



February 13, 2025

To: Transit Committee

From: Darrell E. Johnson, Chief Executive Officer

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Subject: Sole Source Agreement for Hydrogen Fueling Station Operation, Maintenance, and Fuel Delivery

Overview

On November 13, 2017, the Orange County Transportation Authority Board of Directors approved an agreement to install a hydrogen fueling station at the Santa Ana Bus Base to provide operation, maintenance, and hydrogen fuel supply. The term of the agreement has expired, and Board of Directors' approval is requested to award a sole source agreement to continue hydrogen fueling operations.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-5-3892 between the Orange County Transportation Authority and Air Products and Chemicals, Inc., in the amount of \$2,460,000, to continue the hydrogen fueling station operation, maintenance, and hydrogen fuel supply for a two-year initial term and one, one-year option term.

Background

In December 2018, the California Air Resources Board (CARB) enacted the Innovative Clean Transit Regulation which established phased rules requiring transit agencies to transition to zero-emission buses by 2040. Currently, CARB recognizes two technologies as compliant with this regulation: battery-electric buses (BEB) and fuel-cell electric buses (FCEB). BEBs use batteries to power electric motors to propel the bus. The batteries are charged either at the bus base or through en route charging. FCEBs are configured similarly, using batteries and electric motors. The key difference is that the FCEBs have smaller batteries and are charged by an onboard hydrogen fuel cell while the bus is in operation.

The Orange County Transportation Authority (OCTA) is currently testing both of these technologies, using ten BEBs and ten FCEBs of the same make and mode, to gain a more complete understanding of the operational and maintenance performance of each. This will allow OCTA to properly evaluate the operating ranges, maintenance, reliability, and cost. The ten FCEBs were placed into service in 2015 providing five years of operational and maintenance data.

To support fueling of the FCEBs, a hydrogen fueling station was installed at OCTA's Santa Ana Bus Base. The fueling station relies on deliveries of liquid hydrogen which is stored in an 18,000-gallon above-ground, cryogenic tank. The liquid hydrogen is compressed and evaporated before being dispensed under high pressure into the fuel tanks on board the FCEBs. As currently configured, the station can fuel up to 50 FCEBs.

Discussion

On November 13, 2017, the Board of Directors (Board) approved the award of an agreement with Trillium USA Company LLC (Trillium) to install a hydrogen fueling station, which included operation, maintenance, and hydrogen fuel supply. The original agreement was awarded on a competitive basis and included a three-year initial term with two, one-year options. The final option term expired December 31, 2024.

The hydrogen fueling station design, operation, maintenance, and hydrogen fuel supply were subcontracted to Air Products and Chemicals, Inc. (Air Products) by Trillium. OCTA owns the hydrogen fueling station with the exception of the 18,000-gallon liquid hydrogen storage tank and vaporizers, which are leased from Air Products. The hydrogen fueling station includes proprietary components, the cryogenic hydrogen compressor (CHC) pumps, dispensers, and software, which hinder OCTA's ability to contract for on-going operations and maintenance.

To ensure the continued operation of the hydrogen fueling station, staff began negotiations with Trillium in January 2024 to purchase the leased equipment and separately initiate a solicitation for the operation and maintenance of the hydrogen fueling station and fuel supply. The owner of the leased equipment, Air Products, would not agree to sell the leased equipment nor continue leasing it unless they were retained as the station operator. Air Products considered OCTA's request for purchase; however, they chose to retain ownership of the storage tank and vaporizers, consistent with their standard business model. Based on the manufacturing lead times, replacing the leased and proprietary equipment would require shutting down the station for 18 to 24 months,

significantly impacting OCTA's ability to operate the current and incoming fleet of FCEBs. Therefore, an attempt was made to negotiate a contract extension with Trillium, and their subcontractor Air Products, to provide the time needed to procure the replacement equipment and a new station contract. However, Trillium declined to participate in continued operations. Staff then initiated negotiations solely with Air Products.

As a contingency, while these negotiations were underway, an effort to procure a mobile fueler was also initiated. This procurement yielded a single bid which was determined to be nonresponsive.

As a result of negotiations with Air Products to continue the hydrogen fueling station operation, maintenance, and fuel supply, staff secured a 35 percent annual cost reduction from the initial quote for the initial two-year term. Air Products is a large industrial gas supplier with numerous hydrogen production plants and fueling stations across the country. The OCTA hydrogen fueling station has been performing at parity with the compressed natural gas fueling stations at OCTA's four operating bus bases. The hydrogen provided by Air Products will include a minimum of 33 percent renewable hydrogen, also known as green hydrogen.

Continuing the operation of the hydrogen fueling station at the Santa Ana Bus Base through a sole source agreement with Air Products will allow staff the time to procure the replacement equipment, align the existing station shutdown with the startup of OCTA's second hydrogen fueling station located at the Garden Grove Bus Base, and continue to fuel and operate the current and incoming fleet of FCEBs. Based on the preceding, staff is recommending a sole source agreement with Air Products to provide continued operations, maintenance, and fuel supply for the hydrogen fueling station at the Santa Ana Bus Base.

Procurement Approach

This procurement was handled in accordance with OCTA's Board of Directors-approved policies and procedures for a sole source procurement.

The requirement was handled as a sole source procurement due to the unique circumstances of a public exigency or emergency, where the urgency of the need would not allow for delays associated with a competitive solicitation process. The hydrogen fueling station includes leased and proprietary equipment that will require 18 to 24 months to procure, install, and restore operations. There is currently no hydrogen fueling station, public or private, that can accommodate the current and incoming hydrogen buses.

Air Products’ proposal was reviewed by staff from the Contracts Administration and Materials Management (CAMM) and Maintenance departments to ensure compliance with the contract terms and conditions, as well as the technical requirements.

In accordance with OCTA’s sole source procurement procedures, a sole source procurement exceeding \$50,000 requires a price review by OCTA’s Internal Audit Department (IA). Air Products did not provide a detailed cost breakdown of the proposed price. Instead, IA applied the agreed-upon comparative procedures to the price proposed by Air Products with rates proposed under a comparable contract between OCTA and Trillium, with escalation applied. Results of IA’s price review confirmed pricing proposed from Air Products was higher than pricing on the comparable contract. Therefore, CAMM conducted further price research to analyze the reasonableness of the quoted price. CAMM obtained pricing from comparable contracts of other agencies, which showed that Air Products’ quoted pricing for OCTA was lower than the pricing offered to those agencies. In addition, the quoted price is consistent with the OCTA project manager’s independent cost estimate. Therefore, the quoted price is deemed fair and reasonable.

Agencies	Product Description	Air Product’s Quoted Unit Price
OCTA	Hydrogen fuel	\$12.00/kg
Regional Transportation Commission of Southern Nevada	Hydrogen fuel	\$18.50/kg
National Aeronautics and Space Administration	Hydrogen fuel	\$22.00/kg

*kg – kilogram

Fiscal Impact

The funding for this purchase was approved in OCTA’s Fiscal Year 2023-24 Budget, Operations Division/Maintenance Department, account nos. 2168-7611-D2157-281 for Operation and Maintenance, 2168-7611-D2157-28E for leased equipment, 2168-7611-D2108-F30 for fuel supply, and is funded through the Local Transportation Fund.

Summary

Based on the information provided, staff recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute sole source Agreement No. C-5-3892 between the Orange County Transportation Authority and Air Products and Chemicals, Inc. in the amount of \$2,460,000, to continue the hydrogen fueling station operation, maintenance, and hydrogen fuel supply for a two-year initial term and one, one-year option term.

Attachment

None.

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