

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

Safety and Enforcement Division  
Rail Transit Safety Section

Resolution ST-150  
March 21, 2013

**RESOLUTION**

RESOLUTION ST-150 GRANTING APPROVAL OF THE  
SAN FRANCISCO BAY AREA RAPID TRANSIT  
DISTRICT SAFETY AND SECURITY CERTIFICATION  
PLAN FOR NEW VEHICLE PROCUREMENT

**SUMMARY**

This Resolution grants the request of the San Francisco Bay Area Rapid Transit District for approval of the Safety and Security Certification Plan for the New Vehicle Procurement Project.

**PROJECT DESCRIPTION**

The San Francisco Bay Area Rapid Transit District (BART or the District) is a high-speed inter-city and metropolitan rail transit system. It consists of 44 stations and over 100 miles of trackway in four counties. It provides transit service to an average of 365,000 passengers per day.

The District currently has 669 vehicles. Since the initial procurement of BART's transit vehicles in the early 1970s (designated "A/B" vehicles), the District has procured additional vehicles (designated C1 and C2) and rehabilitated the original A/B vehicles. The projected end of useful life for each existing vehicle will occur between 2012 and 2019, depending on the age of the vehicle and whether and when it was rehabilitated. The District will be procuring new vehicles based on specifications that are primarily performance driven. The procurement of the vehicles via Request for Proposal No. 40FA-110 is structured as follows:

- Base Contract: 260 Vehicles

- Option 1: 150 additional Vehicles
- Option 2: 150 additional Vehicles
- Option 3: 115 additional Vehicles
- Option 4: 100 additional Vehicles

Each vehicle will be an individual stand-alone entity, complete with all systems, and having couplers at both ends, and capable of single-car operation. All vehicles shall have three passenger door openings on each side of the vehicle. Doors will be designed based on passenger access, interior layout, and structural requirements.

Although the vehicles will not operate in mixed consists with the existing fleet, the vehicles shall be capable of mechanically coupling with the other BART vehicle types, or shall be provided with a coupler adapter to permit such mechanical coupling. However, the new vehicle consists will operate simultaneously with existing fleet consists during revenue service.

The District's Safety and Security Certification Plan (SSCP) describes the processes, responsibilities, documentation, and procedures needed for certification. The intent of this SSCP is to define the safety and security certification management including organizational authority and responsibilities, safety and security certification activities, processes and procedures. Additionally, it provides a framework for ensuring that appropriate safety-related activities are performed and documented to support each Certificate of Compliance issued. This SSCP may be revised and expanded as the project progresses.

## **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 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. In accordance with General order 164-D, Section 10, a Safety Certification Verification Report (SCVR) is issued by the RTA at project completion as verification of SSCP compliance. The SCVR must be approved by CPUC staff before the project (vehicles) can be placed in service.

On September 10, 2012, BART submitted its plan titled "Safety and Security Certification Plan for the New Vehicle Procurement" to staff for review and requested Commission approval.

Staff reviewed and analyzed the BART SSCP and found that it meets SSCP requirements set forth in General Order 164-D and Rail Transit Safety Section Program Management Standard Procedures Manual, State Safety and Security Oversight of Rail Fixed Guideway System, Section 9.

## **DISCUSSION**

The new vehicles shall be of two types, designated D-Cars and E-Cars. D-Cars shall have an operator's cab with a crew door to the car exterior and controls at one end (the Y end) with no door at that end to allow passage to the next car during service if configured as a mid-consist. The X end of the D-Car shall have a hostling panel for yard movement, and a door to allow passage to the next car during service (if coupled with an E-Car or the X end of a D-Car). E-Cars shall have no cab, but shall have a hostling panel at both ends (X and Y ends) for vehicle movements, and a door at each end to allow passage to the next Car during service.

The undercar equipment layout, relative to the X and Y ends, shall be common to both D-Cars and E-Cars, with the exception of equipment specific to the cab car.

The trains will operate in consists ranging from three to ten vehicles, with each train being sized for the maximum passenger load it is expected to handle while in service. The consists will always have D-Cars (cab) at both

ends, and may contain any combination of vehicles in the middle of the train.

The District, through the BART New Vehicle Project (BNVP) Team, is responsible for self-certifying safety and security of the vehicles and for providing evidence of safety and security certification to the CPUC prior to placing the vehicles into revenue service. In turn, the District will require Certificates of Compliance signed by individuals responsible for ensuring conformance with identified safety and security requirements. When all the required system elements are certified, key safety and security certification documentation will be issued to the CPUC.

The certification program scope encompasses safety and security certification of the equipment, facilities, safety-related procedures, training programs, and hazard resolution activities for the BNVP. The process is categorized into distinct factors throughout the advancement of the project. Specifically, certification focuses on six “Certifiable Factors” as defined in the BART System Safety Program Plan:

**Certifiable Factors:**

1. Design Criteria Conformance
2. Specification Conformance
3. Safety-Related Testing and Inspection Conformance
4. Hazard and Vulnerabilities (Risk) Resolution Conformance
5. Plans, Rules, and Procedures Conformance
6. Training and Drills Conformance

Some or all of the six Certifiable Factors apply to the single “certifiable element” which is the vehicle and its sub-elements.

Certificates of Compliance require the performance of a variety of system safety, security, and fire/life safety activities. The activities may be performed either independently, or integrated with other tasks such as acceptance testing or quality control measures. Regardless of whether the activities are performed independently or integrated with others, adequate system safety, security, and fire/life safety activity records must be

developed and maintained as evidentiary support for Certificates of Compliance.

The SSCP will be updated as required. Changes may be proposed by any department and submitted in writing to the BART Chief Safety Officer, System Safety Department for review and consideration.

The BNVP Project Director and BART Chief Safety Officer approve minor changes. Major changes require thorough review and approval by all signature authorities of the SSCP. The BART Safety Department will submit any revision of the SSCP to the CPUC staff for approval.

Staff reviewed the BNVP Project SSCP in accordance with General Order 164-D Section 9, *Requirements for Safety Certification Plan*. The SSCP is in compliance with General Order 164-D and staff recommends that the Commission grants approval of the BART SSCP. Staff will review and approve updates and revisions to the SSCP as the project progresses.

### **NOTICE**

On February 19, 2013, 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 BART New Vehicle Procurement Project is intended to provide new vehicles for the BART system. The projected end of useful life for each existing vehicle will occur between 2012 and 2019.
2. On September 10, 2012, the District submitted the SSCP for the BART New Vehicle Procurement Project for staff review and requested Commission approval.

3. Staff reviewed the SSCP and found that 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.
4. The BART New Vehicle Procurement Project's SSCP will be updated and revised as necessary, as the project progresses, upon staff's approval.
5. The BART New Vehicle Procurement Project is intended to provide new vehicles for the BART system. The projected end of useful life for each existing vehicle will occur between 2012 and 2019, depending on the age of the vehicle and whether and when it was rehabilitated.

**THEREFORE, IT IS ORDERED THAT:**

1. The request of the San Francisco Bay Area Rapid Transit District for approval of the Safety and Security Certification Plan for the BART New Vehicle Procurement Project is granted.
2. The San Francisco Bay Rapid Transit District shall file revisions of the Safety and Security Certification Plan with CPUC staff for review and approval.
3. The San Francisco Bay Rapid Transit District 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 start of revenue service.
4. 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 March 21, 2013. The following Commissioners voted favorably thereon:

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PAUL CLANON  
Executive Director

