

## PROPOSED RESOLUTION

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Agenda ID# 15166

### PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Safety and Enforcement Division  
Rail Transit Safety Branch

Resolution ST-185  
October 27, 2016

### RESOLUTION

RESOLUTION ST-185 GRANTING APPROVAL OF THE LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY SAFETY AND SECURITY CERTIFICATION PLAN FOR THE HR4000 HEAVY RAIL VEHICLE PROCUREMENT PROJECT

### SUMMARY

This Resolution grants the request of the Los Angeles County Metropolitan Transportation Authority for approval of the Safety and Security Certification Plan for the HR4000 Heavy Rail Vehicle procurement project.

### PROJECT DESCRIPTION

Los Angeles County Metropolitan Transportation Authority (LACMTA) rail transit operations consist of the Red, Purple, Blue, Green, Gold, and Expo Lines. The system consist of a mix of light-rail and heavy (or Rapid Rail) rail lines. The LACMTA rail system carries an average of 350,000 passengers per day.

The HR4000 Heavy Rail Vehicle (HRV) procurement contract calls for the awarded contractor to design, manufacture, test and deliver 64 HRVs to LACMTA with five separate options to increase the order up to 282 HRVs. In addition to the above responsibilities, the contractor will perform the following tasks:

- Install LACMTA-furnished equipment.
- Manufacture equipment and systems required for system testing and demonstration.

- Perform combined systems testing of train control, radio, traction equipment, and auxiliary electrical systems on LACMTA's heavy rail lines.
- Provide spare parts, special tools, and test equipment as indicated in the contract.
- Furnish technical personnel, instrumentation, and test apparatus required to show compliance of furnished equipment to meet contractual specifications.
- Prepare and furnish final design drawings and data.
- Train designated LACMTA personnel.
- Provide operations and maintenance manuals.

## **BACKGROUND**

Commission General Order 164-D, *Rules and Regulations Governing State Safety Oversight of Rail Fixed Guideway Systems*, Section 11, *Requirements for Safety Certification Plan*, requires that each Rail Transit Agency (RTA) prepare a project-specific Safety Certification Plan (SCP) for each major project and ensure that all entities involved in design, construction, operation, and maintenance of the project comply with the safety certification process. The SCP also addresses and includes security considerations for the project.

The purpose of the SCP is to describe organizational authority and responsibilities, safety certification activities and processes, and documentation requirements and responsibilities. The SCP lists safety and security critical items and activities that require verification such as safety equipment functionality testing and safety related operational and/or maintenance training. A safety certification verification report (SCVR) is issued by the RTA at project completion, as verification of SCP compliance. The SCVR must be approved by CPUC staff (staff) before the project (vehicles) can be placed in service.

On June 28, 2016, LACMTA submitted their plan titled "Safety and Security Certification Plan for the HR 4000 Heavy Rail Vehicle" to staff for review and requested Commission approval. This report is the Safety and Security Certification Plan for the HR4000 Heavy Rail Vehicle Procurement project.

Staff reviewed and analyzed the content of the LACMTA SCP, and found that it generally met SCP requirement set forth in General Order 164-D and Rail Transit

Safety Branch Program Management Standard Procedures Manual, State Safety and Security Oversight of Rail Fixed Guideway System Section 9. However staff did request some changes and further clarity in various aspects of the SCP. On September 2, 2016, LACMTA submitted a revised SCP for the project. Staff is recommending approval of the revised SCP.

## **DISCUSSION**

LACMTA is currently expanding its rail network and services, including extending the Purple Line Subway. The Westside Purple Line Extension (PLE), previously named the Westside Subway Extension, extends service from the terminus at Wilshire/Western Station to Westwood (UCLA and Veteran's Administration Hospital). This extension, consisting of nearly nine (9) miles of track and seven stations, is planned to be constructed in three (3) sections.

LACMTA anticipates procuring a Base Order of sixty-four (64) HRVs: thirty-four (34) are for Section 1 of the PLE and thirty (30) are to replace the existing aging fleet of HRVs in use on the Red Line. Included are Option quantities to meet future HRV fleet needs for service expansions and new extensions. Two hundred eighty-two (282) new HRVs are anticipated to be required to: a) expand the base operation and reduce headways; b) operate the system at full capacity with the opening of the three (3) Westside Purple Line sections; and c) replace existing HRVs when they meet their useful life requirements.

To provide the most flexibility while ensuring HRVs are delivered when needed, the Base and Option Order quantities are as follows:

### Base Order:

Westside Purple Line Extension, Section 1	34 HRVs
<u>Replacement of 30 Base Buy A650 HRVs</u>	<u>30 HRVs</u>
Total Base Order	64 HRVs

### Option Orders:

Option 1: Red Line Expansion	24 HRVs
Option 2: System Expansion	84 HRVs
Option 3: Purple Line Extension (PLE) Section 2	20 HRVs
Option 4: Purple Line Extension (PLE) Section 3	16 HRVs
<u>Option 5: Replacement of 74 Option Buy A650 HRVs</u>	<u>74 HRVs</u>

Total Contract Options

218 HRVs

The Contractor's primary responsibility under the Contract is to deliver to the LACMTA up to 282 HRVs (base order plus Options subject to LACMTA Board approval) Model HR4000 Heavy Rail Vehicles ready for revenue service. The Contractor shall design, test for design conformance, manufacture, test for production conformance, deliver, perform First Article acceptance tests on the first three (3) Married-Pair Vehicles pursuant to the HR4000 Validation and Testing (TS 22), furnish Spare Parts and tooling as listed in the Contractual Requirements, and warrant the quality, performance, maintainability, interface, operational reliability and intended purpose of all HR4000 HRVs produced and delivered to the LACMTA.

Staff reviewed the HR4000 HRV Procurement Project SCP in accordance with General Order 164-D Section 11, *Requirements for Safety Certification Plan*. The SCP is in compliance with General Order 164-D and staff recommends that the Commission grant approval of the LACMTA SCP for this project. In accordance with GO 164-D, staff will review and approve any updates and/or revisions to the SCP as the project progresses.

The specific process that will safety certify the vehicles will provide for safety certification of the first three married pairs (6 vehicles) along with submittal of a preliminary SCVR indicating conformance with the SCP process. The preliminary SCVR approval will be followed by staff review of subsequent new vehicle testing records to assure their conformance with the SCP before authorizing those vehicles for passenger service. At the conclusion of the project a final Safety Certification Letter shall be submitted by LACMTA to demonstrate overall project SCP compliance and the conclusion of the project.

## **NOTICE**

On September 14, 2016, this Resolution was published on the Commission's Daily Calendar.

## **COMMENTS**

The draft resolution of the Safety and Enforcement Division in this matter was mailed in accordance with Section 311 of the Public Utilities Code and Rule

14.2(c) of the Commission's Rules of Practice and Procedure. No comments were received.

### **FINDINGS**

1. The HR4000 HRV procurement project is intended to provide the rolling stock for the LACMTA Purple and Red Lines.
2. On June 28, 2016, LACMTA submitted the SCP for the HR4000 Heavy Rail Vehicle procurement for staff review and requested Commission approval.
3. On September 2, 2016, LACMTA submitted a revised SCP to address staff's comments on its original submittal.
4. Staff reviewed and analyzed the content of the revised SCP and found that it meets the requirements set forth by General Order 164-D Section 11 and Program Management Standard Procedures Manual State Safety and Security Oversight of Rail Fixed Guideway System Section 9.
5. The HR4000 HRV procurement project SCP may be updated and revised as the project progresses, with staff's approval.

### **THEREFORE, IT IS ORDERED THAT:**

1. The request of the Los Angeles County Metropolitan Transportation Authority for approval of the final revised Safety Certification Plan submitted September 2, 2016, for the HR4000 Heavy Rail Vehicle procurement is granted.
2. The Los Angeles County Metropolitan Transportation Authority shall timely submit any revisions of the Safety Certification Plan with CPUC staff for review and approval.
3. The Los Angeles County Metropolitan Transportation Authority shall submit the preliminary Safety Certification Verification Report to CPUC staff as required by the Commission General Order 164-D, Section 12, at least 21 days prior to placing the first vehicles of the project in revenue service.
4. The Los Angeles County Metropolitan Transportation Authority shall notify CPUC staff as new vehicles are readied for service and staff shall verify conformance with the Safety Certification Plan requirements before authorizing those vehicles for revenue service.

5. The Los Angeles County Metropolitan Transportation Authority shall submit a final letter to CPUC staff indicating compliance with the approved Safety Certification Verification Report, demonstrating conformance of all HR4000 vehicles and the conclusion of the project, within 60 days after the final vehicle is authorized for service.
6. This resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed, and adopted by the Commission at its regularly scheduled meeting on October 27, 2016. The following Commissioners voted favorably thereon:

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TIMOTHY J. SULLIVAN  
Executive Director