

**PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Safety and Enforcement Division  
Rail Transit Safety Branch

Resolution ST-190  
November 10, 2016

**RESOLUTION**

RESOLUTION ST-190 GRANTING APPROVAL OF THE  
SAN FRANCISCO MUNICIPAL TRANSPORTATION  
AGENCY CERTIFICATION PLAN FOR THE LRV4 LIGHT  
RAIL VEHICLE PROCUREMENT PROJECT

**SUMMARY**

This Resolution grants the request of San Francisco Municipal Transportation Agency for approval of the Safety Certification Plan for the LRV4 Light Rail Vehicle procurement project.

**PROJECT DESCRIPTION**

San Francisco Municipal Transportation Agency (SFMTA) has initiated a new light rail vehicle (LRV) procurement to acquire up to 260 vehicles over the next 15 years (LRV4 project). The scope of the LRV4 project will include the design, manufacture, delivery and test of up to 260 LRVs together with associated services, spare parts, special tools, training and documentation. The base quantity will be 175 vehicles including an initial delivery of 24 cars, scheduled for delivery in 2018 to supplement the fleet when the Third Street Phase 2 (Central Subway) extension opens. A further 151 LRV4s are projected for the replacement of the existing 151 LRVs supplied by Siemens, with deliveries starting 2021, and projected completion in 2028.

The LRV4s are expected to have a 30-year life, which includes a mid-life overhaul. The new vehicles will operate on all lines of the system within the current system constraints. The procurement project will be funded through a number of different sources including federal funds. The procurement project will follow Federal Transit Administration regulations.

SFMTA will perform the following tasks to enact this project:

- Implement the LRV4 Safety and Security Certification Plan;
- Establish LRV4 Design Criteria and Specifications;
- Review, approve and participate in Contractor Provided Training;
- Review and approve contractor Provided Operations and Maintenance Manuals;
- Provide Emergency Services (Fire and Police) Training;
- Update and maintain Rules and Procedures;
- Provide Operations Training;
- Conduct Emergency Drills; and
- Prepare and submit LRV4 Safety and Security Certification Verification Report 21 days prior to placing the first group of LRV4 vehicles into revenue service.

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

On January 13, 2016, SFMTA submitted their plan titled "Procurement of New Light Rail Vehicles (LRV4) Contract No. SFMTA 2013-19 Safety and Security Certification Plan LRV4.PL.06" to staff for review and requested Commission approval. This report is the SSCP for the LRV4 Light Rail Vehicle Procurement project.

Staff reviewed and analyzed the content of the SFMTA SSCP, and found that it meets the SSCP requirements set forth in General Order 164-D and Rail Transit Safety Branch Program Management Standard Procedures Manual, Section 9. However staff did request some changes and further clarity in various aspects of the SSCP, and worked with SFMTA through a series of drafts to implement these. On September 29, 2016, SFMTA submitted a final version of the SSCP for the project. Staff is recommending approval of the SSCP.

**DISCUSSION**

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

| Item  | No. of Cars | Vehicle Delivery Date        | Completion of Acceptance Testing |
|---|-------------|------------------------------|----------------------------------|
| Delivery of Phase 1 vehicles (Central Subway Extension and near term service expansion) | 24          | 12/13/2016 through 3/27/2018 | 8/15/2017 through 5/21/2018      |
| Delivery of Phase 2 vehicles (Fleet Replacement)  | 151         | 4/10/2018 through 10/8/2019  | 6/4/2018 through 12/2/2019       |
| Delivery of Option Phase 1 vehicles (Service Expansion)                                 | 40          | 2018-2019                    | To be determined                 |
| Delivery of Option Phase 2 vehicles (TBD)   | Up to 45    | To be determined             | To be determined                 |
| <b>Total Base Order:</b>  |             |                              |                                  |
|   | 175         |                              |                                  |
| <b>Total Optional Order:</b>  |             |                              |                                  |
|   | 85          |                              |                                  |

The Contractor’s primary responsibility under the Contract is to deliver to the SFMTA up to 260 LRV4s (base order plus Options subject to SFMTA Board approval) ready for revenue service. The Contractor shall design, test for design conformance, manufacture, test for production conformance, deliver, and perform all required tests per the schedule above.

Staff reviewed the LRV4 procurement project SSCP in accordance with General Order 164-D Section 11, *Requirements for Safety Certification Plan*. The SSCP is in compliance with General Order 164-D and staff recommends that the Commission grant approval of the SFMTA SSCP. In accordance with General Order 164-D, staff will review and approve any updates and/or revisions to the SSCP as the project progresses.

The specific process that will safety certify the vehicles will provide for safety certification of the delivered vehicles associated with Phase 1, along with submittal of a preliminary SCVR indicating conformance with the SSCP process. The preliminary SCVR approval will be followed by staff review of subsequent new vehicle testing records to assure their conformance with the SSCP before authorizing those vehicles for passenger service. At the conclusion of the project a final Safety Certification Letter shall be submitted by SFMTA to demonstrate overall project SSCP compliance and the conclusion of the project.

### **NOTICE**

On October 10, 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. \_\_\_\_\_ comments were received.

### **FINDINGS**

1. The LRV4 procurement project is intended to provide 260 light rail vehicles for SFMTA service expansions and vehicle replacements.
2. On January 13, 2016, SFMTA submitted the SSCP for the LRV4 procurement project for staff review and requested Commission approval.
3. On September 29, 2016, SFMTA submitted a revised SSCP to address staff's issues with and comments on its original submittal.

4. Staff reviewed and analyzed the content of the revised SSCP and found that it meets the requirements set forth by General Order 164-D Section 11 and the Rail Transit Safety Branch Program Management Standard Procedures Manual, Section 9.
5. The LRV4 procurement project SSCP may be updated and revised as the project progresses, with staff's approval.

**THEREFORE, IT IS ORDERED THAT:**

1. The request of the San Francisco Municipal Transportation Agency for approval of the final revised Safety Certification Plan submitted September 29, 2016, for the LRV4 Light Rail Vehicle procurement is granted.
2. The San Francisco Municipal Transportation Agency shall timely submit any revisions of the Safety and Security Certification Plan to CPUC staff for review and approval.
3. The San Francisco Municipal Transportation Agency shall submit the Safety and Security 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 San Francisco Municipal Transportation Agency shall notify CPUC staff as new vehicles are tested and readied for service, and CPUC staff shall verify conformance with the Safety and Security Certification Plan requirements before authorizing those vehicles for revenue service.
5. The San Francisco Municipal Transportation Agency shall submit a final letter to CPUC staff indicating compliance with the approved Safety and Security Certification Verification Report, demonstrating conformance of all LRV4 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 November 10, 2016. The following Commissioners voted favorably thereon:

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TIMOTHY J. SULLIVAN  
Executive Director