

**Board Report**

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**File #:** 2017-0703, **File Type:** Contract**Agenda Number:** 23.

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**SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE  
NOVEMBER 16, 2017****SUBJECT: P2000 FRICTION BRAKE SYSTEMS & AIR  
COMPRESSOR COMPONENT OVERHAUL****ACTION: APPROVE CONTRACT AWARD****RECOMMENDATION**

CONSIDER:

- A. AUTHORIZING the Chief Executive Officer to award a 48-month, indefinite delivery/indefinite quantity Contract No. MA27583000 for the component overhaul of P2000 Light Rail Vehicle (LRV) Friction Brake System & Air Compressor Overhaul to Wabtec Passenger Transit, for a total not-to-exceed amount of \$3,328,499; and
- B. AWARDING a single source procurement, pursuant to Public Utilities Code section 130237 for component overhaul services of the Metro Green Line (MGL) and Blue Line Friction Brake System & Air Compressor Overhaul from the Original Equipment Manufacturer (OEM), to Wabtec Passenger Transit.

(REQUIRES TWO-THIRDS VOTE OF THE FULL BOARD)

**ISSUE**

The P2000 LRV fleet is due for Friction Brake Systems and Air Compressor Overhaul as recommended by the Original Equipment Manufacturer (OEM) established guidelines. This procurement is for the professional services to complete a component overhaul of 52 assemblies inclusive of two spares. The existing friction brake system and air compressor equipment is proprietary. The purchase is for the sole purpose of purchasing overhaul services of existing equipment already in use. Execution of this component overhaul will safeguard passenger safety and maintaining equipment performance in a continuous State of Good Repair (SGR).

**DISCUSSION**

The P2000 fleet currently operates on Metro's Green, Blue and Expo Lines. The Siemens P2000 LRV is in its 16<sup>th</sup> year of operation. In order to ensure continued safety and performance of the safety critical friction brake and air compressor systems, a complete systems overhaul is required at the

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four year service interval as defined by the OEM and monitored by the CPUC. The overhaul consists of disassembly, thorough cleaning and inspection, and repair of various components including electrical, pneumatic and mechanical component parts that wear out under normal service and operating conditions. Routine maintenance and periodic overhaul of these systems is of critical importance for passenger safety and accident prevention to ensure the vehicle stops within specified stopping distance during routine and emergency brake applications. Rail Fleet Services (RFS) Engineering developed an equipment overhaul specification for the friction brake and air condition systems overhaul based upon OEM recommendations and in conjunction with RFS maintenance experience. The contractor will perform overhaul services in accordance with predefined schedule using Metro provided technical specification requirements.

The P2000 Component Overhaul Program consists of nine major vehicle systems to be overhauled, including friction brake, air compressor, air hose replacement, power axle, non-power axel bearing replacement, car battery replacement, couplers, exterior and interior paint. The friction brake and air compressor overhaul is due for the new cycle requiring board approval. Currently, two of the systems (air hose replacement and non-power axel bearing replacement) have been completed and five of the systems are on-going.

### **DETERMINATION OF SAFETY IMPACT**

Passenger and employee safety are of the utmost importance to Metro and, therefore, it is imperative to maintain the P2000 fleet to maintain a state of good repair. The friction brake systems overhaul is in support of routine maintenance and an established component overhaul program. This effort will ensure that the fleet is maintained in accordance with OEM recommendations, regulatory standards, and within Metro's internal Corporate Safety policies and procedures.

### **FINANCIAL IMPACT**

The approved Life-of-Project (LOP) for the P2000 Fleet Component Overhaul Program under capital project number 206006 is for the amount of \$26,360,100 established in 2012. Funding of \$1,299,996 for this Contract is included in the FY18 budget in cost center 3941 and cost center 3943, Rail Fleet Services Maintenance, under project number 206006, line item 50441, Parts - Revenue Service.

Since this is a multi-year Contract, the cost center manager, project manager, and Sr. Executive Officer, RFS will ensure that the balance of funds is budgeted in future fiscal years.

#### **Impact to Budget**

The source of funds for this procurement will come from Federal, State and local funding sources that are eligible for Rail Capital Projects. This will maximize fund use given funding allocation provisions.

### **ALTERNATIVES CONSIDERED**

The vehicle's friction brakes are a safety critical system which are required to be overhauled per the

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OEM and regulatory requirements in order to prevent catastrophic events resulting from extending stopping distance of complete failure of the braking systems during emergency brake application. Deferring the friction brake and air compressor overhaul is not recommended as Metro could also be subject to penalties mandated by the California Public Utilities Commission.

**NEXT STEPS**

Overhaul of the P2000 Light Rail Vehicle Friction Brake & Air Compressor systems will continue in accordance with RFS scheduled requirements. If approved, the project is scheduled to commence in July 2018.

**ATTACHMENTS**

Attachment A - Procurement Summary

Attachment B - DEOD Summary

Prepared by:

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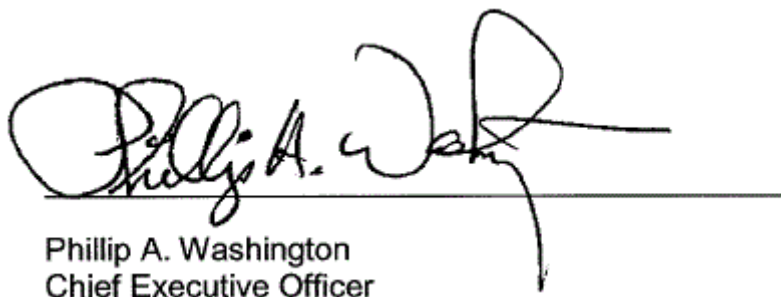
Richard M. Lozano, Sr. Director, Rail Fleet Services, (310) 816-6944

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Reviewed by:

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Phillip A. Washington  
Chief Executive Officer

## PROCUREMENT SUMMARY

**P2000 FRICTION BRAKE SYSTEMS & AIR COMPRESSOR OVERHAUL  
179579/MA27583000**

1.	<b>Contract Number:</b> MA27583000	
2.	<b>Recommended Vendor:</b> Wabtec Passenger Transit	
3.	<b>Type of Procurement (check one):</b> <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.	<b>Procurement Dates:</b>	
	<b>A. Issued:</b> 4/27/17	
	<b>B. Advertised/Publicized:</b> N/A	
	<b>C. Pre-Proposal Conference:</b> N/A	
	<b>D. Proposals Due:</b> 6/8/17	
	<b>E. Pre-Qualification Completed:</b> 8/21/17	
	<b>F. Conflict of Interest Form Submitted to Ethics:</b> 7/19/17	
	<b>G. Protest Period End Date:</b> 11/17/17	
5.	<b>Solicitations Picked up/Downloaded:</b> 1	<b>Proposals Received:</b> 1
6.	<b>Contract Administrator:</b> Jean Davis	<b>Telephone Number:</b> 213/922-1041
7.	<b>Project Manager:</b> Brian McNeeley	<b>Telephone Number:</b> 310/643-3804

**A. Procurement Background**

This Board Action is to approve Contract No. MA27583000 in support of Metro's Green Line Light Rail Vehicle (LRV) to procure services required for the complete overhaul and repair of the brake system valves and components including air compressor. The existing brake system valves and components on the Siemens P2000 passenger rail cars were designed and built by the original equipment manufacturer (OEM), Wabtec Passenger Transit (Wabtec). It was determined by Metro's engineering and operations team to ensure full operational capability that the overhaul of the P2000 rail car brake systems valves and components be overhauled by the Wabtec.

The non-competitive Request for Proposal (RFP) was issued to the Wabtec on April 7, 2017, and the contract type is an Indefinite Delivery, Indefinite Quantity (IDIQ).

Two amendments were issued during the solicitation phase of this RFP:

- Amendment No. 1, was issued on May 9, 2017, to extend the proposal due date revise the critical dates;
- Amendment No. 2, was issued on May 26, 2017, to further extend the proposal due date to June 8, 2017.

**B. Evaluation of Proposal**

This is a single source procurement that is consistent with Public Utility Code §130237, for the duplication or replacement of existing equipment already in use. Metro's

technical staff conducted technical fact-finding meetings and a technical evaluation of the technical proposal. The proposal was evaluated based on the proposed labor hours, proposed assigned technical personnel and labor categories. The proposal was found to be technically acceptable.

The firm recommended for award, Wabtec Passenger Transit, was found to be in full compliance with the proposal requirements.

**C. Cost/Price Analysis**

In accordance with Metro’s Acquisition Policy for a single source acquisition a cost analysis was conducted by Metro’s Estimating Department. Based on Metro’s cost analysis there was a unit price variation of 11.3% between the unit price offered and our unit cost analysis. In assessing the variance, it was concluded that the price difference was attributed to the product being a specialty item with no other manufacturing source; therefore, Metro would be expected to pay a premium for the procurement of this specialty product. Based on the cost analysis performed, the total proposed price was considered fair and reasonable.

<b>Proposer Name</b>	<b>Proposal Amount</b>	<b>Metro ICE</b>
Wabtec Passenger Transit	\$3,328,499	\$2,926,404

**D. Background on Recommended Contractor**

Wabtec was formed in November 1999 when Westinghouse Air Brake Company merged with Motive Power Industries, Inc. The original Westinghouse Air Brake Company was founded in 1869. Wabtec manufactures a broad range of products for locomotives, freight cars and passenger transit vehicles. These products include a vast array of pneumatic, electronic and mechanical devices such as braking equipment, controllers, and couplers for the transit industry worldwide. Wabtec has been providing rail equipment and services in the United States for 130 years.

DEOD SUMMARY

P2000 FRICTION BRAKE SYSTEMS & AIR COMPRESSOR OVERHAUL  
179579/MA27583000

**A. Small Business Participation**

The Diversity and Economic Opportunity Department (DEOD) did not establish a Small Business Enterprise (SBE) goal for this solicitation. The P2000 Friction Brake Systems & Air Compressors are Original Equipment Manufacturer (OEM) products, and are shipped directly to Metro. While the Project Manager initially confirmed that there were no subcontracting opportunities, Wabtec Passenger Transit (Wabtec), through its outreach efforts, was able to identify an SBE to perform modification and assembly services. Wabtec made a 5% SBE commitment.

<b>Small Business Goal</b>	<b>0% SBE</b>	<b>Small Business Commitment</b>	<b>5% SBE</b>
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	<b>SBE Subcontractors</b>	<b>% Committed</b>
1.	Altech Services Inc.	5%
	<b>Total Commitment</b>	<b>5%</b>

**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.



# Overview of Items 23, 24, 25 and 30

## System Safety, Security & Operations Committee



**Metro**

November 2017

# Rail Vehicle Maintenance, Overhaul & Modernization

## Maintenance

- Preserve level of performance

## Overhaul

- Heavy maintenance repair/replacement at specific OEM intervals (age/mileage)
- No change to the design

## Modernization

- Improve systems and performance
- Approximate mid-life
- Upgrade the system designs



**Metro**



# Fleet Plan 10 Year Horizon

Series	Maintenance	Overhaul	Modernize	Retire	Replace
P865	Yes	No	No	In process	P3010
P2020	Yes	Yes	No	Future	P3010
P2000	Yes	Yes	Yes	Future	Future
P2550	Yes	Yes	Yes	Future	Future
P3010	Yes	To be Scheduled	2030 $\pm$	Future	Future
A650 Base	Yes	No	No	Future	HR4000 Base
A650	Yes	Yes	Yes	Future	HR4000 Option

# Fleet Plan

## □ P2020 LRT Car Series

- Delivered: 15
- Lines : Blue and Expo Lines
- Overhaul Program
  - Ten components
  - Program LOP \$ 30,000,000
  - Contract for air hose replacement - Completed
  - Contract for axle assembly, gearbox/roller, cab slider, body repair, seat removal for bikes, wheelchair, cameras and propulsion – On-Going
  - Contract for Friction Brake– Nov 2017 (Item 23)

## □ P2000 LRT Car Series

- Delivered: 52
- Lines: Green, Blue and Expo Lines
- Overhaul Program
  - Nine components
  - Program LOP \$ 26,360,100
  - Contracts for air hose replacement and non-power axle bearing replacement – Completed 2012
  - Contracts for power axle, car battery, couple, exterior and interior paint – On-going
  - Contracts for Friction Brake and Air Compressor – Nov 2017 (Item 25)
- Modernization
  - Renew systems:
    - Carbody; Door; HVAC; Electrical; Propulsion; Trucks; Braking Equipment; Communication; Automatic Train Control; Trainline; Destination Signs
  - Exercise optional features (Item 30)
  - Contract to Alstom
  - LOP \$160,800,000
  - Projected Completion August 2021

# Fleet Plan

## ❑ P2550 LRT Car Series

- Delivered: 50
- Lines : Gold Line
- Overhaul Program
  - Nine components
  - Program LOP \$ 35,007,540
  - Contracts for axle assemblies, and coupler awarded – June & Sept 2017
  - **Contract for Friction Brake – Nov 2017 (Item 25)**
  - Contracts for propulsion, pantograph, battery, doors, truck and suspension systems – Anticipated 2018/2019
- Modernization
  - Renew systems:
    - Carbody; Door; HVAC; Electrical; Propulsion; Trucks; Braking Equipment; Couplers; Communication; Battery
  - Specification Prep Phase
  - **Contract to STV Incorporated (Item 24)**
    - **Consultant \$1,421,086 –Nov 2017**
  - Estimated LOP TBD
  - Projected Start 2020

## ❑ A650 Subway Car Series

- Delivered: 74
- Lines : Red Line
- Overhaul Program
  - Ten components
  - Program LOP \$ 30,000,000
  - Contracts for air compressor, HVAC compressor, passenger door, and car battery replacement – Completed
  - Contracts for friction brake, traction motor, gearbox, coupler, AC, and DC – On-Going
- Modernization
  - Renew systems:
    - Propulsion; Trucks; Friction Brakes; Doors; Communication; Interiors; Signal System, HVAC
  - Design and engineering phase
  - Contract to Talgo
  - LOP \$72,970,494
  - Projected Completion December 2021



Thank you



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