

**Metro**Los Angeles County  
Metropolitan Transportation AuthorityOne Gateway Plaza  
Los Angeles, CA 90012-2952213.922.2000 Te.  
metro.net**SYSTEM SAFETY AND OPERATIONS COMMITTEE  
NOVEMBER 21, 2013****SUBJECT: HEAVY RAIL VEHICLE DC TRACTION MOTOR OVERHAUL****ACTION: APPROVE CONTRACT AWARD****RECOMMENDATION**

Award a 48-month firm fixed price unit rate contract under Bid No. 13-0009 with Swiger Coil Systems, the lowest responsive and responsible bidder, for the overhaul of 155 Breda A650 heavy rail vehicle (HRV) direct current (DC) traction motors for an amount not-to-exceed \$1,036,590.

**ISSUE**

The Breda A650 heavy rail vehicle fleet is in its 20<sup>th</sup> year of operation. To ensure a continued level of safety and reliability, the traction motors in 30 cars must be overhauled in accordance with the Original Equipment Manufacturer's (OEM) suggested overhaul interval of 250,000 miles. This procurement is for the acquisition of DC traction motor overhaul services which are required for the safe and reliable operation of the A650 vehicles.

**DISCUSSION**

The traction motor is the main electrical component that propels the rail car and is one of the primary systems on the car that if defective will impact customer comfort and ride quality. If the traction motor fails, the rail car propulsion system will be disabled and the rail car will not move. Wear and tear on the traction motors in normal service requires both ongoing maintenance, which is performed by our personnel, and periodic overhaul, which is beyond the level of in-house maintenance capability. The overhaul is designed to provide safe and reliable HRV operation, prolong equipment life, and increase the Mean Miles Between Failures (MMBF). The contractor will perform services in accordance with the OEM interval of 250,000 miles, and our specifications and Rail Fleet Services' scheduled requirements. The Rail Fleet Services' schedule will replace four traction motors per month, or the equivalent of one car.

## **DETERMINATION OF SAFETY IMPACT**

Award of contract for traction motor overhaul services will improve fleet availability and reliability, while ensuring compliance with the OEM's recommended overhaul cycle. The traction motor is safety sensitive, and if it is not properly maintained it can cause service delays. The traction motor overhaul minimizes such occurrences and ensures that the system is working as designed.

## **FINANCIAL IMPACT**

The total contract amount is \$1,036,590. Funding of \$100,000 for this procurement is included in the FY14 budget in cost centers 3942, Rail Fleet Services Maintenance Red Line, under project number 206034, Subway Rail Car Component Replacement, line items 50316, Professional and Technical Services and 50441, Miscellaneous Parts - Revenue Vehicle.

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

### **Impact to Budget**

The FY14 funding for this acquisition will come from Measure R. These funds are eligible to be used for rail operations and rail capital projects. No other sources of funds were considered for this project because these are the designated funds available for rail operations. This procurement is part of the on-going maintenance costs of the rail program.

## **ALTERNATIVES CONSIDERED**

An alternative is to postpone the traction motor overhaul. This is not recommended due to critical components reaching end-of-service life and upon failure will impact fleet availability and reliability. Unscheduled maintenance repairs on a per component level results in higher operating costs for the agency versus reduced costs performing this work on a scheduled program.

## **NEXT STEPS**

Overhaul of the traction motor system on the A650 heavy rail vehicles will continue in accordance with Rail Fleet Services' scheduled requirements. If approved, the project is scheduled to commence in January 2014.

## **ATTACHMENTS**

- A. Procurement Summary
- B. Bid Tabulation

Prepared by: Nick Madanat, Director, Rail Vehicle Acquisition and Maintenance  
Richard Lozano, Executive Officer, Rail Vehicle Maintenance

Questions: Christopher Reyes, Senior Administrative Analyst  
(213) 922-4808

  
Michelle Lopes Caldwell  
Chief Administrative Services Officer

  
Debra A. Johnson  
Interim Chief Operations Officer

  
Arthur T. Leahy  
Chief Executive Officer

## PROCUREMENT SUMMARY

## DC TRACTION MOTOR OVERHAUL

1.	Contract Number: 13-0009	
2.	Recommended Vendor: Swiger Coil Systems, 4677 Manufacturing Road, Cleveland, OH 44135	
3.	Type of Procurement (check one) : <input checked="" type="checkbox"/> IFB <input type="checkbox"/> RFP <input type="checkbox"/> RFP – A&E <input type="checkbox"/> Non-Competitive <input type="checkbox"/> Modification <input type="checkbox"/> Task Order	
4.	Procurement Dates:	
	A. Issued: 8/02/12	
	B. Advertised/Publicized: 8/09/12	
	C. Pre-proposal/Pre-Bid Conference: N/A	
	D. Proposals/Bids Due: 2/19/13	
	E. Pre-Qualification Completed: 8/26/13	
	F. Conflict of Interest Form Submitted to Ethics: 10/18/13	
	G. Protest Period End Date: 12/03/13	
5.	Solicitations Picked up/Downloaded: 19	Bids/Proposals Received: 4
6.	Contract Administrator: Otto Ojong	Telephone Number: (213) 922-1454
7.	Project Manager: Fred Kan	Telephone Number: (213) 922-3304

**A. Procurement Background**

Procurement of overhaul services for 155 heavy rail vehicle traction motors was conducted as a formal sealed bid, competitive acquisition, in support of awarding a Master Agreement to ensure availability and price stability.

IFB 13-0009 was issued August 2, 2012 and advertised August 9, 2012. Contract type is Firm-Fixed Price (FFP).

Six amendments were issued during the solicitation phase of this IFB:

- Amendment No. 1 issued on September 10, 2012 extended the bid due date.
- Amendment No. 2 issued on October 3, 2012 and Amendment No. 3 issued on October 16, 2012, provided formal responses to questions received from prospective bidders and revised the scope of work.
- Amendment No. 4 issued on October 26, 2012, Amendment No. 5 issued on November 13, 2012 and Amendment No. 6 issued on January 29, 2013 extended the bid due date.

Four bids were received on February 19, 2013.

## **B. Evaluation of Proposals/Bids**

A total of four bids were received February 19, 2013. The apparent low bidder, HMI Electric, withdrew their bid offer due to price changes, inflation and uncertainty of their actual costs to perform the overhaul service through the contract period. CAF USA, Inc. bid submittal was determined to be non-responsive because they submitted the incorrect Bid Form and therefore, did not bid on all items.

The firm recommended for award, Swiger Coil Systems, was found to be in full compliance with the bid requirements.

	<b>Bidder/Proposer Name</b>	<b>Bid/Proposal Amount</b>
1.	Swiger Coil Systems	\$1,036,590
2.	Dahl-Beck Electric	\$1,403,527

## **C. Cost/Price Analysis Explanation of Variances**

The recommended bid price of \$1,036,590 has been determined to be fair and reasonable based upon adequate price competition and selection of the lowest responsive and responsible bidder.

## **D. Background on Recommended Contractor**

Swiger Coil Systems, LLC is based in Cleveland, Ohio, and has been in business since 1975. Swiger Coil products and services include railroad equipment coils, traction/transit and OEM motors, DC/AC traction motor repair, armature and stator winding, and other traction motor parts. Swiger rebuilds and remanufactures AEG/Westinghouse, Siemens and General Electric traction motors for numerous transit authorities.

Swiger does business with other transit agencies including New York City Transit, Washington Metropolitan Area Transit Authority (WMATA), Miami-Dade, Maryland Transit Administration, Dallas Area Rapid Transit (DART) and Bay Area Rapid Transit (BART). In the past, Swiger has provided satisfactory service and delivery to us.

## **E. Small Business Participation**

The Diversity and Economic Opportunity Department (DEOD) established a 5 percent Disadvantaged Business Enterprise (DBE) Anticipated Level of Participation (DALP)

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## **E. Small Business Participation**

The Diversity and Economic Opportunity Department (DEOD) established a 5 percent Disadvantaged Business Enterprise (DBE) Anticipated Level of Participation (DALP) for this solicitation. Swiger Coil Systems made no DALP commitment. Meeting the DALP is neither a condition of award nor an issue of responsiveness.



# ATTACHMENT B BID TABULATION

**Bid No: 130009 A650 HRV DC Traction Motor Overhaul**

Bids Out: 08/02/12 Total 19  
 Bids Opened: 02/19/13 Total 4  
 Advertisement Date(s): 08/09/12  
 Newspaper: LA Watts

Item	Description	%	Qty	UM	HMI Electric		Swiger Coil Systems a Wabtec Co.		Dahl-Beck Electric		CAF USA, Inc			
					Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension		
<b>BASIC OVERHAUL</b>														
A650 HRV DC Traction Motor Overhaul					155	EA	\$1,796.50	\$276,907.50	\$3,950.00	\$612,250.00	\$5,965.00	\$924,575.00	\$4,162.00	\$645,110.00
<b>Subtotal</b>								<b>\$276,907.50</b>		<b>\$612,250.00</b>		<b>\$924,575.00</b>		<b>\$645,110.00</b>
<b>A. Stator/Frame</b>														
1	Stator Rewind	10%	16	EA	\$4,284.00	\$68,544.00	\$7,200.00	\$115,200.00	\$7,027.00	\$112,432.00	\$4,875.00	\$78,000.00		\$78,000.00
2	Stator coils replacement	10%	16	EA	\$2,272.50	\$36,360.00	\$0.00	\$0.00	\$495.00	\$7,920.00	\$3,640.00	\$58,240.00		\$58,240.00
3	Leads replacement	15%	24	EA	\$144.00	\$3,456.00	\$120.00	\$2,880.00	\$1,530.00	\$36,720.00	\$208.00	\$4,992.00		\$4,992.00
4	Replace lead bushings	15%	24	EA	\$85.50	\$2,052.00	\$12.00	\$288.00	\$27.00	\$648.00	\$97.50	\$2,340.00		\$2,340.00
5	Replace lead plate	10%	16	EA	\$270.00	\$4,320.00	\$0.00	\$0.00	\$135.00	\$2,160.00	\$130.00	\$2,080.00		\$2,080.00
6	Arching Suds	20%	31	EA	\$200.00	\$6,200.00	\$12.00	\$372.00	\$16.00	\$496.00	\$26.00	\$806.00		\$806.00
7	Brush holders	5%	8	EA	\$880.00	\$7,040.00	\$210.00	\$1,680.00	\$527.00	\$4,216.00	\$156.00	\$1,248.00		\$1,248.00
8	Bearing retainers	10%	16	EA	\$475.00	\$7,600.00	\$175.00	\$2,800.00	\$20.00	\$320.00	\$6.50	\$104.00		\$104.00
9	Threaded hole repair	5%	8	EA	\$266.40	\$2,131.20	\$0.00	\$0.00	\$32.00	\$256.00	\$273.00	\$2,184.00		\$2,184.00
<b>Subtotal</b>						<b>\$137,703.20</b>		<b>\$123,220.00</b>		<b>\$165,168.00</b>		<b>\$149,994.00</b>		<b>\$149,994.00</b>
<b>B. Armature</b>														
10	Replace commutator	10%	16	EA	\$1,300.00	\$20,800.00	\$5,495.00	\$87,920.00	\$5,040.00	\$80,640.00	no bid	\$0.00		\$0.00
11	Rewind armature and Replace laminations	10%	16	EA	\$3,900.00	\$62,400.00	\$5,900.00	\$94,400.00	\$8,057.00	\$128,912.00	no bid	\$0.00		\$0.00
12	Armature broken bar repair and replace wedge key	10%	16	EA	\$90.00	\$1,440.00	\$0.00	\$0.00	\$50.00	\$800.00	no bid	\$0.00		\$0.00
13	Armature replacement	10%	16	EA	\$10,625.00	\$170,000.00	\$5,900.00	\$94,400.00	\$505.00	\$8,080.00	no bid	\$0.00		\$0.00
14	Shaft replacement	15%	24	EA	\$3,195.00	\$76,680.00	\$750.00	\$18,000.00	\$3,145.00	\$75,480.00	\$1,430.00	\$34,320.00		\$34,320.00
15	Replace bearing lock nut	10%	16	EA	\$117.00	\$1,872.00	\$0.00	\$0.00	\$10.00	\$160.00	\$91.00	\$1,456.00		\$1,456.00
16	Replace bearing stop	10%	16	EA	\$189.00	\$3,024.00	\$0.00	\$0.00	\$192.00	\$3,072.00	\$91.00	\$1,456.00		\$1,456.00
17	Replace grease slinger	10%	16	EA	\$337.50	\$5,400.00	\$0.00	\$0.00	\$192.00	\$3,072.00	\$97.50	\$1,560.00		\$1,560.00
<b>Subtotal</b>						<b>\$341,616.00</b>		<b>\$294,720.00</b>		<b>\$300,216.00</b>		<b>\$38,792.00</b>		<b>\$38,792.00</b>
<b>C. Commutator End Bell</b>														
18	CE bearing cartridge repair	5%	8	EA	\$315.00	\$2,520.00	\$40.00	\$320.00	\$275.00	\$2,200.00	\$97.50	\$780.00		\$780.00
19	CE frame-head repair	5%	8	EA	\$315.00	\$2,520.00	\$320.00	\$2,560.00	\$281.00	\$2,248.00	\$97.50	\$780.00		\$780.00
20	Screen repair	5%	8	EA	\$49.50	\$396.00	\$0.00	\$0.00	\$128.00	\$1,024.00	\$104.00	\$832.00		\$832.00
21	Screen replacement	5%	8	EA	\$128.00	\$1,024.00	\$0.00	\$0.00	\$256.00	\$2,048.00	\$182.00	\$1,456.00		\$1,456.00
<b>Subtotal</b>						<b>\$6,444.00</b>		<b>\$2,880.00</b>		<b>\$7,520.00</b>		<b>\$3,848.00</b>		<b>\$3,848.00</b>
<b>D. Armature End (AE)</b>														
22	AE bearing fit repair	5%	8	EA	\$409.50	\$3,276.00	\$120.00	\$960.00	\$475.00	\$3,800.00	\$227.50	\$1,820.00		\$1,820.00
23	AE frame-head repair	5%	8	EA	\$315.00	\$2,520.00	\$320.00	\$2,560.00	\$281.00	\$2,248.00	\$188.50	\$1,508.00		\$1,508.00
<b>Subtotal</b>						<b>\$5,796.00</b>		<b>\$3,520.00</b>		<b>\$6,048.00</b>		<b>\$3,328.00</b>		<b>\$3,328.00</b>
<b>GRAND TOTAL</b>						<b>\$769,466.70</b>		<b>\$1,036,590.00</b>		<b>\$1,403,527.00</b>		<b>\$841,072.00</b>		<b>\$841,072.00</b>

I hereby certify **Swiger Coil Systems** as being the lowest responsive, responsible bidder and recommend the award to them for a total price of **\$1,036,590.00**.

9/27/13

Date

Signature

