



Board Report

File #: 2022-0425, File Type: Contract

Agenda Number: 33.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE SEPTEMBER 15, 2022

SUBJECT: P3010 LIGHT RAIL FLEET FRICTION BRAKE AND AIR COMPRESSOR OVERHAUL

ACTION: APPROVE CONTRACT AWARD

RECOMMENDATION

CONSIDER:

- A. AUTHORIZING the Chief Executive Officer to award a 60-month, Indefinite Delivery Indefinite Quantity Contract No MA78165000 to Knorr Brake Company (KBC) for component overhaul services of the P3010 light rail vehicle (LRV) friction brake and air compressor system, for a total not-to-exceed amount of \$29,427,487; and
- B. FINDING that there is only a single source of procurement for the item(s) set forth in Recommendation A above and that the purchase is for the sole purpose of duplicating or replacing supply, equipment, or material already in use.

(REQUIRES TWO-THIRDS VOTE OF THE FULL BOARD)

ISSUE

The P3010 friction brake system and air compressor equipment have reached their recommended interval for component level overhaul as defined by the OEM requirements. The existing friction brake systems on the P3010 are proprietary and this procurement is for the component overhaul services of existing equipment already in use. PUC §130237 allows use of a single source of supply for the sole purpose of duplicating or replacing equipment, material or supplies. KBC is the OEM of the existing friction brake system and is the only recommended contractor for this single source procurement.

In addition to the recommended friction brake overhaul services, replacement of parts damaged by moisture in the compressor are also included in the work scope. An unacceptable level of water has been found in the air compressor by Metro's Quality Assurance Department. The original vehicle manufacturer, Kinkisharyo (KI), is aware of the condition and the damage caused by the water found in the air compressors, resulting in rusted parts requiring replacement. Metro's Rail Vehicle Acquisition team has requested that KI work on an engineering solution with KBC to address the cause and corrective action for this issue. This procurement is for the professional overhaul services

of 256 friction brake kits including 21 spares as recommended by the OEM's established overhaul guidelines.

Execution of the friction brake and air compressor overhaul will ensure that the P3010 LRV fleet remains in a continuous State of Good Repair (SGR) while safeguarding passenger safety, vehicle reliability and equipment longevity.

BACKGROUND

The initial LRVs of the P3010 fleet were placed in service in early 2016 whereas 194 of 235 LRVs are accepted and are currently operating in revenue service. The average per car mileage is 272,877 miles whereas accumulated fleet mileage is roughly 54.1 million miles with sustained reliability and performance. The friction brake equipment overhaul is time sensitive due to safety requirements as defined by the OEM, KBC. Friction Brake and Air Compressor overhauls are vital to maintain safe vehicle operation as mandated by Metro's Corporate Safety and Security, the CPUC, and other regulatory agencies.

DISCUSSION

In July 2021, the Metro Board of directors approved the Life of Project budget for contracts to overhaul the P3010 fleet under the Component Overhaul Program. The P3010 Component Overhaul Project consists of a total of twelve (12) individual procurements for the overhaul of the major vehicle systems inclusive of; coupler, power supply, non-power axle, power axle, propulsion, doors, pantograph, battery, signaling equipment, master controller, slewing ring, and Heating Ventilation and Air Compressor (HVAC) equipment. The friction brake overhaul is the initial overhaul procurement of the twelve systems within the P3010 fleet component overhaul campaign.

The KI P3010 LRV fleet is in it's sixth-year of revenue service operation. To ensure continued safety and performance of the friction brake and air compressor equipment a complete overhaul is required at the five-year interval as defined by the OEM and monitored by the California Public Utilities Commission (CPUC). The friction brake and air compressor overhaul consist of several assemblies inclusive of electrical, mechanical, and pneumatic parts subject to wear due to normal service operations. Routine maintenance and periodic overhauls of this equipment are of critical importance for the vehicle operator and passenger safety to ensure the vehicle will stop within the specified stopping distance during regular and emergency braking applications in accordance with Metro's design criteria and regulatory standards.

Metro's Transit Vehicle Engineering Department (TVE) developed the friction brake and air compressor technical specification based on the OEM maintenance manuals and recommended overhaul intervals. The contractor will perform the overhaul services in accordance with Metro-provided production schedule and technical specification requirements.

DETERMINATION OF SAFETY IMPACT

Passenger and employee safety are of the utmost importance to Metro and, therefore, it is imperative

to maintain the P3010 LRV fleet without deferred maintenance and in a constant SGR. The friction brake and air compressor equipment are vital vehicle safety systems that provide the means to stop the vehicle during in-service operations as well as during emergency braking modes. In the event of friction brake equipment failure, the vehicle will not stop within a defined braking rate and distance with a high risk of catastrophic results for the vehicle and passengers.

This effort will ensure that these vehicles are maintained in accordance with OEM recommendations and regulatory standards, according to the defined schedule and technical specifications, and within Metro's internal Corporate Safety policies and procedures.

FINANCIAL IMPACT

The Board Approved Life-of-Project (LOP) budget for the P3010 Friction Brake and Air Compressor overhaul is under capital project number 214006 in the amount of \$35,990,000.00. Funding of \$675,000 for this contract is included in the FY23 budget in cost center 3940, Rail Fleet Service Maintenance, under project number 214006, Account 50320, Service Contract Services.

Since this is a multi-year contract, the cost center Sr. Executive Officer, Director, and Project Manager, Rail Fleet Services will ensure that the balance of funds is budgeted in future fiscal years.

Impact to Budget

The planned source of funds for this project comes from local funding source TDA Article 4 which is eligible for Bus and Rail Operation or Capital Projects. Using this funding source will maximize fund use given approved guidelines and provisions.

EQUITY PLATFORM

This is a new contract for overhaul services. Approval of the recommendation ensures the successful completion of the P3010 friction brake and air compressor overhaul project. All Metro riders that use the light rail system, including those that reside through Equity Focus Communities will benefit through safe, accessible, and affordable transportation.

The existing brake system components and air compressor on the Kinkisharyo (KI) P3010 LRVs were designed and built by the original equipment manufacturer (OEM), Knorr Brake Company (KBC). KBC possesses rights and control over proprietary data, supplies, and equipment necessary to ensure the full operational capability of their friction brake system. The Diversity and Economic Opportunity Department (DEOD) did not establish a Small Business Enterprise (SBE)/Disabled Veteran Business Enterprise (DVBE) participation goal for this original equipment manufacturer (OEM) procurement. It is expected that KBC is performing the services of this contract with its own workforce.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The recommendation supports Metro Strategic Plan Goal 5) Provide Responsive, Accountable, and Trustworthy governance within the Metro organization. Contract award safeguards overhaul production continuance while meeting passenger safety and fleet reliability.

ALTERNATIVES CONSIDERED

Deferral of this overhaul work is not recommended as these Friction Brake Systems are integral components of the vehicle braking and pneumatic systems that if not properly maintained could result in equipment failures, service delays, and risk to passenger safety. Due to the significance of the friction brake and air compressor equipment, there are no alternatives to be considered.

NEXT STEPS

Upon Board approval, the friction brake equipment overhaul program will commence according to mutually agreed production schedules.

ATTACHMENTS

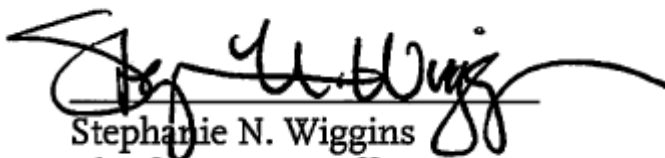
Attachment A - Procurement Summary
Attachment B - DEOD Summary

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