke control and clean agent fire suppression systems ensures the safety of building occupants and airline travelers, as well as protects valuable assets in electrical power generating, data/communications rooms and other critical areas. This testing is required annually and semi-annually by building and life safety codes to calibrate/certify the clean agent fire suppression systems, in certain rooms; and validate the HVAC systems capability and readiness to evacuate smoke from building areas and provide smoke free spaces next to the smoke engulfed area or safe egress, without causing damage to critical systems and equipment in case of a fire.

This contract will be utilized to identify and evaluate energy efficiency opportunities related to the Airport's HVAC systems and will also be utilized to perform continuous commissioning on the airports heating, ventilation and air conditioning (HVAC) systems to ensure reliable and efficient operations.

**JUSTIFICATION**

Life safety codes mandate annual and semi-annual certification of our smoke control and clean agent systems. Therefore, the Port of Seattle is required to test installed smoke control systems as prescribed in the National Fire Protection Association (NFPA 92) and is also required to test

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installed clean agent fire suppression systems as prescribed in the National Fire Protection Association (NFPA 2001) standards.

Continuous commissioning ensures the proper most efficient operation of our HVAC systems, at the airport, to ensure they use the least energy. The HVAC systems are of varied age and condition in different areas, some dating back to the 1970s and 1980s. System optimization is enhanced by periodically measuring and balancing of the HVAC systems at the airport.

Indefinite delivery, indefinite quantity (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 and a maximum contract amount.

### **DETAILS**

This contract replaces an expiring contract to continue annual smoke control certification and continuous commissioning work. No budget request is associated with this request; budget will be included in each year's operating budget. The 2020 operating budget includes \$500,000 for this work. The agreement will have a three-year ordering period with an additional two-year renewal options to extend by one year each and is not-to-exceed the amount of \$1,600,000.

This contract supports a code requirement for testing the airport's International Building Code (IBC) required smoke control and clean agent fire suppression systems; and will also be utilized to perform continuous commissioning on the airport's heating, ventilation and air conditioning (HVAC) systems to ensure reliable and efficient operation.

Finally, this action supports the airport's strategy to operate world-class international airport by ensuring that vital safety fire and smoke control systems operate correctly in the event of an emergency. In addition, the balancing and re-commissioning of the airports mechanical systems to operate in the most efficient manner, complies with the Port's Century Agenda goals, by achieving acceptable passenger comfort levels.

### ***Scope of Work***

Consultant shall work with staff to prepare, perform, and document smoke certification testing on airport systems with smoke control zones and clean agent systems.

The consultant will:

- Work with the Aviation Facilities and Infrastructure Energy Engineer to perform continuous commissioning of the air handling equipment and appurtenances serving the airport concourse, bag well, lobby, parking structure, and ticketing areas; and
- Compile and maintain a complete inventory including all applicable requirements of the HVAC, exhaust, make-up, and concession or tenant facilities.

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In addition, continuous commissioning will be performed under contract on the airports HVAC systems to ensure reliable and efficient operation. Annual testing and balancing of the airports HVAC equipment and operating condition is needed to identify system deficiencies, generate optimization strategies, evaluate energy efficiency measure, and plan for HVAC system renewal and replacement.

The scopes of work for the Energy Conservation Balancing and Fire/Safety Assurance Smoke Control Services are combined under one contract since the skills, expertise and resources needed to perform both scopes are the same and can be furnished by firms specializing in Testing, Adjusting, and Balancing (TAB) of large, complex HVAC systems.

***Schedule***

It is estimated that the contract will be executed by April 2020 and have a three-year contract ordering period.

***Diversity in Contracting***

The procurement will include an inclusion plan and a four percent woman and minority business enterprise (WMBE) aspirational goal. within the IDIQ.

**ALTERNATIVES AND IMPLICATIONS CONSIDERED**

Each of the alternatives include the smoke control testing as the port is required to have an independent third-party confirmation that the smoke control system will operate in an emergency.

**Alternative 1** – Add additional full-time port staff (Test and Balance Journeymen) for the continuous commissioning function and complete the smoke control testing via consultant contract.

Cost Implications:     \$1,470,000 (3-year total)

Pros:

- (1) The port would gain in-house experience and certified personnel.

Cons:

- (1) The airport does not currently have on staff a person with the test and balance certification to perform this type of work.
- (2) Work load does not support a fulltime position and work is not evenly spread over a full year.
- (3) Work at night is required to minimize impact on airport and tenant operations, which is most efficiently performed in a shorter time frame by a staff of two or three balancers provided by the consultant.

This is not the recommended alternative.

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**Alternative 2** – Issue consultant contract to perform this work with port staff support.

Cost Implications: \$1,600, 000 (3-year total)

Pros:

- (1) This approach combines the best technically qualified personnel from both the port of Seattle and a consultant in their areas of specialty.
- (2) Achieves energy savings
- (3) The same firms provide both services as both balancing and smoke testing utilize the same test procedures and require an extensive knowledge of HVAC systems.
- (4) By using the same firm for both services, the consultant gains knowledge of the operation of Airport specific HVAC system and performs more efficiently and effectively.

Cons:

- (1) Spending reflects expanded costs to include testing of 14 clean agent systems and twice-a-year certification for new construction (International Arrivals Facility and North Satellite)

**This is the recommended alternative.**

**FINANCIAL IMPLICATIONS**

The estimated cost for energy conservation balancing and smoke control services will have a total maximum value of \$1,600, 000. The 2020 operating budget includes \$500,000 for this work.

**ATTACHMENTS TO THIS REQUEST**

None

**PREVIOUS COMMISSION ACTIONS OR BRIEFINGS**

April 12, 2016 – Commission authorized IDIQ for Energy Conservation Balancing and Annual Smoke Control Services (Consent Calendar Item 4b).

February 5, 2013 – Commission authorized IDIQ for Energy Conservation Balancing and Annual Smoke Control Services (Consent Calendar Item 5b).