



**Metro**

Los Angeles County  
Metropolitan Transportation Authority

One Gateway Plaza  
Los Angeles, CA 90012-2952

213.922.2000 Tel  
metro.net

**SYSTEM SAFETY AND OPERATIONS COMMITTEE  
JUNE 19, 2014**

**SUBJECT: EXPO-II / FOOTHILL SCADA INTEGRATION**

**ACTION: AUTHORIZE NEGOTIATION AND APPROVE CONTRACT  
MODIFICATIONS**

**RECOMMENDATION**

A. The Board finds that there is only a single source of procurement to upgrade the existing Supervisory Control and Data Acquisition (SCADA) System to include the Exposition Phase-2 and Foothill Gold Line Extension 2A Light Rail expansions. The Board hereby authorizes purchase of the software for the sole purpose of upgrading and expanding the system already in use.

Requires Two-Thirds Vote

B. Authorize the Chief Executive Officer to negotiate and execute Modification No. 001 to Contract No. OP39603035 with Rockwell-Collins-ARINC Inc. (ARINC) in an amount not-to-exceed \$3,595,795 to upgrade and expand the existing Light Rail SCADA system to: 1) Integrate with the Expo-II and Foothill rail segments; 2) unify all SCADA software versions; 3) address Management Audit Services Department (MASD) compliance findings. This action increases the total contract value from \$6,178,383 to \$9,774,178.

**ISSUE**

Expansion of the Exposition and Foothill Gold Light Rail service is underway with planned opening in early 2016. The existing Light Rail SCADA system, provided by ARINC, must be upgraded and expanded in order to support the level of remote supervision and control required by Rail Operations and Maintenance. The upgrade will also provide new centralized automatic train supervision and dispatching functions for control of train arrival and boarding signs, maintaining schedule adherence, and to provide operational efficiencies needed in support five minute headways. Additionally, findings of the most recent audit performed by MASD found several deficiencies in Information Technology Policy and Standards compliance that will be resolved as part of the system upgrade.

## **DISCUSSION**

Metro Rail Operations and Wayside Maintenance rely heavily on the SCADA system to provide supervisory and control functions essential for the safe, reliable and efficient rail operation. These functions include centralized control and/or monitoring of train movement, traction and auxiliary power, fire detection and suppression, gas detection, emergency tunnel and ancillary ventilation, elevators and escalators, radio, emergency telephone, Transit Passenger Information System (TPIS) and intrusion. The integration of the new light rail service is most economically and effectively accomplished by expanding the existing light rail SCADA system.

The existing Light Rail SCADA system was installed by ARINC in 2003 to support the opening of the Pasadena Gold Line. It has subsequently been upgraded and expanded to replace the original Blue Line SCADA (2005), integrate Gold Line Eastside extension (2009), and the new Exposition line (2012). Metro has competitively awarded Contract No. OP39603035 to ARINC for replacement of the obsolete Red Line SCADA system. The Expo/Foothill expansion is within the scope of work of the aforementioned contract.

ARINC is the only source qualified to perform this work on their proprietary software product in a quality manner and to support the construction schedule. A competitive procurement will mostly likely result in the delivery of a completely new and independent SCADA system instead of seamless integration which goes against the Metro object of building "systems" and not building "rail lines." Any third party attempts to expand and modify the existing ARINC system may:

- void the existing warranty;
- result in the inability to obtain extended warranty and Evernew software contracts with ARINC;
- relieve ARINC from liability in the event that the SCADA system causes or contributes to an accident.

## **DETERMINATION OF SAFETY IMPACT**

Approval of this item would implement the following safety requirements:

- Fire central supervisory station as required per the National Fire Protection Agency code NFPA72.
- Right-of-Way intrusion detection at shared freight corridors, tunnel portals, and end of platform emergency exits leading to dedicated track.
- Monitoring of proper grade crossing operation.
- Control and verification of overhead catenary voltage in the event of an emergency.
- Remote block protection for wayside workers.

## **FINANCIAL IMPACT**

The total contract amount requested is \$3,595,795.

Funding of \$1,384,000 is included in the Life of Project budget for project 860301 Exposition Transit Corridor Phase 2.

Funding of \$1,409,700 is included in the Life of Project budget for Project 860200 Foothill Extension 2A.

Funding of \$802,095 is included in the Life of Project budget for project 205087, SCADA Security Enhancements.

Since this is a multi-year project, the project manager and Executive Officer, Wayside Systems are responsible for budgeting in future years.

### **Impact to Budget**

Funding sources for this project are Measure R Transit 35% for the two expansion lines and Prop A 35% Rail for the security enhancements. Measure R Transit 35% is eligible for use on new rail capital projects. Prop A 35% Rail is eligible for upgrading and the rehabilitation of Wayside Systems.

## **ALTERNATIVES CONSIDERED**

An alternative is to not expand the SCADA system and operate the new rail territory using only radio communications. This will require significant additional manpower to comply with CPUC and fire code and to ensure safe and effective service. This cost would exceed the cost of SCADA expansion within a few years. This alternative is not recommended.

Another option is to award this contract competitively. This would require design and acquisition of a completely new system. This will increase the cost of the project, add significant schedule risk, and complicate operations and maintenance. A competitive bid would not likely result in a lower cost. ARINC has been the lowest price and highest technically qualified bidder on the previous two competitive SCADA awards. This alternative is also not recommended.

## **NEXT STEPS**

If approved, Notice to Proceed (NTP) will be issued July 1, 2014 to ensure the delivery of a quality SCADA system in time to support system integration and subsequent rail opening dates. The SCADA system expansion will be integrated into current contract schedule. After final acceptance the contractor will continue to provide full maintenance support for two years with options to renew yearly for five additional years.

Formal award of this contract modification and Notice to Proceed (NTP) requires an MASD audit. The Metro Procurement Department is prepared to issue a limited NTP should the audit not complete prior to the anticipated July 1 NTP date.

## **ATTACHMENTS**

### **A. Procurement Summary**

Prepared by: Charles Weissman, Supervising Engineer

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



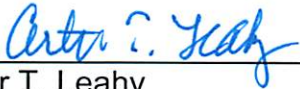
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Stephanie Wiggins  
Executive Director, Vendor/Contract Management



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William L. Foster  
Interim Chief Operations Officer



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Arthur T. Leahy  
Chief Executive Officer

## PROCUREMENT SUMMARY

## EXPO II / Foothill I SCADA INTEGRATION

1.	Contract Number: OP39603035			
2.	Contractor: ARINC			
3.	Modification Work Description : Modify Contract and integrate Expo II and Foothill I into existing SCADA system			
4.	Work Description: Eighteen (18) new stations, from Expo II and Foothill I, will be monitored by the existing SCADA system.			
5.	The following data is current as of :	May 7, 2014		
6.	Contract Completion Status:			
	Bids Opened	N/A	Financial Status	
	Contract Awarded	1/15/14	Contract Award Amount	\$6,178,383.00
	NTP	1/3/14	Total of Modifications approved	1
	Original Completion Date	1/3/21	Pending Modifications (including this action)	1
	Current Estimate Completion date	1/3/21	Current Contract Value (with this action)	\$9,774,178
6.	Contract Administrator: Nathan Jones III		Telephone Number: (213) 922-6101	
7.	Project Manager: Chuck Weissman		Telephone Number: (323) 563-5232	

**A. Procurement Background**

This proposed modification is for an amount not-to-exceed (NTE) \$3,595,795. The performance of work contemplated under this modification is for a period of two (2) years. The period of performance of this contract is not changed by this modification.

The contract was administered in accordance with the LACMTA approved procedures for contract modifications.

A summary of approved contract modifications is provided below:

<b>Change Type</b>	<b>Number of Changes</b>	<b>Amount</b>
Administrative Changes	1	\$0.00

**B. Cost/Price Analysis**

The final negotiated amount will comply with all requirements of Metro's Acquisition Policies and Procedures, including technical fact-finding, clarifications, MASD cost audit, and negotiations to determine a fair and reasonable price before the contract is finalized and executed.

**C. Small Business Participation**

ARINC, Inc. made a 12.4% Small Business Enterprise (SBE) goal commitment. The current SBE participation is 2.38%, and the project is 9% complete. It is expected that ARINC will achieve its SBE commitment through the term of the project.

<b>SMALL BUSINESS GOAL</b>	<b>12.64% SBE</b>	<b>SMALL BUSINESS COMMITMENT</b>	<b>2.38% SBE</b>
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	<b>DBE Subcontractor</b>	<b>Status</b>	<b>% Committed</b>	<b>Current Participation<sup>1</sup></b>
1.	Anysolv Technologies, Inc.	Performing	12.64%	2.38%
	<b>Total Commitment</b>		<b>12.64%</b>	<b>2.38%</b>

<sup>1</sup>Current Participation = Total Actual amount Paid-to-Date to DBE firms + Total Actual Amount Paid-to-date to Prime.