

**Board Report**

File #: 2021-0097, **File Type:** Contract**Agenda Number:** 25.

**OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE
APRIL 15, 2021****SUBJECT: SCADA AS NEEDED TASK ORDER SUPPORT SERVICES****ACTION: AWARD CONTRACT****RECOMMENDATION**

AUTHORIZE:

- A. The Chief Executive Officer to award a sole-source, task order based, firm-fixed unit rate Contract No. OP177320000PS57993 to ARINC Incorporated, a Delaware corporation and wholly owned subsidiary of Raytheon Technologies, a Delaware corporation, for on-call engineering support services in support of Metro's Supervisory Control and Data Acquisition (SCADA) systems, in a not-to-exceed amount of \$40,000,000 for a ten-year period of performance effective July 1, 2021.
- B. The Chief Executive Officer to execute task orders for an aggregate amount not-to-exceed \$40,000,000.

ISSUE

This sole source task-order based contract will ensure timely completion of improvements for the Rail Operations Center (ROC) and avoid any interruption to the critical needs of Metro rail operations. Recent acceleration in the Regional Connector project delivery dates require that the new task-order based contract be in place by July 1, 2021. SCADA engineering services for other upcoming transit expansion capital projects, such as Division 20 Portal Widening Turnback and Purple Line Extension Section 1, also need to begin as soon as possible to meet the project schedules. The existing contract OP39603035 is set to expire on December 31, 2021.

BACKGROUND

The existing contract OP39603035 was authorized by the Board in November 2013, after a competitive procurement, for equipment and services for the replacement of the obsolete Red Line SCADA System. ARINC was chosen as the most technically qualified proposer offering the lowest price. Six modifications have been issued to accommodate new rail extensions since then, including those most recently to support both the Regional Connector and the Crenshaw line.

The existing contract includes a 10% DBE participation goal. ARINC has accomplished a 10% participation to date.

DISCUSSION

Metro Rail Transportation and Wayside Systems Maintenance relies heavily on the SCADA system to provide supervisory and control functions that are essential for the safe, reliable, and efficient operation of the Metro rail lines. SCADA is the data pipeline and system management tool for the entire rail system. These functions include centralized control and monitoring of train movement, traction and auxiliary power, fire detection and suppression, gas detection, emergency tunnel and ancillary ventilation, elevators, escalators, radio, emergency telephone, next train arrival times, Transit Passenger Information System (TPIS) and intrusion detection.

A task-order based contract is the best fit to address the sorts of major project-based modifications and expansions to the SCADA system in a cost-effective and timely manner. It is anticipated there will be significant need to modify and enhance the current SCADA system for better train arrival predictions.

The sole source procurement of the SCADA engineering services on an as-needed task-order basis is recommended for the following reasons:

1. Maintain a single unified SCADA platform for the existing and new Lines. Dispatchers and maintenance personnel at the ROC will require training on only one system. Other functions such as next train arrival times and the Transit Passenger Information Systems will require integration with only one system.
2. Replacement of the existing SCADA software by another vendor product is not financially and technical feasible to fit the current Measure M transit expansion program schedules.
3. Modifications of SCADA functions must be performed under strict configuration and quality control procedures. Only ARINC possesses the software revision control history and automated regression test suite that can ensure the quality and correctness of changes.

The existing transit expansion capital projects currently under construction that the SCADA system will be required to support are:

- Regional Connector
- Division 20 Portal Widening Turnback
- Purple Line Extension Section 1
- Purple Line Extension Section 2
- Purple Line Extension Section 3
- Foothill 2B Extension

Each of these items requires the development of SCADA screens and interfaces, addition of tens of thousands of indications and controls, and complex algorithms involving logic, controls, and train

tracking.

The services will address anticipated critical support which includes, but will not be limited to:

1. Continued support of existing SCADA systems including compliance with State of Good Repair (SOGR) standards, maintenance and troubleshooting, on-site support, and software updates.
2. The need to implement and integrate a SCADA system to support upcoming transit expansion capital projects such as Regional Connector, Division 20 Portal Widening Turnback, Purple Line Extension Section 1, Purple Line Extension Section 2, Purple Line Extension Section 3, and the Foothill 2B Extension.
3. The need to introduce enhancements to the existing SCADA systems to include features such as, mobile access, reporting , train prediction , and 100 percent train tracking.

DETERMINATION OF SAFETY IMPACT

State of Good Repair (SOGR) items and regular maintenance impact safety by continuing to maintain our rail lines and pre-emptively fix items that would cause issues. Continuing to use ARINC Incorporated as Metro's SCADA support and maintenance vendor will ensure that all rail lines have a compatible interface and reduce training requirements of operations staff. This will also minimize the load of maintaining unique line specific knowledge, task loading and context switching. Approval of these items would greatly enhance the safety and reliability of the Rail SCADA system by adding the ability to thoroughly analyze incident playbacks, reporting, and improve system availability.

FINANCIAL IMPACT

Funding will be provided from funding sources in the appropriate major transit expansion capital projects as task orders become necessary.

For FY22, funding is included in the capital project budget under the prospective projects such as Regional Connector, Division 20 Portal Widening Turnback, Purple Line Extension Section 1, Purple Line Extension Section 2, Purple Line Extension Section 3, and Foothill 2B Extension.

Since this is a multi-year contract, the Project Manager will ensure that the balance of funds is budgeted for future fiscal years.

Impact to Budget

The source of funds will be dependent on the specific major transit expansion capital projects. Use of all related funding will maximize allowable funding allocations given approved funding provisions.

Ongoing State of Good Repair (SGR) maintenance and system upgrades will be funded using a combination of Federal, State, and Local funding sources that are eligible for Rail capital including Federal CMAQ, RTIP, STIP, Measure M and Measure R 35% Using these funding sources maximizes the allowable project funding designations given approved provisions and guidelines.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

Approval of this recommendation supports the following Metro Strategic Plan Goals:

- 1: Provide high-quality mobility options that enable people to spend less time traveling.
- 2: Deliver outstanding trip experiences for all users of the transportation system.
- 5: Provide responsive, accountable, and trustworthy governance within the Metro organization.

ALTERNATIVES CONSIDERED

The Board may choose to not approve this request and direct staff to hold an open procurement. This alternative is not recommended. An open solicitation may result in a delayed delivery of a new and different SCADA system that will be incompatible with the existing system. This presents training and maintenance difficulties that will negatively affect the overall safe, effective and efficient operation of Metro's rail system.

Award to a new contractor will also present significant schedule and cost risk to imminent projects such as Regional Connector, Division 20 Portal Widening Turnback, Purple Line Extension Section 1, Purple Line Extension Section 2, Purple Line Extension Section 3, and Foothill 2B Extension.

Another alternative is to implement a new SCADA system in-house. This alternative is also not recommended. Metro has neither the staffing, nor the skill set necessary to execute a project of this magnitude. Furthermore, time is of the essence. Only an experienced contractor offering a proven and mature SCADA system can complete the project within the requirements of our existing project schedule.

NEXT STEPS

Upon Board approval, staff will execute Contract No. OP177320000PS57993 with ARINC Incorporated to provide Supervisory Control and Data Acquisition (SCADA) systems engineering support services. Specific task orders will be issued to start working on projects.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - DEOD Summary

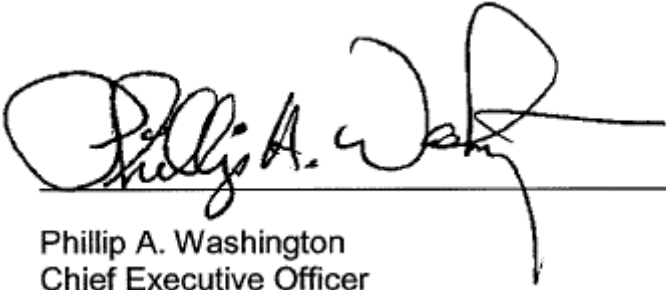
Prepared by:

Errol Taylor, Senior Executive Officer, Maintenance and Engineering, (213) 922-3227
Leticia Solis, Deputy Executive Officer, Wayside Systems, (213) 613-2115
David Chu, Director, Wayside Systems (SCADA), (213) 418-3042
Derek Jurykovsky, Sr. Engineer, Wayside Systems (SCADA), (323) 563-5209

Reviewed by:

James T. Gallagher, Chief Operations Officer, (213) 418-3108

Debra Avila, Chief Vendor/Contract Management Officer, (213) 418-3051



Phillip A. Washington
Chief Executive Officer

PROCUREMENT SUMMARY

SCADA AS NEEDED TASK ORDER SUPPORT SERVICES / OP177320000PS57993

1.	Contract Number: OP177320000PS57993	
2.	Recommended Vendor: ARINC Incorporated, a Delaware corporation and wholly owned subsidiary of Raytheon Technologies, a Delaware corporation	
3.	Type of Procurement (check one): <input type="checkbox"/> IFB <input 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.	Procurement Dates:	
	A. Issued: December 27, 2018	
	B. Advertised/Publicized: N/A	
	C. Pre-Proposal Conference: N/A	
	D. Proposals Due: February 28, 2019	
	E. Pre-Qualification Completed: September 16, 2019	
	F. Conflict of Interest Form Submitted to Ethics: February 22, 2021	
	G. Protest Period End Date: N/A	
5.	Solicitations Picked up/Downloaded: 1	Bids/Proposals Received: 1
6.	Contract Administrator: Ernesto N. DeGuzman	Telephone Number: (213) 922-7267
7.	Project Manager: David Chu	Telephone Number: (213) 418-3042

A. Procurement Background

This Board Action is to approve a sole source, task order-based Contract No. OP177320000PS57993 issued for Supervisory Control and Data Acquisition (SCADA) system for as needed engineering maintenance and support services.

A Request for Proposal (RFP) was issued on December 27, 2018 in accordance with Metro's Acquisition Policy for sole source procurements and the contract type is firm fixed unit rate. A 10% DBE goal was assigned to this procurement.

One (1) amendment was issued during the solicitation phase of this RFP to extend the proposal due date to February 28, 2019.

The proposal was received from ARINC on February 28, 2019.

B. Evaluation of Proposal

The proposal was evaluated by staff from Metro's Maintenance of Way (SCADA Engineering) department. The proposal was evaluated for technical and financial merit, experience and expertise, and understanding of the work.

During the solicitation phase of this procurement, ARINC was acquired by Raytheon and subsequently, both ARINC and Raytheon were acquired by Rockwell Collins, and then United Technologies Corporation. These acquisitions resulted in two

prolonged rounds of restructuring. While negotiations were in progress, both Metro and ARINC also experienced staffing shortfalls which further added to the delay.

ARINC submitted 25 exceptions to Metro's requirements on Liability and Indemnification; Rights in Technical Data, Patents and Copyrights; and Software Licensing. All were satisfactorily resolved as a result of lengthy negotiations.

During clarifications and negotiations from March 2019 through February 2021, the Metro project team also conducted several interviews. ARINC's project manager and key team members had an opportunity to present their qualifications and respond to Metro's questions.

Qualifications Summary of Proposer

ARINC Incorporated is a United Technologies Company. It was established in 1929 and is a major provider of transport communications and systems engineering solutions for the aviation, defense, and transportation industries, among others.

C. Cost Analysis

The recommended unit rates were determined to be fair and reasonable based upon a comparison with rates under a prior similar service contract, Metro's independent cost estimate, cost analysis, technical evaluation, and fact finding. Each individual task order will comply with all requirements of Metro's Acquisition Policy and the terms of the contract.

D. Background on Recommended Contractor

ARINC Incorporated, a part of Collins Aerospace, is located in Marina del Rey, California and has been in business since 1929. It is a leader in the field of transportation communications. In November 2013, ARINC was selected by Metro as the provider of SCADA maintenance and engineering services after a competitive procurement. Since then, ARINC has performed satisfactorily as Metro's SCADA maintenance and support partner.

DEOD SUMMARY

SCADA AS NEEDED TASK ORDER SUPPORT SERVICES/OP177320000PS57993

A. Small Business Participation

The Diversity and Economic Opportunity Department (DEOD) established a 10% Disadvantaged Business Enterprise (DBE) goal for this Task Order Contract. ARINC Incorporated made a 10% DBE commitment for this Task Order Contract.

ARINC Incorporated will be required to identify DBE subcontractor activity and actual dollar value commitments for Task Order work. Overall DBE achievement in meeting the commitments will be determined based on cumulative DBE participation Task Orders awarded.

Small Business Goal	10% DBE	Small Business Commitment	10% DBE
----------------------------	----------------	----------------------------------	----------------

	DBE Subcontractors	Ethnicity	% Committed
1.	Anysolv Technologies	African American	TBD
Total Commitment			TBD

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. Project Labor Agreement/Construction Careers Policy is applicable only to construction contracts that have a construction contract value in excess of \$2.5 million.

ITEM 25

**Supervisory Control and Data
Acquisition (SCADA) System
Engineering Support Services Contract**



Metro

Operations, Safety & Customer Experience Committee Meeting
April 15, 2021

Overview

- The Supervisory Control and Data Acquisition (SCADA) system is essential for safe, reliable, and efficient operation of the Metro rail lines
- Metro's current contract with ARINC Incorporated expires on 12/31/2021 and a new 10-year sole source task-order based contract was initiated
- New contract to support Metro rail transit expansion capital projects: Regional Connector, Division 20 Portal Widening Turnback, Purple Line Extension Sections 1-3, and Foothill 2B Extension
- Recommend to award task-order based contract to ARINC



ARINC Information



- **Minimize service disruptions and operational/maintenance cost**
- **Single unified SCADA platform for the existing and new Lines**
 - ❑ **Train dispatchers and maintenance personnel at ROC on only one system**
 - ❑ **Train arrival times require integration with one system**
- **Replacing existing SCADA software with a different vendor is not financially and technically feasible to meet Measure M transit expansion program schedules**
- **Modifications of SCADA functions must be performed under strict quality control procedures. Only ARINC possesses the software which handles revision control history and automated tests of changes ensuring quality and correctness**
- **Performed well over the years and achieved the required DBE/SBE goals**

Historical Partnership with ARINC

- Metro conducted a competitive procurement in 2013 which was awarded to ARINC
 - Most technically qualified
 - Provided lowest price proposal
- ARINC has met all contract schedules and deliverables on-time and within budget
- Metro has never had a contract related dispute with ARINC after a contract award
- Performed well over the years and achieved the required DBE/SBE goals

Competitively Bid Contract	DBE/SBE Goal	DBE/SBE Commitment	DBE/SBE Participation
2013	10%	12.64%	12.76%

SCADA Work Required



- Metro's many Rail transit expansion capital projects have accelerated and aggressive schedules. Projects include:
 - Regional Connector
 - Division 20 Portal Widening Turnback
 - Purple Line Extension Section 1
 - Purple Line Extension Section 2
 - Purple Line Extension Section 3
 - Foothill 2B Extension
- Enhancements to the existing system; such as train arrival prediction, 100% train tracking, additional reporting features, and secure remote access to equipment status
- Continued support of existing SCADA systems to comply with State of Good Repair (SOGR) and Cybersecurity standards, maintenance, troubleshooting, & software updates