Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #: 2019-0819, **File Type:** Contract **Agenda Number:** 16.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE
FEBRUARY 20, 2020

SUBJECT: OVERHEAD CATENARY SYSTEM INSPECTION TOOL

ACTION: APPROVE CONTRACT MODIFICATION

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to execute Contract Modification No. 1 to Contract No. PS53079000, with TransTech of South Carolina, Inc. (TransTech), for a turnkey Overhead Catenary System Inspection Tool for the measurement, recording, and reporting of various parameters associated with the Overhead Catenary System (OCS) contact wire, for an amount of $275,700 increasing the total contract amount from $391,974.23 to $667,674.23 and extend the period of performance from June 30, 2020 to June 30, 2023.

ISSUE

The OCS is a main component for providing traction power to light rail vehicles. Several times over the past year, the rail vehicle pantograph(s) have become entangled in the OCS contact wire. Because the interaction between the OCS contact wire and the pantograph is so interrelated, it is very difficult to determine if a damaged pantograph became entangled with a good OCS wire or if a damaged OCS wire caused a good pantograph to become entangled.

TransTech is the proprietary designer and manufacturer of the OCS Inspection Tool that requires an upgrade feature to measure the contact wire wear to help prevent entanglement incidents.

BACKGROUND

In June 2018, Metro awarded a single-source, firm fixed-price Contract No. PS53079000 to TransTech to provide an OCS Inspection Tool in the amount of $391,974.23. This contract modification provides for a modular upgrade to the existing OCS Inspection Tool which allows for the measurement the OCS contact wire, ensuring wire thickness is within the operating tolerances and ultimately prevents failures before they occur.

DISCUSSION

Metro currently operates four light rail systems with over 98 miles of track. Due to the difficulties with inspecting the OCS system using traditional methods, the OCS does not get inspected as frequently.

Therefore, Metro implemented an automated OCS Inspection Tool as a pilot project in order to study the effectiveness of the tool that could be deployed for OCS preventive maintenance work. A prototype was mounted onboard a revenue P3010 light rail vehicle to provide inspection results at least once per day.

The pantograph, which extends from the top of the rail vehicle, travels along the bottom of the OCS contact wire and transfers electricity from the wayside traction power system to the rail vehicle. The OCS Inspection Tool uses image processing technology to provide real-time information about the voltage and current draw, arc sensing, wire height and stagger. A modular upgrade would be added to the prototype to enable monitoring of the wear condition on the contact wire.

When anomalies are detected, the detailed images and data are transmitted wirelessly to alert Wayside Traction Power Maintenance personnel to review and determine if an on-site response and inspection is needed. The study results of the OCS Inspection Tool have been positive and have exceeded performance expectations. This technology provides a resourceful and proactive use of OCS preventive maintenance work.

DETERMINATION OF SAFETY IMPACT

Approval of the recommendations will have a positive impact on the safety of the light rail system by helping to ensure compliance with the original equipment manufacturers (OEM) recommended replacement cycle. Maintaining the light rail system in a State of Good Repair will reduce the mean time between failures, reduce the mean time to repair after failure, and promote safe and reliable train operations.

FINANCIAL IMPACT

Funding for this contract modification will come from capital project 205119 - OCS Inspection System. The Board approved a Life-of- Project (LOP) budget of $1,259,000. For FY 20, the contract modification amount of $275,700 will be funded by the LOP budget of project 205119, cost center 3960, account 53102 - acquisition of equipment. See Attachment C for the project expenditure plan.

Impact to Budget
The source of funds for this action will come from Proposition A 35% Rail Capital as well as future Federal, State and local funding sources that are eligible for Rail Capital Projects. Using these funding sources maximizes the project funding allocations allowed by 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.

This contract modification will help maintain safety, service and reliability standards in an effort to

provide a world-class transportation system that enhances quality of life for all who live, work, and play within Los Angeles County.

ALTERNATIVES CONSIDERED

The Board may choose not to approve Modification No. 1 to Contract No. PS53079000, but this is not recommended by staff because without proceeding with the modular upgrade for the OCS Inspection Tool, any failure(s) may result in light rail service delays as train movements will need to stop until repairs are completed. Not performing or postponing these repairs is not recommended as the light rail system infrastructure components are safety sensitive and if not properly maintained, will impact service reliability, passenger safety and comfort. Additionally, unscheduled maintenance repair costs on a per incident basis will result in higher operating costs and longer repair time versus reduced costs when performing work as scheduled.

NEXT STEPS

Upon Board approval, staff will execute Modification No. 1 to Contract No. PS53079000 with TransTech to provide the modular upgrade for the OCS Inspection Tool.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - Contract Modification/Change Order
Attachment C - Expenditure Plan
Attachment D - DEOD Summary

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Phillip A. Washington
Chief Executive Officer

PROCUREMENT SUMMARY

OVERHEAD CATENARY SYSTEM INSPECTION TOOL/PS53079000

1.	**Contract Number**: PS53079000			
2.	**Contractor**: TransTech of South Carolina, Inc. (TransTech)			
3.	**Mod. Work Description**: Additional inspection tool functionality			
4.	**Contract Work Description**: Purchase and Installation of Overhead Catenary System (OCS) Inspection Tool for the measurement, recording, and reporting of various parameters with the wayside OCS.			
5.	**The following data is current as of**: January 15, 2020			
6.	**Contract Completion Status**		**Financial Status**	
	Contract Awarded:	June 25, 2018	**Contract Award Amount:**	$391,974.23
	Notice to Proceed (NTP):	N/A	**Total of Modifications Approved:**	$0.00
	Original Complete Date:	June 30, 2020	**Pending Modifications (including this action):**	$275,700
	Current Est. Complete Date:	June 30, 2023	**Current Contract Value (with this action):**	$667,674.23
7.	**Contract Administrator**: Victor Zepeda		**Telephone Number**: (213) 922-1458	
8.	**Project Manager**: Marshall Epler		**Telephone Number**: (213) 617-6232	

A. Procurement Background

This Board Action is to approve Contract Modification No. 1 issued in support of purchasing an additional component to the Overhead Catenary System (OCS) Inspection Tool that will be mounted on different models of revenue light rail vehicles for the express purpose of measuring and recording wear of the OCS wire.

This Contract Modification will be processed in accordance with Metro's Acquisition Policy and the contract type is a firm fixed price.

On June 25, 2018, Metro awarded a single source Contract No. PS53079000 to TransTech to purchase a highly specialized safety tool technology with unique applications for the monitoring of OCS, in the amount of $391,974.23, for a period of performance of 24 months.

Refer to Attachment B – Contract Modification/Change Order Log.

B. Cost/Price Analysis

The recommended price has been determined to be fair and reasonable based upon the independent cost estimate (ICE), cost analysis, and technical evaluation.

Proposal Amount	Metro ICE	Negotiated Amount
$275,700	$325,000	**$275,700**

CONTRACT MODIFICATION/CHANGE ORDER LOG

OVERHEAD CATENARY SYSTEM INSPECTION TOOL/PS53079000

Mod. No.	Description	Status (approved or pending)	Date	$ Amount
1	Additional Module for measuring wire.	Pending	Pending	$275,700
	Modification Total:			$275,700
	Original Contract:			$391,974.23
	Total:			$667,674.23

ATTACHMENT C

Project 205119 Expenditure Plan

Overhead Catenary System Inspection Tool/PS53079000

Non-Labor Item	Current FY 2020	Future FY 2021	Contingency FY 2022	Total
PS53079000 - Overhead Catenary System (OCS) Inspection Tool (TransTech)	$ 275,000	$ 575,000		$ 850,000
Installation Parts and Materials	$ 12,500	$ 12,500		$ 25,000
Engineering Support Services	$ 50,000	$ 50,000		$ 100,000
Project Management Support Services	$ 25,000	$ 25,000		$ 50,000
Project Contingency			$ 56,740	$ 56,740
	$ 362,500	$ 662,500	$ 56,740	$ 1,081,740
Metro Labor	$ 72,310	$ 104,950		$ 177,260
Yearly Cash Flow Forecast:	$ 434,810	$ 767,450	$ 56,740	**$ 1,259,000**

DEOD SUMMARY

OVERHEAD CATENARY SYSTEM INSPECTION TOOL / PS53079000

A. Small Business Participation

The Diversity and Economic Opportunity Department (DEOD) did not establish a Small Business Enterprise (SBE) or a Disabled Veteran Business Enterprise (DVBE) goal for this procurement to provide a turnkey system for the Overhead Catenary System (OCS). According to the Project Manager, TransTech of South Carolina, Inc. is the proprietary designer and manufacturer of the OCS Inspection Tool that requires an upgrade. It is expected that TransTech of South Carolina, Inc. will perform the work with its own workforce.

B. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy (LW/SCWRP) is not Applicable to this modification

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.