

**Board Report**

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**File #:** 2022-0303, **File Type:** Contract**Agenda Number:** 6.

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**OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE  
JUNE 16, 2022****SUBJECT: A650 HEAVY RAIL VEHICLE FLEET FRICTION BRAKE OVERHAUL****ACTION: APPROVE RECOMMENDATION****RECOMMENDATION**

AUTHORIZE the Chief Executive Officer to execute Modification No. 9 to Contract No. MA6274900, Indefinite Delivery/Indefinite Quantity (IDIQ) contract with Wabtec Passenger Transit (Wabtec) for A650 Heavy Rail Fleet Friction Brake Overhaul to extend the Period of Performance through June 30, 2024, and increase the Not-to-Exceed Total Contract Price by \$531,631.00 from \$3,727,827.00 to \$4,259,458.00.

**ISSUE**

The A650 Air Compressor Assembly is a component within the Friction Brake System. The Air Compressor Unit Assembly overhauls are required to be accomplished in parallel with the ongoing A650 Friction Brake Equipment overhaul services, thereby ensuring the overhauls are performed in accordance with regulatory standards.

Due to nationwide pandemic requiring shelter-in place mandate beginning in 2020, the A650 heavy rail fleet friction brake overhaul program experienced a production slowdown whereas both Wabtec (Contractor) and Rail Fleet Services experienced personnel shortages causing a delay to the schedule. The slowdown in production for nearly two (2) years necessitates a Contract period of performance extension to complete this friction brake overhaul cycle.

In parallel, upon inspection and testing the Air Compressor Unit, the Contractor notified staff that the Air Compressor Unit motors failed fitness testing and were determined to be unrepairable as it was discovered the replacement parts became obsolete, requiring the purchase of new motors.

The purchase of new motors is not included in the original contract awarded to Wabtec in 2017, thus requesting this contract modification will allow for continuation of overhaul services and for the purchase of ASU motors required for a thorough and complete overhaul of the A650 Friction Brake System. Furthermore, this approval of this item will achieve equipment safety, reliability and performance standards in accordance with regulatory requirements and OEM specifications. This approach will result in the least impact to the schedule and Metro resources in an effort to complete the project effectively.

## **BACKGROUND**

Contract No. MA6274900 was approved by the Board in January 2017, awarding Wabtec, the Original Equipment Manufacturer (OEM), the A650 Friction Brake Systems overhaul base services contract. In March 2020, the Board approved adding overhaul services of the D-4-S Air Compressor Assembly Unit, as this is an essential subsystem component of the Friction Brake Systems and was required to be accomplished in parallel with the A650 Friction Brake overhaul services.

The Breda A650 Subway Option-Buy fleet consists of 51 married-pair vehicles and is currently in the 24<sup>th</sup> year of revenue service operations. This fleet is presently undergoing a Component Overhaul Program, overhauling five (5) major systems including: friction brake, traction motor, gearbox coupler, and LVPS equipment. The average per car mileage is 1.6 million miles and has an accumulated fleet mileage of 100 million miles with consistent reliability and safety records.

## **DISCUSSION**

The A650 Subway Fleet consists of 102 rail cars (51 married pairs) in its 24<sup>th</sup> year of revenue service operations with over 1.5 million miles per rail car. The Friction Brake overhaul is scheduled on a four-year overhaul cycle to ensure the fleet remains in a constant State of Good Repair (SGR) while safeguarding passenger safety and service reliability.

The Friction Brake System Overhaul consists of tear down, inspection, and replacement of safety sensitive components e.g. brake calipers, actuators, brake valves, transducers, numerous valves, relays, including Air Compressor and HPT Tread Brake Actuators. The wear and tear of these components are predictable therefore necessitating periodic overhauls accomplished by the OEM with specialized equipment and mechanic certifications to ensure equipment reliably.

The Friction Brake Overhaul is (1 of 8) vehicle systems within the Component Overhaul Program managed and performed by Rail Fleet Services staff. Other vehicle systems undergoing overhaul include coupler, low voltage power supply, gearbox, traction motor, and semi-permanent coupler.

The friction brake system consists of numerous subcomponents, including tread brakes, brake shoes, brake valves, electronic controls, and Air Supply Unit (air compressor). The Original Equipment Manufacturer OEM recommends overhaul every 5 years; this is the 4<sup>th</sup> cycle overhaul. The Friction Brake Overhaul is critical in keeping the heavy rail fleet safe and reliable in conjunction with the State of Good Repair (SGR) mandates.

Rail Fleet Services (RFS) Engineering developed equipment overhaul specification(s) for all systems included in the Component Overhaul Program based on OEM recommendations and RFS maintenance experience. The OEM contractor will perform overhaul services in accordance with a defined schedule within Metro's technical specifications requirements.

## **DETERMINATION OF SAFETY IMPACT**

Safety is of the utmost importance to Metro and, therefore, it is imperative to maintain the A650 fleet

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without deferred maintenance and in a constant SGR. The Air Compressor will be accomplished in parallel with the ongoing Friction Brake equipment overhaul thereby ensuring the overhauls are performed in accordance with regulatory standards within a defined schedule while following Metro's Corporate Safety policy and procedures.

The friction brake equipment is a vital system that stops the railcar during high-speed emergency stops and provides final braking at passenger stations. In the event of friction brake equipment failure, the rail car will not stop within the prescribed braking rate and distance with potential catastrophic results to those involved.

### **FINANCIAL IMPACT**

Funding of \$531,631.00 is included in the Cost Center 3942, Project 300044 Account 50441. The delivery of the Air Supply Unit motors is planned for 1st quarter FY23.

#### **Impact to Budget**

Funding for this operating/rehabilitation effort includes operating eligible sources like Fares, Prop A 35, Measure M, and STA. Using these funding sources maximizes the project funding allocations allowed by approved provisions and guidelines.

### **EQUITY PLATFORM**

This is an existing overhaul service support contract needed to ensure continuity and proper project closeout of the A650 Friction Brake Overhaul Services contract and does not have any impacts on the previously approved LOP. Approval of the two recommendations ensures successful completion of the A650 overhaul project and will provide safe, accessible and affordable transportation for all riders of Metro's heavy rail system. Based on the 2019 Customer Survey, the Red and Purple heavy rail lines serve the following ridership:

- 27.7% below the poverty line
- 56.4% have no car available
- Rider Ethnicity: Latino 38.9%; Black 13.1%; White 25.8%; Asian/Pacific Islander 15.2%; Other 6.5%

In addition, areas include: Union Station to Downtown LA, Koreatown (Wilshire/Western), Hollywood, Universal City, and North Hollywood. Approval of this Board item will ensure non-interruptions on SGR overhaul services that support the ongoing A650 Friction Brake Overhaul project and allow for successful delivery of safety systems to Metro's existing heavy rail vehicle lines currently serving majority Equity Focus Communities who rely on public transportation.

Wabtec Passenger Transit made a 5% Small Business Enterprise (SBE) commitment. Based on payments reported the project is 51% complete and the current SBE participation is 14.71%, exceeding the SBE commitment by 9.71%

### **IMPLEMENTATION OF STRATEGIC PLAN GOALS**

The recommendation supports Metro Strategic Plan Goal 5) Provide Responsive, Accountable, and Trustworthy governance within the Metro organization. Approval of this item will help safeguard overhaul production continuance while reliably meeting passenger safety and fleet.

### **ALTERNATIVES CONSIDERED**

Deferral of this overhaul work is not recommended as these Friction Brake Systems are integral components of the vehicle braking systems that could result in equipment failures, service delays, and risk to passenger safety if not properly maintained.

Due to OEM inability to repair or overhaul the Air Supply Unit equipment resulting from parts obsolescence, it is necessary to procure new motors keeping the friction brake equipment in service for an additional 15 years. Due to the significance of the friction brake equipment there are no alternatives to be considered.

### **NEXT STEPS**

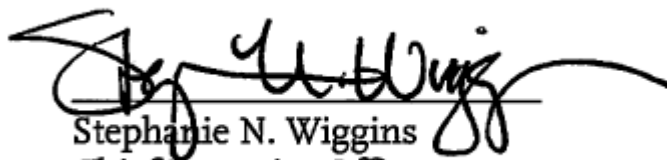
Upon Board approval, the friction brake equipment overhaul program will continue and the contractor will replace obsolete compressor motors with new motors.

### **ATTACHMENTS**

Attachment A - Procurement Summary  
Attachment B - Modification Log  
Attachment C - DEOD Summary

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Chief Executive Officer



## PROCUREMENT SUMMARY

## A650 FRICTION BRAKE OVERHAUL/CONTRACT NO. MA6274900

1.	<b>Contract Number:</b> MA6274900		
2.	<b>Contractor:</b> Wabtec Passenger Transit		
3.	<b>Mod. Work Description:</b> To provide continued overhaul services for the A650 friction brake to add work to the Air Compressor components		
4.	<b>Contract Work Description:</b> Provide overhaul services		
5.	<b>The following data is current as of:</b> 04.26.22		
6.	<b>Contract Completion Status</b>		<b>Financial Status</b>
	<b>Contract Awarded:</b>	01/19/17	<b>Contract Award Amount:</b> \$2,857,400.00
	<b>Notice to Proceed (NTP):</b>	02/10/17	<b>Total of Modifications Approved:</b> \$ 870,427.00
	<b>Original Complete Date:</b>	02/10/22	<b>Pending Modifications (including this action):</b> \$ 531,631.00
	<b>Current Est. Complete Date:</b>	06/30/22	<b>Current Contract Value (with this action):</b> \$4,259,458.00
7.	<b>Contract Administrator:</b> Jean Davis		<b>Telephone Number:</b> 213/922-1041
8.	<b>Project Manager:</b> Richard Lozano		<b>Telephone Number:</b> 323/224-4042

**A. Procurement Background**

This Board Action is to approve Contract Modification No. 9 issued in support of A650 Red Line vehicle maintenance for the following items:

- To approve additional contract modification authority (CMA) in the amount of \$511,171.00.
- To approve a modification to add overhaul services to A650 Friction Brake contract for the D-4-S Air Compressor Assembly in a Not-To-Exceed amount of \$531,631.20.

This Contract Modification No. 9 will be processed in accordance with Metro's Acquisition Policy and the contract type is an Indefinite Delivery, Indefinite Quantity (IDIQ).

On January 19, 2017, the Board approved a contract to Wabtec Passenger Transit to overhaul the A650 Friction Brake Systems in the amount of \$1,859,000 and an Option for the HPT Brake Actuator overhaul in the amount of \$998,400 for a total

Not-To-Exceed Contract amount of \$2,857,400. The period of performance is for 60 months, February 10, 2017 to February 10, 2022.

On March 19, 2020, the Board approved Modification No. 5 to exercise Option to overhaul Hydraulic Pneumatic Tread (HPT) Brake Actuator in the amount of \$998,400; and to add modification to overhaul services for D-4-S Air Compressor Assembly Units in the amount of \$723,892, for a total Not-To-Exceed contract amount of \$3,581,292. The contract was extended to June 30, 2022.

**B. Price Analysis**

A price analysis was evaluated and conducted in compliance with Metro's Acquisition Policy. The recommended modification amount of \$531,632.20 to add overhaul services for D-4-S Air Compressor Assemblies, which is a component of the A650 Friction Brake contract, has been determined to be fair and reasonable based on price analysis, technical analysis, and comparison to the Independent Cost Estimate (ICE).

<b>Item</b>	<b>Proposal Amount</b>	<b>Metro ICE</b>	<b>Negotiated Amount</b>
A650 Air Compressor Motors, added overhaul work	\$543,851	\$442,261	<b>\$531,631</b>

## CONTRACT MODIFICATION/CHANGE ORDER LOG

## A650 FRICTION BRAKE OVERHAUL/CONTRACT NO. MA6274900

Mod. no.	Description	Status (approved or pending)	Date	\$ Amount
1	No Cost Administrative Change	Approved	12/23/19	\$0
2	Authorized Long-Lead Material under existing Total Contract Value for D-4-S Air Compressor	Approved	01/09/20	\$0
3	Authorized Long-Lead Material under existing Total Contract Value for HPT Brake Actuator	Approved	01/09/20	\$0
4	No Cost Equitable Adjustment	Approved	02/11/20	\$0
5	Exercise Option 2 – HPT Brake Actuator; Add D-4-S Air Compressor Assembly	Approved	03/27/20	\$ 723,892
6	COVID-19 Impact Costs for Delivery Schedule Deferments	Approved	10/30/20	\$ 68,246
7	Revise Technical Specification to add out of scope parts	Approved	04/12/21	\$ 78,289
8	No Cost Time Extension	Approved	03/30/22	\$0
9	<b>Modification for D-4-S Air Compressor Assembly units</b>	<b>Pending</b>	TBD	<b>\$ 531,631</b>
	<b>Modification Total:</b>			<b>\$1,402,058</b>
	<b>Original Contract:</b>		01/19/17	<b>\$2,857,400</b>
	<b>Total:</b>			<b>\$4,259,458</b>



## DEOD SUMMARY

## A650 HEAVY RAIL FLEET FRICTION BRAKE OVERHAUL/MA6274900

**A. Small Business Participation**

Wabtec Passenger Transit made a 5% Small Business Enterprise (SBE) commitment. Based on payments reported the project is 51% complete and the current SBE participation is 14.71%, exceeding the SBE commitment by 9.71%

<b>Small Business Goal</b>	<b>SBE 2%</b>	<b>Small Business Commitment</b>	<b>SBE 5%</b>
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	<b>SBE Subcontractors</b>	<b>% Committed</b>	<b>% Participation</b>
1.	Altech Services	5%	14.71%
	<b>Total Commitment</b>	<b>5%</b>	<b>14.71%</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. PLA/CCP is applicable only to construction contracts that have a construction related value in excess of \$2.5 million.