



## Board Report

File #: 2016-0516, File Type: Contract

Agenda Number: 25.

### SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE SEPTEMBER 15, 2016

**SUBJECT: CRENSHAW/LAX LIGHT RAIL SCADA INTEGRATION**

**ACTION: APPROVE CONTRACT MODIFICATION**

#### **RECOMMENDATION**

AUTHORIZE the Chief Executive Officer (CEO) to:

- A. EXECUTE Contract Modification No. 4 to Contract No. OP39603035 with **ARINC Control and Information Systems (ARINC), to upgrade and expand the existing Supervisory Control and Data Acquisition (SCADA) System on the Metro Green Line (MGL) to include and integrate the new Crenshaw/LAX Light Rail Line** for a period of 28 months for the amount-not-to-exceed \$4,994,515 increasing the total contract value from \$10,556,513 to \$15,551,028, inclusive of contract options.
- B. PURCHASE additional coverage on the existing \$15,000,000 supplemental project insurance for 10 years after contract award in excess of ARINC limited liability in an amount not-to-exceed \$450,000 inclusive of premium and fees. This action increases the total coverage cost from \$999,000 to \$1,449,000.

#### **ISSUE**

Contract No. OP39603035 was approved by the Board in November 2013 and was awarded to ARINC on January 15, 2014 for the replacement of the obsolete Red Line SCADA System. ARINC was chosen as the most technically qualified firm with the lowest price. Modification No.1 was executed July 14, 2014 to include integration of the Foothill and EXPO-II light rail expansion projects. Modification No. 3 was executed June 19, 2015 to include modifications and deletions necessary to comply with updated Metro Information Technology Hardware and Security standards and to purchase an additional project specific professional liability insurance associated with the increased contract scope.

Approval of this action will expand the existing SCADA system to include the new Crenshaw Light Rail territory, migration of existing Green Line train control for a unified SCADA platform, and add additional insurance coverage for this expanded scope.

Supplemental project specific professional liability insurance policy covers exposure resulting from

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Metro's contractual obligation to limit the contractor's professional liability to the value of the contract. Approval of this action will add additional coverage for Crenshaw and Green Line light rail integration activities.

## **DISCUSSION**

Metro Rail Operations and Wayside Maintenance rely exclusively on the SCADA system to provide supervisory and control functions essential for the safe, reliable and efficient operation of the Metro rail lines. 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.

Modification and expansion of the existing system to include the new Crenshaw light rail territory is proposed as a means to provide a unified SCADA platform for centralized supervision and control. A unified platform has the following benefits over procurement of a new and separate system:

- Dispatchers and maintenance personnel at the Rail Operations Control Center require training of only one system.
- Disaster recovery and Emergency Backup Control Center implementation requires synchronization and backup of only one system.
- External business systems such as Nextbus, Variable Message Signs, Material Maintenance Manager (M3) system, etc. require integration of only one system.
- System maintainers will be able to provide better overall reliability and reduced mean-time-to-repair of one system than could be provided for multiple different systems.

The new Crenshaw/LAX Line is intended to operate seamlessly with the existing Metro Green Line (MGL). Modification and expansion of the existing ARINC SCADA system must also include migration of MGL Centralized Automatic Train Control (ATC) functions. The existing MGL ATC system was delivered in 1995 by Ansaldo STS (formally Union Switch and Signal Inc.) under Contract No. H1100 and is now obsolete and no longer supported by the vendor.

Future contracts with ARINC are anticipated to further expand the SCADA system to seamlessly integrate the Regional Connector and Purple Line extensions currently under construction.

## **DETERMINATION OF SAFETY IMPACT**

SCADA provides enhanced safety by providing an efficient and effective means of centralized supervision and control of system that directly affects safe operations. This includes fire/gas detection, emergency ventilation, and traction power. Approval of this item would further enhance safety by providing a unified SCADA system for all rail lines. Dispatchers will not be burdened with achieving and maintaining competencies for multiple user interfaces.

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## **FINANCIAL IMPACT**

Work will be performed within the existing SCADA Upgrade and Crenshaw/LAX Light Rail project LOPs.

The total amount required for Recommendation A and B in FY17 is \$3,600,000. An amount of \$2,700,000 is included in the FY17 budget: Project 205038, Heavy Rail Subway SCADA System Replacement; Cost Center 3960, Rail Transit Engineering; Account 53102, Acquisition of Equipment. An amount of \$900,000 is included in Project 865512, Crenshaw/LAX Transit Corridor; Cost Center 8510, Construction Contracts/Procurement; Account 53102.

Since this is a multi-year project, the Project Manager and Senior Executive Officer, Rail Maintenance and Engineering, are responsible for budgeting in future years.

### **Impact to Budget**

This system upgrade and expansion is funded using a combination of Federal, State, and Local funding sources that are eligible for Rail capital including Federal CMAQ, RIP, STIP and Measure R 35% cash and/or bonds. Use of these funds maximizes Metro's funding based on availability.

## **ALTERNATIVES CONSIDERED**

The Board may choose to require an open solicitation and not authorize the subject single-source contract modification. This alternative is not recommended. An open solicitation may result in delivery of a new and different SCADA system. This presents training and maintenance difficulties that negatively affect the overall safe, effective and efficient operation. Award to a new contractor will also present significant schedule and cost risks to the Crenshaw project.

Metro could decide not to purchase additional supplemental insurance if the Board determines that additional exposure related to the inability to collect damages for ARINC professional negligence for their integration activities is an acceptable risk. This alternative is not recommended by Metro Risk Management.

## **NEXT STEPS**


Upon approval by the Board, staff will execute Contract Modification No. 4 to Contract No. OP39603035 with ARINC to ensure the delivery of an expanded SCADA system to support an on-time opening of the Crenshaw/LAX Light Rail line.

## **ATTACHMENTS**

- A. Procurement Summary
- B. Contract Modification/Change Order Log
- C. DEOD Summary

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