



Board Report

File #: 2024-0643, File Type: Contract

Agenda Number: 24.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE NOVEMBER 21, 2024

SUBJECT: LIGHT RAIL VEHICLE DOOR DETECTION ENABLE SYSTEM

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to:

- A. AWARD a firm fixed price Contract No. OP123557000 to Hitachi Rail STS USA, Inc. (Hitachi) in the amount of \$24,444,798.94 to modify the onboard automatic train control (ATC) software on Metro's Light Rail Vehicles (LRVs) to only allow the doors on the platform side to open upon the vehicle berthing, subject to resolution of any properly submitted protest(s), if any;
- B. FIND that there is only a single source of procurement for the proprietary ATC system software and modifications set forth in Recommendation A above, and it is for the sole purpose of modifying, integrating, and testing the LRV ATC functionality on the A and E lines; and
- C. INCREASE the Life-of-Project (LOP) budget for the Correct Side Door Enable System Project by \$22,938,000, increasing the LOP budget from \$9,062,000 to \$32,000,000.

(REQUIRES TWO-THIRDS VOTE OF THE FULL BOARD)

ISSUE

All of the rail lines, both subway and light rail, operate an automated door control system at the station platform, except for the Metro A and E Lines, which operate on a manual door control system that requires the Train Operator to open the doors when the train comes to a stop at a station platform. However, there have been limited instances of train doors incorrectly opening on the non-platform side of the train. The California Public Utilities Commission (CPUC) has identified "correct side door" technology that reduces the chance for human error. To reduce the risk of train doors opening on the non-platform side, a contract award and an LOP budget increase are needed to implement a correct side door enabling system to ensure that only the platform side of the train door may open.

BACKGROUND

When train doors open on the non-platform side of the station, it may expose Metro passengers to bodily injury, including death. However, no accidents have occurred to date that resulted in passenger injury or fatality on the Metro system. In 2016, these risks came to the attention of the California Public Utilities Commission (CPUC), which recommended that Metro look into correct side door enable technology that reduces Train Operator error by preventing doors from incorrectly opening on the wrong side of the train at the station platform. Metro began seeking a correct side door enable system solution by initiating open competitive procurements. The first solicitation in 2018 did not produce any proposals, and the second solicitation in 2021 resulted in one unqualified bidder. In 2023, Operations Engineering staff reassessed the project scope, opting for a non-competitive solicitation with an Original Equipment Manufacturer (OEM) of correct side door enable system technology. In May 2024, Request for Proposal (RFP) No. OP123557 was issued as a non-competitive procurement to Hitachi Rail STS USA, Inc. (Hitachi) in accordance with Metro's Acquisition Policy and Procedures. The functional requirement for a similar system is included in the current version of the Metro Rail Design Criteria, and as a result, will be available on all future light rail transit projects.

DISCUSSION

Currently, Metro employs a similar safety system on all rail lines except the A and E Lines, which ensures that train doors only open when properly aligned with the correct side of the station platform. The project's scope is to install a crucial safety system on the A and E Lines that automatically detects which side of a platform is adjacent to a stopped train, allowing the train doors to open only on that side. This will prevent the unintended opening of doors on the non-platform or "wrong" side of the station. Additionally, the safety system will prevent a Train Operator from opening the train's doors if the train is not correctly positioned at a station. The project work is scheduled to be completed in the Fall of 2027.

The initial cost and LOP budget of a correct door detection enable system was estimated based on the existing technology in 2017, without using a more complex proprietary system, and within the scope of work identified. A re-scoping of the project had to be completed upon negotiation of Contract No. OP123557000, which resulted in a \$32,000,000 LOP budget now estimated to complete the project. Refer to Attachment C for the expenditure plan of capital project 205118 - Correct Side Door Opening.

DETERMINATION OF SAFETY IMPACT

The correct side door enable system is a safety improvement project. The award of this contract and the establishment of the LOP will eliminate the current risk of Train Operators inadvertently opening the door on the wrong side of the platform. The CPUC has also recommended the implementation of technology to reduce the chance of such errors.

FINANCIAL IMPACT

This action will increase the LOP budget by \$22,938,000, from \$9,062,000 to \$32,000,000 for capital project 205118-Correct Side Door Opening. The FY25 budget includes annual funding of \$536,797

for this project.

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

Impact to Budget

The current source of fund is Measure M Metro SGR 2%. This funding is eligible for Rail SGR Projects. Additional funding sources will be pursued as opportunities become available.

EQUITY PLATFORM

Metro is committed to maintaining transit assets and ensuring reliable and equitable transportation options for Metro riders. The equity benefits of this action improve passenger safety on the A and E Lines. These lines directly provide service to many Equity Focus Communities (EFCs) as well as to low-income riders, who are the primary users of the Metro transit system.

The A and E Lines serve communities with a high concentration of EFCs, including Westlake, Exposition Park, Central-Alameda, Huntington Park, Vermont-Slauson, Vermont, Knolls, Vermont-Vista, Watts, Willowbrook, Compton, Long Beach, and Wilmington. They also serve as transfer connections to other Metro rail lines and multiple bus lines. Implementation of this safety system ensures safe operations that benefit low-income riders.

The Diversity & Economic Opportunity Department (DEOD) did not recommend a Small Business Enterprise or Disabled Veterans Business Enterprise (SBE/DVBE) participation goal for this procurement due to the lack of subcontracting opportunities.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

Approval of this recommendation supports Metro's Strategic Plan Goal to deliver outstanding trip experiences for all users of the transportation system.

ALTERNATIVES CONSIDERED

The Board may choose not to award Contract No. OP123557000 and not establish a LOP budget for project 205118. Staff does not recommend this because incidents can occur, and the CPUC is recommending that Metro implements this safety system.

NEXT STEPS

Upon Board approval of the recommendations, staff will establish the LOP budget and execute Contract No. OP123557000 with Hitachi Rail for the Light Rail Vehicle Correct Side Door Enable System Project.

ATTACHMENTS

Attachment A - Procurement Summary

Attachment B - DEOD Summary

Attachment C - Project 205118 Expenditure Plan

Prepared by:

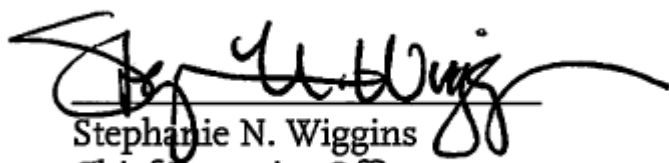
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Reviewed by:

Conan Cheung, Chief Operations Officer, (213) 418-3034



Stephanie N. Wiggins
Chief Executive Officer

PROCUREMENT SUMMARY

LIGHT RAIL VEHICLE CORRECT SIDE DOOR ENABLE SYSTEM / OP123557

1.	Contract Number: OP123557	
2.	Recommended Vendor: Hitachi Rail STS USA, Inc. (Hitachi)	
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: 05-09-2024	
	B. Advertised/Publicized: N/A- Sole Source	
	C. Pre-Proposal Conference: N/A- Sole Source	
	D. Proposals Due: 07-12-2024	
	E. Pre-Qualification Completed: N/A- Sole Source	
	F. Conflict of Interest Form Submitted to Ethics: July 18, 2024	
	G. Protest Period End Date: 10/23/24	
5.	Solicitations Picked up/Downloaded: 1	Bids/Proposals Received: 1
6.	Contract Administrator: Ani Pogossian	Telephone Number: (213) 922-2874
7.	Project Manager: Aderemi Omotayo	Telephone Number: (213) 922-3243

A. Procurement Background

This Board Action is to approve the award of Contract No. OP123557 to modify the car-borne automatic train control (ATC) software to read Radio-Frequency Identification (RFID) tag data. RFID tags need to be installed at the station platform and other wayside locations to determine which station the light rail vehicle (LRV) is approaching, which rail track the LRV is on, the LRV's position relative to the berthing location, and when a radio frequency change is necessary. The Door Enable System functions under this contract will only be installed on the A and E Lines, as a separate system already performs the Door Enable functions on the C (Green) and K (Crenshaw) Lines. Hitachi STS USA, Inc. (Hitachi), is the sole manufacturer and distributor of the car-borne ATC package including hardware and software in all Metro's light rail vehicles. The hardware and software are proprietary. The contract award is subject to resolution of any properly submitted protest(s), if any.

The contract type is Firm Fixed Price, and the work is expected to be completed by December 2027. The Diversity & Economic Opportunity Department (DEOD) did not recommend a Small/Disabled Veterans Business Enterprise (SBE/DVBE) participation goal for this Procurement due to lack of subcontracting opportunities.

The Light Rail Vehicle Correct Side Door Enable System procurement was solicited twice as an open competitive procurement. The first solicitation in 2018 did not produce any proposals, and the second solicitation in 2021 resulted in one unqualified bidder, with Hitachi as the subcontractor.

On May 9, 2024, Request for Proposals (RFP) No. OP123557 was issued as a non-competitive procurement to Hitachi in accordance with Metro's Acquisition Policy and Procedures. During the solicitation phase of this RFP, LACMTA issued three (3) amendments, and three (3) sets of clarifications, answering a total of twenty-one (21) questions received from the proposer.

Four (4) amendments were issued during the solicitation phase of this RFP:

- Amendment No. 1, issued on May 17, 2024, added Special Provisions (SP)-21: California Transparency in Supply Chains Act.
- Amendment No. 2, issued on June 18, 2024, removed section 3.9.2 Construction Safety Supervisor and 6.6.6 Physical Barriers from the Scope of Work and revised General Conditions (GC-35) Rights in Technical Data, Patents and Copyrights.
- Amendment No. 3, issued on May 16, 2024, extended the proposal due date.
- Amendment No. 4, issued on August 5, 2024, BAFO.

One (1) proposer, Hitachi, responded to the RFP by the due date on July 12, 2024.

B. Evaluation of Proposal

This is a non-competitive sole source procurement for services that are available only from a single source due to data rights restrictions that preclude competition. This solicitation was evaluated in compliance with Metro's Acquisitions Policy and Procedures.

Metro's Project Manager (PM) performed a technical evaluation of the proposal in accordance with the RFP. The technical evaluation determined that Hitachi has the technical expertise and capabilities to perform the work as defined in the Scope of Work, as they are the Original Equipment Manufacturer (OEM) of the car-borne ATC package on all LRVs on Metro's property. The proposal required clarification and discussion which eventually resulted in a technically and commercially acceptable offer.

C. Cost Analysis

In accordance with LACMTA's Acquisition Policy and Procedures for a non-competitive acquisition, a cost analysis is required. Therefore, staff performed a cost analysis consisting of an assessment of the proposed cost elements and a comparison with the Independent Cost Estimate (ICE).

LACMTA's Independent Cost Estimate (ICE) amounted to \$28,500,000. This estimate covered various components inclusive of Material, Manufacturing, Installation and Engineering costs.

Hitachi's initial proposal was \$24,937,760. However, following clarifications and negotiations, a revised proposal was required.

In accordance with IP-06, titled "Amendment," Metro issued Amendment No. 4, requesting a Best and Final Offer (BAFO) from Hitachi. Hitachi responded with its revised Technical Proposal and Form 60. This resulted in a reduction from the initial proposal by \$492,961.06, bringing the Price Proposal down from \$24,937,760 to \$24,444,798.94.

The recommended price proposal from Hitachi totaling \$24,444,798.94 is 16.6% lower than the ICE. The primary difference between the ICE and the proposed amount is attributed to the ICE's inclusion of a 12% inflation adjustment for engineering and support labor. By removing the escalation factor from the ICE, the difference between the ICE and the lower proposed price is within 8.5%.

Proposer Name	Initial Proposal Amount	BAFO Proposal Amount	LACMTA ICE
Hitachi Rail STS USA, Inc.	\$24,937,760.00	\$24,444,798.94	\$28,500,000

Based on staff's cost analysis, it was determined that the final proposed price of \$24,444,798.94 was the best attainable value and is deemed fair and reasonable for the required work.

D. Background on Recommended Contractor

In 2015, Hitachi Ltd began acquiring all Ansaldo Transportation S.P.A related transportation companies. Due to this acquirement, the recommended firm, Hitachi Rail STS USA, Inc. was founded in 2019 and headquartered in Pittsburgh, Pennsylvania. Hitachi Rail is active around the world as a contractor and supplier of turnkey services and solutions and builds large projects for railway and mass transit systems for both passenger and freight systems. Their most recent and on-going contracts include LACMTA's HR-4000 Heavy Rail Vehicles Cab Signaling, P2550 Overhaul Cab Signaling, HR-5000 Heavy Rail Vehicles Cab Signaling, A650 Heavy Rail ATC Replacement Program and more.

DEOD SUMMARY

LIGHT RAIL VEHICLE CORRECT SIDE DOOR ENABLE SYSTEM / OP123557

A. Small Business Participation

The Diversity and Economic Opportunity Department (DEOD) did not recommend a Small Business Enterprise (SBE)/Disabled Veteran Business Enterprise (DVBE) participation goal for this procurement due to the lack of subcontracting opportunities for small businesses. Hitachi Rail STS USA, Inc. listed one major subcontractor to perform on this contract.

B. Prevailing Wage Applicability

Prevailing wage is not applicable to this contract.

C. Living Wage Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy 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. PLA/CCP is applicable only to construction contracts that have a construction related value in excess of \$2.5 million.

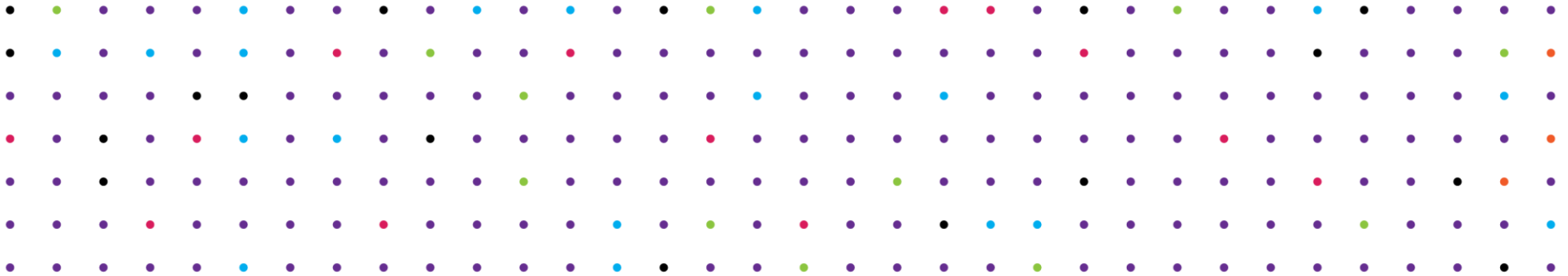
**Capital Project 205118 Expenditure Plan
Correct Side Door Enable System**

Use of Funds	FY25	FY26	FY27	FY28	Total
Contract No. OP123557000 Correct Side Door Enable System	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,444,799	\$ 24,444,799
Metro Workforces	\$ 950,000	\$ 950,000	\$ 950,000	\$ 950,000	\$ 3,800,000
Agency Costs (Design Support During Construction, Construction Management, Project Management, Procurement, Labor Compliance)	\$ 325,000	\$ 325,000	\$ 325,000	\$ 335,421	\$ 1,310,421
Contingency 10%					\$ 2,444,780

Yearly Cash Flow Forecast \$ 7,275,000 \$ 7,275,000 \$ 7,275,000 \$ 7,730,220 \$ 32,000,000

INFRASTRUCTURE, MAINTENANCE, AND ENGINEERING

LIGHT RAIL VEHICLE DOOR DETECTION ENABLE SYSTEM



Operations, Safety, & Customer Experience Committee Meeting
November 21, 2024

RECOMMENDATION



AUTHORIZE the Chief Executive Officer to:

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ISSUE & DISCUSSION



AWARDEE

Hitachi Rail STS USA

NUMBER OF PROPOSALS

One

DEOD COMMITMENT

Due to a lack of sub-contracting opportunities, no participation goal was recommended.

ISSUE

The Metro A and E Lines operate on a manual door control system, requiring the Train Operator to open the train doors upon stopping at a station. This system can result in the doors being opened on the wrong side, where there is no platform.

DISCUSSION

The project's scope is to install a crucial safety system on the A and E Lines that automatically detects which side of a platform is adjacent to a stopped train, and only allows the opening of those doors.

