



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

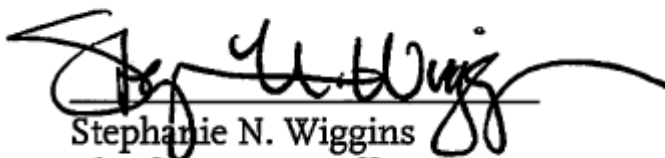
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Stephanie N. Wiggins
Chief Executive Officer

PROCUREMENT SUMMARY

P3010 FRICTION BRAKE OVERHAUL/MA78165000

1.	Contract Number: MA78165	
2.	Recommended Vendor: KNORR BRAKE COMPANY	
3.	Type of Procurement (check one): <input type="checkbox"/> IFB <input checked="" type="checkbox"/> RFP <input type="checkbox"/> RFP-A&E <input checked="" type="checkbox"/> Non-Competitive <input type="checkbox"/> Modification <input type="checkbox"/> Task Order	
4.	Procurement Dates:	
	A. Issued: 10-26-21	
	B. Advertised/Publicized: N/A (sole source)	
	C. Pre-Bid Conference: 11-4-2021	
	D. Bids Due: 12-23-21	
	E. Pre-Qualification Completed: 01-23-22	
	F. Conflict of Interest Form Submitted to Ethics: 02-01-22	
	G. Protest Period End Date: August 17, 2022	
5.	Solicitations Picked up/Downloaded: 1	Bids Received: 1
6.	Contract Administrator: Robert Pennington, Sr. Manager	Telephone Number: 213/922-5527
7.	Project Manager: Richard Lozano, Sr. Director	Telephone Number: 323/224-4042

A. Procurement Background

This Board Action is to approve Contract No. MA78165000 in support of Metro's P3010 Light Rail Vehicle (LRV) to procure services required for the complete overhaul and repair of the friction brake system components, including air compressor. 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). It was determined by Metro's engineering and operations teams that KBC possesses rights and control over proprietary data, supplies, and equipment necessary to ensure full operational capability of their friction brake system. Therefore, the overhaul of the P3010 LRV friction brake systems must be overhauled by the OEM. KBC

The non-competitive Request for Proposal (RFP) was issued to the KBC on October 26, 2021, in accordance with Metro's Acquisition Policy and Procedures and the contract type is a Firm Fixed Unit Price Indefinite Delivery, Indefinite Quantity (IDIQ).

Seven (7) amendments were issued during the solicitation phase of this RFP as follows:

- Amendment No. 1 was issued on November 2, 2021, to extend the proposal due date and revise the critical dates.
- Amendment No. 2 was issued on December 3, 2021, to provide changes to the RFP requirements.
- Amendment No. 3 was issued on December 8, 2021, to further extend the proposal due date.
- Amendment No. 4 was issued on December 14, 2021, to provide changes to the technical specifications and RFP requirements.

- Amendment No. 5 was issued on May 5, 2022, to provide changes to the RFP Schedule of Quantities & Prices Form.
- Amendment No. 6 was issued on July 06, 2022, to provide changes to the technical specifications and;
- Amendment No. 7 was issued on July 15, 2022, to provide changes to the RFP requirements and technical specifications.

B. Evaluation of Proposals

This is a single source non-competitive procurement that is consistent with Public Utility Code §130237 for the duplication or replacement of existing equipment already in use. This solicitation was evaluated in compliance with Metro’s Acquisition Policy and Procedures.

A Procurement Evaluation Team (PET) consisting of Metro staff from Transit Vehicle Engineering and Rail Fleet Services-Maintenance performed an evaluation of the technical proposal in accordance with the RFP. The PET conducted technical fact-finding meetings and a full technical evaluation of the technical proposal. The technical evaluation consisted of reviews of the proposer’s key personnel, management, quality assurance plans, and proposed facility. The proposal was found to be technically acceptable and in compliance with requirements of the RFP. Metro and the proposer mutually negotiated selected terms and conditions, specification requirements and warranty.

The firm recommended for award; Knorr Brake Company was found to be in compliance with the RFP requirements.

C. Price Analysis

In accordance with Metro’s Acquisition Policy and Procedures for a non-competitive acquisition, a cost analysis is required. Due to the proposer’s corporate policy, KBC was unable to provide essential cost supporting data to perform a cost analysis. Therefore, staff performed a Price Analysis in compliance with Metro’s Acquisition Policy for non competitive acquisitions. The Price Analysis consisted of negotiations, market research, and independent cost estimate and historical price comparisons for similar purchases. Based on staff’s Price Analysis, it was determined that the total proposed price of \$29,427,487 was best attainable and deemed fair and reasonable.

Item	Proposal Amount	Metro ICE	Negotiated Amount
P3010 Friction Brake & Air Compressor Overhaul	\$35,192,320	\$25,348,096	\$29,427,487

The final negotiated price is approximately 16.1% higher than the ICE. The price difference is attributed to proposed elements in KBC’s price that were not considered in the ICE. The ICE did not include shipping costs, nor did it account for the replacement of rusted components as a result of the excessive moisture in the

compressor oil. These work scope elements were determined essential to the overhaul by the PET and therefore the costs were retained in the evaluation.

Another factor that was not considered in the ICE is the market risk given current economic conditions. KBC proposed a firm fixed price on a multi-year program with an expected period of performance of five (5) years. Continued uncertainties in the market and higher inflation forecasts can account for some measurable portion of the gap between the ICE and the negotiated firm fixed price amount from KBC.

Reconciling the ICE with the above factors results in the determination that the proposed price from KBC is best attainable, fair and reasonable.

D. Background on Recommended Contractor

Knorr Brake Company (KBC) founded in 1971 is a subsidiary of Knorr Bremse AG. Knorr Bremse, an international group of industrial companies, is a manufacturer of braking systems and supplier of additional sub-systems for rail and commercial vehicles for over 110 years. KBC located in Westminster, MD is the North American Mass Transit brake division of Knorr Bremse and the principal engineering and manufacturing facility. KBC is the OEM of the braking systems for Metro's P2020 Nippon Sharyo Blue Line LRVs; Metro Breda P2550 Gold Line LRVs and Metro P3010 Kinkisharyo Expo Line rail cars. KBC currently has brake overhaul contracts with Metro for P2550 Gold Line LRVs; San Diego MTS, and Sound Transit, in Seattle, WA, all expected to be completed in 2025. The firm completed contracts with Valley Metro Brake in Phoenix, AZ, TriMet in Portland, OR, and Tucson Brake, in Tucson, AZ.

DEOD SUMMARY

**P3010 LIGHT RAIL FLEET FRICTION BRAKE AND AIR COMPRESSOR
OVERHAUL/MA78165000**

A. Small Business Participation

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 Knorr Brake Company is performing the services of this contract with its own workforce.

B. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy is not applicable to this contract.

C. Prevailing Wage Applicability

Prevailing wage is not applicable to this contract.

D. Project Labor Agreement/Construction Careers Policy

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract. PLA/CCP is applicable only to construction contracts that have a construction related value in excess of \$2.5 million.