
2017

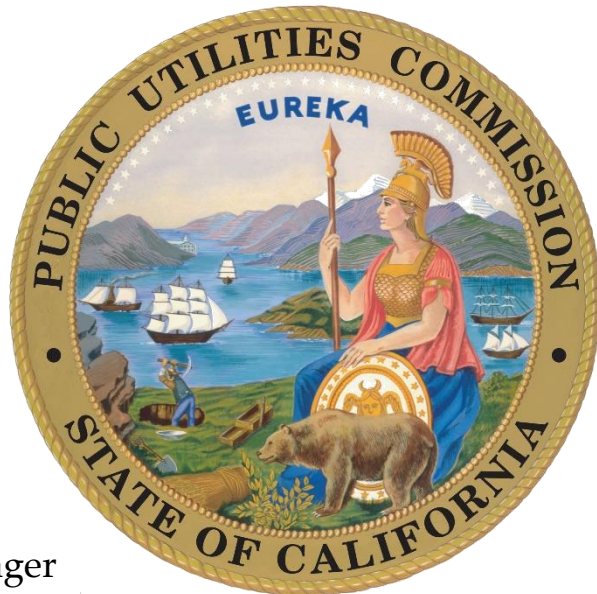
TRIENNIAL ON-SITE SYSTEM SAFETY REVIEW OF SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

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November 20, 2018

Final Report

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2017 TRIENNIAL ON-SITE SYSTEM SAFETY REVIEW OF SACRAMENTO REGIONAL TRANSIT DISTRICT

ACKNOWLEDGEMENT

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EXECUTIVE SUMMARY

The California Public Utilities Commission's Safety and Enforcement Division (SED), Rail Transit Safety Branch (RTSB) staff (Staff) conducted an on-site system safety program review of the Sacramento Regional Transit District (SRTD) from October 9 through October 20, 2017. The review focused on verifying SRTD's implementation of its System Safety Program Plan (SSPP), as well as SRTD's compliance with State and Federal rules and regulations. This report details staff's investigatory actions, findings, and recommendations. The review revealed areas of non-compliance, as discussed below.

An opening conference meeting between SRTD personnel and Staff immediately preceded the initial on-site review activities, which began Monday, October 9, 2017. The review continued through October 20, 2017. A post-review conference meeting took place on January 31, 2018, with Staff providing SRTD personnel with a summary of all findings. Staff identified 49 findings of non-compliance. From these findings, Staff issued 46 recommendations for corrective actions.

Section 2 of this report, titled Introduction, provides a summary of the authority under which the California Public Utilities Commission (CPUC or Commission) performs the triennial reviews and presents a brief chronology of the review. Section 3, Background, includes a description of the SRTD system. Section 4 explains the procedures used by Staff during the System Safety Review. Staff's 49 findings of non-compliance and 46 recommendations are presented in Section 5, organized by source checklist numbers. Finally, the Appendices include a list of abbreviations and acronyms used in the report and checklists, tabulated findings and recommendations, and the complete set of review checklists with summaries of all review activities and the original comments, findings, and recommendations. This report reflects Staff's triennial safety review of SRTD. The SRTD on-site triennial security review report is contained in a separate Report and is brought before the Commission for approval in a separate Resolution.¹

¹ Staff's security review and report, "2017 Triennial Security Review of Sacramento Regional Transit District," is being brought before the Commission concurrently in Resolution ST-221.

INTRODUCTION

The Commission's General Order (GO) 164-E², *Rules and Regulations Governing State Safety Oversight of Rail Fixed Guideway Systems*, and the Federal Transit Administration's (FTA's) Rule, Title 49 Code of Federal Regulations (CFR) Part 674, *Rail Fixed Guideway Systems: State Safety Oversight*, require designated State Safety Oversight Agencies (SSOAs) to perform a review of each of their state's rail transit agencies' system safety program at minimum once every three years. The purpose of the Triennial Review is to verify compliance and evaluate the effectiveness of each rail transit agency's SSPP, and to assess the level of compliance with GO 164 E as well as other Commission safety requirements. Staff concluded the previous On-Site System Safety Review of SRTD on June 6, 2014.

On September 5, 2017, Staff advised the SRTD's General Manager/Chief Executive Officer (GM/CEO) of the pending review for scheduling purposes and held an opening conference meeting with SRTD's management on October 9, 2017. At the conclusion of each review activity, Staff provided SRTD personnel with a verbal summary of their preliminary findings and discussed potential recommendations for corrective actions.

Following the triennial safety review's conclusion, on January 31, 2018, Staff conducted a post-review exit meeting with SRTD's GM/CEO and department managers. Staff provided the attendees with a summary of the findings of non-compliance derived from the 36 checklists used to guide the review and discussed the need for corrective actions where applicable.

² GO 164-D was in effect at the time Staff initiated the review. It has since been updated by GO 164-E. There is no significant difference between GO 164-D and GO 164-E with respect to the requirements regarding Triennial Safety and Triennial Security Reviews for Rail Transit Agencies.

BACKGROUND

SRTD Rail System

The Sacramento Regional Transit District (SRTD) is governed by an 11-member Board of Directors. The Board is comprised of members of the Sacramento, Rancho Cordova, Citrus Heights, Elk Grove, and Folsom City Councils, as well as the Sacramento County Board of Supervisors.

SRTD currently operates over approximately 43 miles, covering a 422 square-mile service area with 54 stations. Light rail trains currently operate from 3:53 AM to 12:59 AM daily, with service offered every 15 minutes during the day and every 30 minutes in the evening, on weekends, and during holidays. Weekday ridership averages 44,000 passengers.

SRTD began operations in 1973 with the acquisition of the Sacramento Transit Authority. Over the next decade, SRTD continued to expand its bus service while city, county and state government officials worked together to develop a light rail system. In 1987, the 18.3-mile light rail system opened, linking the northeast (Interstate 80) and eastern (Highway 50) corridors with downtown Sacramento. In 1998, SRTD began expanding its light rail system to further meet the transportation needs of the Sacramento area. Since then, several light rail expansion projects have been completed, including:

- 1998 – 2.3-mile Mather Field extension and Brighton Bridge double track project
- 2003 – Bee Bridge double track project
- 2003 – 6.3-mile South Line Phase I extension
- 2004 – 2.8-mile extension from Mather to Sunrise
- 2005 – 2.4-mile extension from Sunrise to Folsom
- 2006 – 0.55-mile extension to Amtrak
- 2009 – Watt Avenue Grade Separation
- 2012 – Green Line Extension from H to T9 Station/Richards Boulevard
- 2016 – 4.3-mile extension of the South Line Project ending at Cosumnes River College

In late 2005, SRTD changed its light rail system's routes' names from the North Line, Folsom Line and South Line to the Gold Line and the Blue Line. The Gold Line runs from the Historic Folsom Station in downtown Folsom to the Sacramento Valley Station

at the Amtrak Station in downtown Sacramento. The Blue Line runs from the Watt/I-80 Station in the northeast corridor to the Cosumnes River College to the south.

In 2012, SRTD completed the Green Line, a one-mile extension from downtown Sacramento to Richards Boulevard. This line includes 2 stations, running a 30-minute service from the Township 9 Station on Richards Boulevard to the existing 13th Street Station. The Green Line to the Airport Project is a future planned extension, which will extend the system from the Richards Boulevard/Township 9 Station to the Sacramento International Airport.

The South Sacramento Corridor Phase II is an extension from the Meadowview Station to Cosumnes River College, a 4.3-mile extension that was opened and placed in service on August 24, 2015.

In 2003, SRTD purchased 21 light rail vehicles from the Santa Clara Valley Transportation Authority. A project was undertaken to renovate these cars so that they may operate on the SRTD light rail system.

SRTD 2014 Triennial Review Recommendations Status

Staff performed the previous triennial on-site safety review in 2014. Staff utilized 34 separate checklists to guide that review and made 19 recommendations for corrective actions.

CPUC Resolution ST-167, adopted December 1, 2016, granted approval of Staff's final report and its recommendations, ordering SRTD to develop appropriate corrective action plans and an implementation schedule. Resolution ST-167 also ordered SRTD to submit monthly status reports tracking the implementation of these corrective actions through full completion.

SRTD developed and submitted corrective action plans and an implementation schedule to fulfill each of the recommendations. All Corrective Action Plans (CAP's) related to the 2014 Triennial Audit have been corrected and closed out.

SAFETY REVIEW PROCEDURE

Staff conducted the 2017 safety review in accordance with Rail Transit Safety Section (Now Branch) Procedure RTSB-4, *Procedure for Performing Triennial Safety Reviews of Rail Transit Systems*. Staff developed 36 checklists to cover various aspects of system safety responsibilities, based on Commission and FTA requirements, SRTD SSPP, safety-related SRTD documents, and the knowledge Staff has of SRTD's operations. A list of the 36 checklists is contained in Appendix B. The completed checklists are included in Appendix D of this report.

Each checklist identified safety-related elements and characteristics that were either inspected directly by Staff or by reviewing reports and records. The completed checklists include the staff's findings and recommendations corresponding to non-compliant findings with SRTD's SSPP, its procedures, or Commission regulations. The methods used to perform the review included:

- Discussions and interviews with SRTD's management
- Review of rules, procedures, policies, and records
- Observations of operations and maintenance activities
- Interviews with rank and file employees
- Inspections and measurements of equipment and infrastructure

The review checklists concentrated on requirements that affect the safety of transit operations and are known or believed to be important in reducing safety hazards and preventing accidents.

FINDINGS AND RECOMMENDATIONS

The reviewers and inspectors who participated in the On-Site System Safety Review identified 49 findings of non-compliance and made 46 recommendations to improve SRTD's system safety program. Review findings identify areas where changes should be made to adhere to their SSPP and improve the SRTD system safety program. The review results are derived from activities observed, documents reviewed, issues discussed with management, and field inspections. These findings and recommendations are listed below and are grouped by checklist number.

1. Executive Management Involvement and Commitment to Safety

No findings of non-compliance; no recommendations.

2. System Safety Program Plan: Goals & Objectives

Finding of non-compliance:

The General Manager (GM) must be provided monthly safety data, including the number of accidents, injuries and fatalities as well as the associated data trending. Also, the GM must be made aware of the number of overdue open accident reports to be submitted to the CPUC for review and closure. The General Manager must also be provided data on open and closed Corrective Action Plans.

Recommendations:

The Safety Department must properly brief the General Manager and provide safety data, including the number of accidents, inspections, hazardous conditions, and corrective action plans along with their status.

3. Overview of Senior Management Structure

No findings of non-compliance; no recommendations.

4. System Safety Program Plan: Control & Update Procedure

Findings of non-compliance:

Checklists 6 & 9 state: SRTD is not using TransitSafe software for rail safety data as stated in its System Safety Program Plan (SSPP). The Safety department tracks accident data using Microsoft Access. SRTD must update its SSPP if the database is no longer being used.

Recommendations:

SRTD must review and if necessary, update the SSPP on a yearly basis.

5. System Safety Program Plan: Implementation Activities & Responsibilities

No findings of non-compliance; no recommendations.

6. Hazard Management Process

Findings of non-compliance:

1. Identified hazards are discussed during monthly Hazard Resolution Fire/Life Safety Committee (HRF/LSC). However, hazards are not being fully analyzed as mentioned in its SSPP. No documentation was shown for trend analysis, or Mil. Std. 882 hazard classifications for severity and Hazard classification for probability as specified in its SSPP. An example of non-reporting hazards includes the Overhead Catenary System failing and the conductor falling to the ground.
2. Hazards are tracked in several places and the Safety Department does not maintain a mechanism to capture and track identified hazards.

Recommendations:

1. SRTD must follow its current requirement and expand its implementation of its Hazard Management Program to assign a hazard index to all identified hazards and conduct the data analysis and trending required by the SSPP.
2. SRTD must maintain a mechanism to capture and track identified hazards, including failing Overhead Catenary Systems (OCS) and the cause.

7. System Modification

No findings of non-compliance; no recommendations.

8. Safety & Security Certification

No findings of non-compliance; no recommendations.

9. Safety Data Collection & Analysis

Findings of non-compliance:

Safety data sources identified in the SSPP such as daily activity reports, unusual occurrence reports, and maintenance records are not being fully analyzed. No documentation was shown for trend analysis as specified in the SSPP.

Recommendation:

SRTD must follow its current requirement to conduct the data analysis and trending required by SSPP.

10. Accident/Incident Investigations

Findings of non-compliance:

SRTD is not generating accident investigation reports in a timely manner as dictated by GO 164-D and in procedure SA-SOP-00-006.

Recommendation:

SRTD must generate accident investigation reports as dictated in its Accident Investigation Procedure SA-SOP-00-006 and include all required info in General Order 164-D. SRTD must complete accident investigations and turn in the reports in a timely manner, or provide meaningful updates as required.

11. Emergency Management Program

Findings of non-compliance:

Exercise after action report corrective actions are not tracked to completion.

Recommendations:

Generate and track exercise after action report corrective actions per SSPP Part 11.3.

12. Internal Safety Audits/Reviews

Findings of non-compliance:

1. For each SRTD internal review conducted, the auditors were experienced Rail Transit personnel. However, for the 2016 audit Checklist 5, the SRTD auditor had audited themselves, which is generally an unacceptable practice, although the SRTD auditor did include Findings and Recommendations on the checklist.
2. The Internal Safety Audit reports for 2016 and 2017 were not signed off by the General Manager.

Recommendations:

1. Internal auditors must be technically knowledgeable on the area being audited without being directly involved in the activities being audited.
2. The General Manager must sign off the Internal Safety Audit annually.

13-A. Rules Compliance: Observation & Enforcement

Findings of non-compliance:

3. Group Supervisors are not conducting required observations of Operators (Level I, II, III) as per LR-SOP-12-201. This was a finding in the 2014 Triennial Audit. There appears to be no change in Group Supervisors' performance of their duties.
4. Staff reviewed records for 2015, 2016, 2017 and found:
Level 1 observations (3-4 per year) - 22 non-compliant out of 34 records
Level II observations (2 per year) - 19 non-compliant out of 34 records
Level III observations (1 per year) - 6 non-compliant out of 14 records.
5. Staff reviewed four randomly selected evaluation records for Group Supervisors. Staff noted that the evaluation verbiage was identical for all four Supervisors, including performance related to Level I, Level II, and Level III observations. The Transportation Superintendent rated all Supervisors at 'meets standards' for the B1 category, which relates to observation frequency.
6. Although two accidents/incidents occurred as a result of rules violations, there were no corrective action plans (CAPs) implemented.
7. There was no hazard assessment related to rules compliance assessment and testing done during the SRTD Hazard Resolution Fire Life Safety Committee as per SSPP 6.2

8. Staff observed one light rail vehicle (LRV) Operator not complying with SRTD Rule 3.42 when departing Broadway Station.
9. CPUC Staff witnessed STRD Personnel commit a Roadway Worker Protection (RWP), SRTD On-track Safety (OTS) rules violation and immediately notified SRTD Controllers and Management. CPUC Staff observed three SRTD Maintenance Personnel occupying a yard track and repairing (on and under), SRTD on-track rail equipment. The three SRTD Maintenance Personnel did not have the required hardhats as per GO-175, Section 5.1 subset c, and SRTD On-Track Safety Program 6.a. SRTD On Track Safety Program 6.(a) A hard hat MUST be worn as required by job or safety hazard.
10. Staff observed (and mentioned to SRTD Management) that a Transit Agent was not performing his duties and responsibilities as per PS-SOP-16-100.

Recommendations:

1. SRTD must apply a greater degree of scrutiny in enacting their compliance oversight program and ensure that Group Supervisors perform their duties as required and expected.
2. SRTD must initiate a CAPs program when rules violations cause accidents/incidents as per General Order 164-D, Section 9.1, and SSPP 10.3.
3. SRTD must abide by their SSPP 6.2 and follow their own outline.
4. SRTD must review, retrain, and initiate a formal rules compliance oversight program for RWP/OTS.

13-B. Rules Compliance: Operations Safety Compliance

No findings of non-compliance; no recommendations.

13-C. Rules Compliance: Hours of Service (HOS)

Findings of non-compliance:

Rail Supervisor/Controller:

#760 1/13/17 – worked 12.75 hours.

Recommendations:

Ensure that employees know, understand, and abide by HOS policies and procedures.

13-D. Rules Compliance: Contractor Safety Program

Findings of non-compliance:

1. No documentation was found regarding compliance oversight for the two projects randomly selected.
2. Field Inspectors were not maintaining daily inspection logs. Monitoring and enforcement activities were not properly recorded, distributed, and filed.

Recommendations:

1. SRTD should consider additional personnel for compliance oversight or assigning the Field Inspector additional duties to ensure that RWP/OTS compliance oversight occurs. SRTD must follow General Order 143-B, 13.04, regarding operational evaluations.
2. SRTD must comply with General Order 164-D, Section 3.2 (i), regarding receiving and distribution of safety data.

13-E. Rules Compliance: Maintenance Procedures & Operation Bulletins Revisions

Findings of non-compliance:

1. There is no Corrective Action Plan procedure for when discrepancies from an "occurrence report" are generated.
2. Staff was advised by SRTD Safety that the CPUC's RTSB Supervisor was currently on the distribution list for rules/bulletins, but a subsequent check indicates he has not been receiving them over the time of audit period.
3. Safety Department does not support any rules compliance activities.
4. Safety Department does not receive reports from SRTD Operations and Maintenance departments regarding the performance of rules checks, assessments, and testing as per GO 164-D, Section 3.2 (i).

Recommendations:

1. SRTD must incorporate a Corrective Action Plan into the unusual occurrence report process.
2. SRTD must include CPUC on distribution list for updates/revisions to operating rules, notices, Standard Operating Procedures (SOPs) as per GO 164-D.
3. Safety must be more hands-on and provide support for rules compliance activities.
4. Safety must receive reports from SRTD Operations and Maintenance departments regarding the performance of rules checks, assessments, and testing.

14-A. Equipment Inspections: Wayside

Findings of non-compliance:

1. Field review

Inspection records do not reflect condition of track.

Switch F 109A – loose transit bracket

Switch F101- Curve closure rail measured 57 ¾" Gauge

Switch N71- loose brace plates, loose #1 switch rod, I/J was pumping and had loose bolts.

2. Track maintenance personnel sometimes took corrective action based on inspection findings without documenting them.

Recommendations:

1. CPUC staff recommends that SRTD conduct proper training on performing and documenting track and other wayside inspections and repairs for its Supervisors and MOW personnel. Supervisors need to ensure that all tasks are being performed and that personnel are getting the proper training. CPUC staff recommends SRTD review its maintenance certification program and implement a more robust formal training program.
2. Document track problems and repairs on the SRTD maintenance forms and database. Making field repairs and not documenting them is unacceptable.

14-B. Facilities & Equipment Inspections: Stations and Emergency Equipment

Findings of non-compliance:

1. Facility inspection activities prior to July 2017 are not documented and findings from inspections not tracked. Corrective action plans and implementation are not recorded.
2. A description of the process used for facilities and equipment safety inspections is not available.

Recommendations:

1. Record inspection activities and findings. Enter inspection results into database and track findings, include corrective action plans and implementation. Comply with RSSPP (SSPP) January 2017, 5.3.5 and 15.1.3.
2. Provide a description of the process used for facilities and equipment safety inspections (standard operating procedure) per General Order 164-D, Part 3.2, Subpart n, i-iv.

14-C. Facilities & Equipment Inspections: Bridges & Aerial Structures

Findings of non-compliance:

1. Eight bridge structures have open corrective actions since 2015. All open corrective actions were assigned a level three priority, which is to complete within 12 months. SRTD did not complete these level three corrective actions within 12 months.
2. Since year 1988 (SOP adoption), SRTD had only one stray current protection inspection report completed in year 2013. SOP requires stray current protection inspection to be done biennially, which SRTD did not follow.
3. In year 2013, the stray current protection inspection report recommended various corrective actions. At the closing of audit, SRTD did not schedule corrective actions per recommendations.
4. SOP requires completed corrective actions shall be signed off in the appropriate column after repairs have been confirmed and verified. Although completion

dates were provided for completed items, SRTD's bridge inspection maintenance tracking reports did not have a sign-off column showing who confirmed and verified the repair.

5. SOP requires quarterly reports to be submitted to Director of Civil and Track, the Chief of Operating Officer, and Director of Light Rail. SRTD had no record of submitting quarterly reports to the designated personnel.

Recommendations:

1. Resolve the eight open corrective actions from bridge inspection since year 2015.
2. Ensure that SRTD performs stray current protection inspection biennially.
3. SRTD to address the recommended corrective actions from the stray current protection inspection report in year 2013.
4. SRTD to add a sign-off column on the bridge inspection maintenance tracking report.
5. SRTD must submit quarterly reports to Director of Civil and Track, the Chief of Operating Officer, and Director of Light Rail as required by its SOP.

14-D. Facilities & Equipment Inspections: GO 95 Right-of-Way Compliance

No Findings of non-compliance; no recommendations:

14-E. Facilities & Equipment Inspections: Signal System and Vital Relay Maintenance

Findings:

1. Staff noted at Meadowview, relay tests were not completed in June of 2017. Previous date of inspection noted is 6-18-15. LR-SOP-91-422
2. Staff noted N487 relay tests were not completed in June of 2017. Previous date of inspection noted is 5-30-15. LR-SOP-91-422.

Recommendations:

1. Staff recommends SRTD perform biennial inspection at Meadowview and N487. SRTD must ensure all relay tests are completed within the biennial inspection intervals. LR-SOP-91-422.

2. SRTD must ensure all corrections made to inspection forms are properly filled out and signed and if any corrections are made (black outs or white outs) the author must initial said corrections. LR-SOP-91-422.

14-F. Facilities & Equipment Inspections: Measurement & Testing Instrumentation

No findings of non-compliance; no recommendations.

15-A. Maintenance Audits & Inspections: Rail Vehicles

Findings of Non-compliance:

Staff found inconsistencies related to the completed wheel report measurements. Several wheel reports that were reviewed showed lines drawn through by the person conducting the wheel measurements; these must show the actual wheel size that was measured.

Recommendations:

Each wheel measurement must be properly recorded on wheel report rather than a line drawn dictated by the current procedures; VMP-06-002, VMP-06-006 & VMP-07-009, which are being revised to an SOP. Additionally, Staff did note several corrections that were made to dates and measurements; any correction to a document should be lined out, corrected and then initialed to identify the correction clearly.

15-B. Maintenance Audits & Inspections: Traction Power System

No findings of non-compliance; no recommendations.

15-C. Maintenance Audits & Inspections: Signals

Findings on non-compliance:

1. Field Inspections

a. Mather Field Rd. 83E-11.76:

Staff noted north island gate low. SRTD Corrected.

Staff noted guide wire cover missing. SRTD Corrected

Staff noted North West gate striping inconsistent. SRTD Corrected.

b. 47th 83S-5.40:

Staff noted vegetation surrounding signal house. LR-SOP-86-408, GO 143-B, 9.12

South West gate has unsecured gate light cord and 1 light out. SRTD corrected.

c. Bradshaw 83E-10.03:

Staff noted broken liquid tight on North West island gate with temporary wrap on the fitting. LR-SOP-86-408, CFR 234.211

Recommendations:

1. SRTD must ensure that all corrections made are noted on the inspection forms. If it is necessary to return to complete repairs on a future date, a Work Order must be completed and tracked until such repairs have been completed. LR-SOP-86-408, CFR 234.211
2. SRTD must ensure that all vegetation is cleared around all equipment. LR-SOP-86-408, GO 143-B, 9.12.

15-D. Maintenance Audits & Inspections: Tracks and Turnouts

Findings of non-compliance:

Results of the field inspections with SRTD indicate that the personnel are either not properly trained and/or are complacent. Lead rail maintenance work manual stated that they do not note defects or minor general maintenance; they just simply fix and move on.

Recommendations:

CPUC staff recommends that SRTD properly train Supervisors and MOW personnel. Supervisors must ensure that all tasks are being performed correctly and personnel are getting the proper training needed. Any defects or maintenance performed must be noted on inspection forms. Supervisors must verify that all tasks are performed correctly or determine if training is needed.

15-E. Training & Certification Program: Operators, Controllers, and Supervisors

Findings of non-compliance:

During training records review, Staff found the following instances of:

1. Missing training documentation.

2. Recertification frequency failures.

Supervisors/Managers: LR-SOP-12-200 (recertification on rules every two years recertification)

#432 – No recertification training (1/28/13 – 2/28/17).

#2840 – No recertification training (5/31/14 – 8/17/17)

#2670 – No recertification in correct frequency (1/28/13 – 10/3/17)

#2758 – No recertification in correct frequency (7/24/14 – 3/1/17)

Wayside Employees: LR-SOP-01-425 (recertification on rules every two years recertification)

#2265 – No recertification in correct frequency (3/26/14 – 5/3/17)

#2886 – No recertification in correct frequency (6/8/10 – 5/16/14, 5/16/14 – 8/17/17)

#2289 – No recertification in correct frequency (5/16/14 – 7/18/17)

LRV Maintenance: LR-SOP-99-030 (recertification on rules every 24 months)

#2678 – No recertification in correct frequency (10/21/13 – 7/13/17)

#3398 – No recertification in correct frequency (4/26/11 – 8/15/17)

#3614 – No recertification in correct frequency (11/8/13 – 7/11/17)

LRV Operators: All operators reviewed were in full compliance to all required training and timeline.

Recommendations:

1. SRTD must ensure that all employee training documents are in employee training files.
2. SRTD must ensure all pertinent employees received training in the required frequency as outlined in LR-SOP-12-200, LR-SOP-99-030, LR-SOP-01-425.

16. Training & Certification Program: Employees and Contractors

No findings of non-compliance; no recommendations.

17. Configuration Management and Control

Findings of non-compliance:

1. The Director of Information Technology doesn't attend the Change Review Committee, as stated in the meeting minutes. They must attend these meetings as per the SSPP.
2. Changes with Committee Review as work completed but as-builts were never developed for projects by IT.

Recommendations:

1. The Director of Information Technology must attend the Change Review Committee Meeting as dictated in the SSPP.
2. Review Committee changes have been documented however as-builts drawings were never developed for some projects.

18. Local, State, and Federal Requirements: Employee Safety Program

Finding of non-compliance:

1. SRTD missed one Safety Committee Meeting during calendar year 2016.
2. SAFE-3 forms not available.
3. Departmental meeting agendas and lists of employees in attendance not available.

Recommendations:

1. Conduct Safety Committee Meetings per IIPP, Part III-B-1 & 2.
2. Utilize and submit SAFE-3 form per IIPP, Parts: IV-C-5; VI-A-6; VII-A & C.
3. Departments need to submit meeting agendas and lists of employees in attendance to the Safety Department per IIPP, Part III-C.

19. Hazardous Materials Program

Findings of non-compliance:

No findings of non-compliance; no recommendations.

20. Drug and Alcohol Program

No findings of non-compliance; no recommendations

21. Procurement

Findings of non-compliance:

Documented procurement process training records could not be produced.

Recommendations:

SRTD must follow the rules and procedures for the procurement policy manual. Training is required every four years for employees involved in the procurement process. New hires initially have to be trained as well.

22. General Order 172

Findings of non-compliance:

LRV Operators 2 times per year.

2015 - 6 records were reviewed and 3 were non-compliant

2016 – 8 records were reviewed and 7 were non-compliant

2017 – 19 records were reviewed and 8 were non-compliant

Recommendations:

Transportation Superintendents need to ensure that Group Supervisors are meeting the minimum Level II requirements for operator PED compliance observations, which are two times per year.

23. General Order 175-A

Findings of non-compliance:

1. The On-Track Safety Program (RWP Plan) does not provide protections for emergency response personnel.
2. Near-miss program process/procedures are not discussed during training.

Recommendations:

1. The On-Track Safety Program must provide protections for emergency response personnel in compliance with General Order 175-A, Part 8: 8.1 & 8.2.
2. Discuss the near-miss program process/procedures during training per General Order 175-A, Part 9: 9.5, k.

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APPENDIX A

ABBREVIATION and ACRONYM LIST

Abbreviation / Acronym	Description
SRTD	Sacramento Regional Transit District
CAP	Corrective Action Plan
CFR	Code of Federal Regulations
Commission	California Public Utilities Commission
SED	Safety and Enforcement Division
CPUC	California Public Utilities Commission
FTA	Federal Transit Administration
GO	General Order
HOS	Hours of Service
IIPP	Injury and Illness Prevention Program
ISSA	Internal Safety and Security Audit
OCC	Operations Control Center
PHA	Preliminary Hazard Analysis
PM	Preventive Maintenance
RTSB	Rail Transit Safety Branch
RTSS	Rail Transit Safety Section
SAP	Substance Abuse Professional
SCP	Safety Certification Plan
SCVR	Safety Certification Verification Report
SSP	System Security Plan
SSPP	System Safety Program Plan
Staff	Safety and Enforcement Division personnel

APPENDIX B

2017 SRTD TRIENNIAL SAFETY REVIEW CHECKLIST INDEX

Checklist No.	Element / Characteristic	Checklist No.	Element / Characteristic
1	Senior Management Involvement and Commitment to Safety	14-A	Equipment Inspections: Wayside
2	System Safety Program Plan: Goals & Objectives	14-B	Facilities & Equipment Inspections: Stations & Emergency Equipment
3	Overview of Senior Management Structure	14-C	Facilities & Equipment Inspections: Bridges & Aerial Structures
4	System Safety Program Plan: Control & Update Procedure	14-D	Facilities & Equipment Inspections: GO 95 Right-of-Way Compliance
5	System Safety Program Plan: Implementation activities & Responsibilities	14-E	Facilities & Equipment Inspections: Signal System & Vital Relay Maintenance
6	Hazard Management Process	14-F	Facilities & Equipment Inspections: Measurement & Testing Instrumentation
7	System Modification	15-A	Maintenance Audits & Inspections: Rail Vehicles
8	Safety & Security Certification	15-B	Maintenance Audits & Inspections: Traction Power System
9	Safety Data Collection & Analysis	15-C	Maintenance Audits & Inspections: Signals
10	Accident/Incident Investigations	15-D	Maintenance Audits & Inspections: Tracks & Turnouts
11	Emergency Management Program	15-E	Training & Certification Programs: Operators, Controllers, and Supervisors
12	Internal Safety Audits/Reviews	16	Training & Certification Programs: Employees & Contractors
13-A	Rules Compliance: Observation & Enforcement	17	Configuration Management & Control
13-B	Rules Compliance: Operations Safety Compliance	18	Local, State, and Federal Requirements: Employee Safety Program
13-C	Rules Compliance: Operator, Controller, and Maintenance Personnel Hours of Service	19	Hazardous Materials Program
13-D	Rules Compliance: Contractor Safety Program	20	Drug and Alcohol Program
13-E	Rules Compliance: Op. Rules, Maintenance Procedure Manual & Op. Bulletin Revisions	21	Procurement
22	General Order 172	23	General Order 175-A

APPENDIX C

2018 SRTD SAFETY REVIEW RECOMMENDATIONS LIST

No.	Recommendation	Checklist No.
1	The Safety Department must properly brief the General Manager and provide safety data, including the number of accidents, inspections, hazardous conditions, and corrective action plans along with their status.	2
2	SRTD must review and if necessary, update the SSPP on a yearly basis.	4
3	SRTD must follow its current requirement and expand its implementation of its Hazard Management Program to assign a hazard index to all identified hazards and conduct the data analysis and trending required by the SSPP.	6
4	SRTD must maintain a mechanism to capture and track identified hazards, including failing Overhead Catenary Systems (OCS) and the cause.	6
5	SRTD must follow its current requirement to conduct the data analysis and trending required by SSPP.	9
6	SRTD must generate accident investigation reports as dictated in its Accident Investigation Procedure SA-SOP-00-006 and include all required info in General Order 164-D. SRTD must complete accident investigations and turn in the reports in a timely manner, or provide meaningful updates as required.	10
7	Generate and track exercise after action report corrective actions per SSPP Part 11.3.	11
8	Internal auditors must be technically knowledgeable on the area being audited without being directly involved in the activities being audited.	12
9	The General Manager must sign off the Internal Safety Audit annually.	12
10	SRTD must apply a greater degree of scrutiny in enacting their compliance oversight program and ensure that Group Supervisors perform their duties as required and expected.	13-A
11	SRTD must initiate a CAPs program when rules violations cause accidents/incidents as per General Order 164-D, Section 9.1, and SSPP	13-A

	10.3.	
12	SRTD must abide by their SSPP 6.2 and follow their own outline.	13-A
13	SRTD must review, retrain, and initiate a formal rules compliance oversight program for RWP/OTS.	13-A
14	Ensure that employees know, understand, and abide by HOS policies and procedures.	13-C
15	SRTD must consider additional personnel for compliance oversight or assigning the Field Inspector additional duties to ensure that RWP/OTS compliance oversight occurs. SRTD must follow General Order 143-B, 13.04, regarding operational evaluations.	13-D
16	SRTD must comply with General Order 164-D, Section 3.2 (i), regarding receiving and distribution of safety data.	13-D
17	SRTD must incorporate a Corrective Action Plan into the unusual occurrence report process.	13-E
18	SRTD must include CPUC on distribution list for updates/revisions to operating rules, notices, SOPs as per GO 164-D.	13-E
19	Safety must be more hands-on and provide support for rules compliance activities.	13-E
20	Safety Department does not receive reports from SRTD Operations and Maintenance departments regarding the performance of rules checks, assessments, and testing as per GO 164-D, Section 3.2 (i).	13-E
21	CPUC staff recommends that SRTD conduct proper training on performing and documenting track and other wayside inspections and repairs for its Supervisors and MOW personnel. Supervisors need to ensure that all tasks are being performed and that personnel are getting the proper training. CPUC staff recommends SRTD review its maintenance certification program and implement a more robust formal training program.	14-A
22	Document track problems and repairs on the SRTD maintenance forms and database. Making field repairs and not documenting them is unacceptable.	14-A
23	Record inspection activities and findings. Enter inspection results into database and track findings, include corrective action plans and implementation. Comply with RSSPP (SSPP) January 2017, 5.3.5 and 15.1.3.	14-B
24	Provide a description of the process used for facilities and equipment	14-B

	safety inspections (standard operating procedure) per General Order 164-D, Part 3.2, Subpart n, i-iv.	
25	Resolve the eight open corrective actions from bridge inspection since year 2015.	14-C
26	Ensure that SRTD performs stray current protection inspection biennially.	14-C
27	SRTD to address the recommended corrective actions from the stray current protection inspection report in year 2013.	14-C
28	SRTD to add a sign-off column on the bridge inspection maintenance tracking report.	14-C
29	SRTD must submit quarterly reports to Director of Civil and Track, the Chief of Operating Officer, and Director of Light Rail as required by its SOP.	14-C
30	Staff recommends SRTD perform biennial inspection at Meadowview and N487. SRTD must ensure all relay tests are completed within the biennial inspection intervals. LR-SOP-91-422.	14-E
31	SRTD must ensure all corrections made to inspection forms are properly filled out and signed and if any corrections are made (black outs or white outs) the author must initial said corrections. LR-SOP-91-422.	14-E
32	Each wheel measurement must be properly recorded on wheel report rather than a line drawn dictated by the current procedures; VMP-06-002, VMP-06-006 & VMP-07-009, which are being revised to an SOP. Additionally, Staff did note several corrections that were made to dates and measurements; any correction to a document must be lined out, corrected and then initialed to identify the correction clearly.	15-A
33	SRTD must ensure that all corrections made are noted on the inspection forms. If it is necessary to return to complete repairs on a future date, a Work Order must be completed and tracked until such repairs have been completed. LR-SOP-86-408, CFR 234.211	15-C
34	SRTD must ensure that all vegetation is cleared around all equipment. LR-SOP-86-408, GO 143-B, 9.12.	15-C
35	CPUC staff recommends that SRTD properly train Supervisors and MOW personnel. Supervisors must ensure that all tasks are being performed correctly and personnel are getting the proper training needed. Any defects or maintenance performed must be noted on inspection forms. Supervisors must verify that all tasks are performed correctly or determine if training is needed.	15-D
36	SRTD must ensure that all employee training documents are in	15-E

	employee training files.	
37	SRTD must ensure all pertinent employees received training in the required frequency as outlined in LR-SOP-12-200, LR-SOP-99-030, LR-SOP-01-425.	15-E
38	The Director of Information Technology must attend the Change Review Committee Meeting as dictated in the SSPP.	17
39	Review Committee changes have been documented however as-builts drawings were never developed for some projects.	17
40	Conduct Safety Committee Meetings per IIPP, Part III-B-1 & 2.	18
41	Utilize and submit SAFE-3 form per IIPP, Parts: IV-C-5; VI-A-6; VII-A & C	18
42	Departments need to submit meeting agendas and lists of employees in attendance to the Safety Department per IIPP, Part III-C.	18
43	SRTD must follow the rules and procedures for the procurement policy manual. Training is required every four years for employees involved in the procurement process. New hires initially have to be trained as well.	21
44	Transportation Superintendents need to ensure that Group Supervisors are meeting the minimum Level II requirements for operator PED compliance observations, which are two times per year.	22
45	The On-Track Safety Program must provide protections for emergency response personnel in compliance with General Order 175-A, Part 8: 8.1 & 8.2.	23
46	Discuss the near-miss program process/procedures during training per General Order 175-A, Part 9: 9.5, k.	23

APPENDIX D

2017 SRTD TRIENNIAL SAFETY REVIEW CHECKLISTS

CPUC develops a series of checklists prior to each triennial safety review of California Rail Transit Agencies. These checklists are based on the 21 elements that are required to appear in each agency's SSPP by 49 CFR Part 659 and are customized according to the SSPP and the unique features of the agency under review.

SRTD received a draft version of these checklists, showing only the Reference Criteria and Element/Characteristics and Method of Verification fields 30 days prior to the audit start. Although each checklist provides guidance for the activities, CPUC reviewers are authorized to inquire about and inspect any aspect of the SRTD system they determine to be relevant to system safety and the checklist in question.

CPUC reviewers provided immediate feedback to SRTD representative regarding any initial findings and potential recommendations following each checklist's activities. The reviewers then revise the checklist document to include a summary of their review, findings of non-compliance, recommendations for corrective action, and any additional comments. The complete checklists are provided below.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	1	Element	Policy Statement and Authority for System Safety Program Plan: Management Involvement and Commitment to Safety
Date of Audit	October 20, 2017 9:00-10:30 GM Conference Room	Department(s)	SRTD Senior Management
Auditors/ Inspectors	Daren Gilbert Steve Artus Steve Espinal Mike Borer Matt Ames	Persons Contacted	Henry Li, General Manager/CEO Mark Lonergan, Chief Operating Officer Tricia Perez 916 321-2988

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

**Policy Statement and Authority for System Safety Program Plan:
SRTD Senior Management Involvement and Commitment to Safety**

Interview SRTD General Manager (GM) and Chief Operating Officer (COO) to discuss:

1. Source, frequency, and depth of safety information provided to the GM, whether safety is included as a regular topic at SRTD executive management meetings, and whether SRTD Safety gives reports at these meetings.
2. Methods and incentives included in the management performance system to facilitate a system safety culture within the organization.
3. Formal meetings held and attended by SRTD Executive Management to discuss safety performance, such as ongoing evaluation of goals and targets.
4. SRTD GM and COO awareness of high priority safety issues related to operations and capital projects.
5. SRTD COO's awareness of the status of all corrective actions, including those

initiated by accidents, hazardous conditions, internal safety and security audits, CPUC triennial on-site reviews, and CPUC inspections. The System Safety Department's reporting relationship to SRTD's executive management, and management's participation in safety activities.

6. Which individuals and departments are involved in making safety decisions, and to what degree executive management is involved.
7. Scope of senior management involvement, coordination, and communication in developing SSPP revisions.
8. Is safety included as a regular topic at SRTD Board Meetings and whether SRTD Director of Safety provides updates and concerns?
9. Formal meetings that are held and attended by SRTD Executive Leadership to discuss safety performance (such as ongoing evaluation of goals and targets).
10. The SRTD Safety Department's reporting relationship to SRTD GM/CEO, the SRTD's Safety structure, and the participation of the SRTD's Senior Management in this structure.
11. The process for the periodic review of the resources devoted to safety by SRTD GM/CEO and SRTD Executive Management Team.
12. The inclusion of safety responsibilities in job evaluations for managers, supervisors, and employees.
13. Does the GM ever go to Operations, Maintenance, Metro Control and talk to the rank and file to discuss their safety concerns?

FINDINGS AND RECOMMENDATIONS

Activities:

- 1) Monthly SRTD management and employees conduct meetings. General Manager Li meets weekly with safety staff to discuss safety concerns. General Manager Li stated that the safety department has the authority to make safety decisions which may affect revenue service including stopping service. The Chief Safety Officer reports directly to the General Manager.
- 2) Sacramento intends to bring back the employee of the month award to encourage safety. SRTD employees are expected to conduct themselves in a safe manner. However, safety performance is not part of personnel performance evaluations.

- 3) Monthly meetings are conducted with Operations and Safety to identify area of concern and safety issues.
- 4) General Manager Li is made aware of emergency and serious safety concerns through meetings, phone calls and text messages. The Chief Operating Officers is also made aware of the safety concerns.
- 5) Hazard Resolution meetings are conducted on a monthly basis and the CEO is made aware of the Corrective Action Plans (CAPS).

General Manager Li stated safety is top priority, quality of service, safety and cleanliness. Public announcement systems, cameras and remote security systems have been installed. Twenty inspectors inspect the fleet of trains. Every train has fare inspector and security guard who are armed with guns. Recent layoffs of management positions have saved SRTD \$5 million. This has allowed SRTD to hire 60 cleaning personnel. The trains are cleaned every day.

- 6) Executive management is briefed on every serious safety issue.
- 7) Chief Safety officer is involved in changing the System Safety Program Plan (SSPP). The SSPP revisions are signed off by the General Manager.
- 8) Issues such as serious accidents are reported to the General Manager. For the most part security issues are discussed at board meetings.
- 9) Goals and targets are generally not discussed at SRTD monthly meetings.
- 10) The General Manager has an open door policy to discuss any concerns with both safety and operations. SRTD is installing a passenger counter and car locator. However, it's not completed to date. The technology will be able to check in real time how many passengers are being carried. Currently global positioning systems are being installed in CAF cars. The goal is not having to pull DVR records for location identification.
The technology will allow management to look into every car real time and be able to document arrival information and provide predictive arrival times. This work is complete in CAF cars which will be followed by Siemens and UTDC cars.
- 11) Facilities are involved in safety resources and planning. Management is involved in resource safety planning.
- 12) The Board meetings include a comprehensive review of the system. Regularly reports on security are provided to the Board. However, staff doesn't report on safety analysis nor does it include all the accidents. For instance, an off-duty deputy police officer was shot at Watt Avenue on highway 80. Every serious accident is reported to the Board.
SRTD has sought additional resources for safety issues. SRTD is adding

midday cleaning to the LRV fleet.

- 13) Safety isn't included in performance evaluation review. SRTD is revising job applications to include job safety responsibilities. However, according to the Director of Operations, safety isn't required for all jobs throughout the district.
- 14) General Manager Li visits the Operations control center quite often. The General Manager rides SRTD trains to attend meetings downtown. Mr. Li also visits the maintenance facility to observe maintenance including midnight visits.

Findings:

None.

Comments:

Safety criteria must be included in all personnel performance reviews.

Recommendations:

None.

2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT

Checklist No.	2	Element	System Safety Program Plan: Goals and Objectives
Date of Audit	October 20, 2017 9:00-10:30 Room GM Conference Room	Department(s)	SRTD Senior Management
Auditors/ Inspectors	Daren Gilbert Stephen Artus Steve Espinal Mike Borer Matt Ames	Persons Contacted	Henry Li, General Manager/CEO Mark Lonergan, Chief Operating Officer Tricia Perez 916 321-2988

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP), dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

System Safety Program Plan: Goals and Objectives

Interview SRTD Executive Management and review appropriate records to:

1. Determine if the SSPP goals and objectives have been achieved.
2. Obtain examples of how goals are evaluated (metrics and measures) and review documentation used to track SRTD activities to meet the goals and objectives. For example, if SRTD set a goal of reducing incidents by 10%, has this been achieved? How is this metric tracked and reported?
3. Determine how safety performance is reported to the GM/CEO and Chief Operating Officer (COO) or other executive management.
4. Make a determination regarding the adequacy of the safety information provided to the GM. Is the GM receiving sufficient information to ensure SRTD is meeting its safety goals and objectives? Are rule(s) violations and other key safety metrics being tracked and reported to the COO?
5. Determine whether the stated goals and objectives must be revised.
6. Determine whether management responsibilities are adequately identified for the

goals and objectives.

- 7 Review documentation used to measure and track SRTD activity to meet the goals and objectives specified in the SSPP.
- 8 Review documentation used to report to SRTD GM/CEO or other SRTD Senior Managers regarding the safety performance of the district (i.e., monthly or annual safety reports, quarterly viewgraph presentations, etc.).
- 9 Make a determination regarding the adequacy of the safety information provided to the SRTD's Executive Leadership.
 - a. Is SRTD's Executive Leadership receiving sufficient information to ensure that SRTD is meeting its safety goals and objectives?
 - b. Are rules violations and other key safety measurements being tracked and reported to SRTD's Executive Leadership?

FINDINGS AND RECOMMENDATIONS

Activities:

1. SRTD strives to closely adhere to their SSPP.
2. SRTD has no documented goals except a safe and reliable system.
3. SRTD SSPP has not set any long-term goals for itself. Though monthly meetings management is made aware of safety concerns as stated in checklist 1.
4. Accidents trends and system reliability information is not provided to the General Manager.
5. SRTD doesn't have documented safety goals, for instance, reducing accident rates.
6. Management goals are not defined.
7. There is no accident or safety trending being conducted at SRTD.
8. Safety information isn't adequately provided to the General Manager.
9. Not enough documented information is provided to the GM to assess safety and reliability information.

Findings:

The General Manager must be provided monthly accident history, including the number of accidents, injuries and fatalities as well as the associated data trending. Also, the GM must be made aware of the number of overdue open accident reports to be submitted to the CPUC for review and closure. The General Manager must also be provided data on open and closed Corrective Action Plans.

Comments:

SRTD Executive management must be getting more information on a continuous and ongoing basis regarding system safety and reliability. The general lack of management safety goals, short and long-term safety goals, and meaningful tracking and trending of safety data is a significant concern as the FTA and State transition to rail transit agencies guided by Public Transportation Agency Safety Plans based on Safety Management Systems, which is dependent on executive commitment to safety.

Recommendations:

The Safety Department must properly brief the General Manager and provide safety data, including the number of accidents, inspections, hazardous conditions, and corrective action plans along with their status.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	3	Element	Overview of Management Structure
Date of Audit	October 20, 2017 10:30-12:00 GM Conference Room	Department(s)	Safety Department
Auditors/ Inspectors	Stephen Artus Daren Gilbert Steve Espinal Mike Borer Matt Ames	Persons Contacted	Rob Hoslett 916 826-4182

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Overview of Senior Management Structure

Interview SRTD Senior Management and review appropriate records to:

1. Discuss SRTD's process for integrating safety into SRTD operations and maintenance activities.
2. Solicit opinions regarding the effectiveness of the organization and request a few examples of how this organization has worked to resolve identified safety issues.
3. Identify any specific deficiencies in the safety and security program due to limitations in staffing levels and resources. For example, discuss any difficulties in maintaining schedules for the SSPP updates, completing Internal Safety and Security Audits, or performing Accident/Incident Investigations.
4. Review Joint Union/Safety Committee Meetings agendas and minutes from the past twelve months to verify that the meetings were held according to the requirements in the SSPP.
5. Review records to:

1. Ensure that the organization chart accurately depicts both the SRTD's organization and the organization of the Safety Department.
2. Review agendas and minutes from committee meetings led by the Safety Department to verify that they took place and that they followed the requirements specified in appropriate rules or procedures or the SSPP.
3. Review agendas and minutes from committee meetings led by the other SRTD departments to verify that they took place and that the Safety Department participated.
4. Is there evidence (i.e., meeting minutes, hazard analysis documents) that the Safety Department was consulted and involved?
5. Is there evidence (i.e., meeting minutes, review of CAP) that the Safety Department contributed to resolution of the issue? Review the Safety Department's resources and personnel to make an assessment regarding the resources devoted to safety and if they are adequate.
6. What is the current level of personnel resources devoted to rail transit safety issues, both in the Safety Department and in other SRTD departments?
7. If Safety Department resources have been reduced or personnel reorganized, has SRTD conducted a safety resource allocation assessment?
8. Does the Safety Department have personnel resources allocated to support interdepartmental coordination on safety issues and concerns?
9. Have SRTD's Safety Department's personnel and resources been cut or increased disproportionately with SRTD's overall budget over the last three (3) years?

FINDINGS AND RECOMMENDATIONS

Activities:

1. Safety is in the process of issuing a Work Order for the recent yard brake failure involving a Siemens car involving an employee who was doing testing. All of the UTDC cars were inspected for similar problems. This is an example of safety involvement in SRTD Operations and Maintenance.
2. SRTD holds monthly hazard review meetings. All the appropriate departments attend this meeting.
3. SRTD holds an Executive Leadership meeting each month which includes safety topics and training.
4. The new Manger of Safety expressed his concern that the safety culture at SRTD was not as high as it should be under the previous Safety Director. He believes the safety culture is improving under the new General Manager. The Manager of Safety went

on say it will probably take a couple of years given the recent arrival of the GM and other new managers in the organization to improve safety.

5. The safety officer feels he now has a good team assembled but could use an assistant who is in the process of being hired. Another concern is the new downtown Sacramento streetcar project which will have a separate SSPP (similar to BART's Oakland Airport Connector and East Contra Costa BART project (eBART)). The Manager mentioned this may require an additional person on safety staff.
6. SRTD's computer system, SAP, has been proving problematic and so Safety is now reverting to using ACCESS since it is more reliable and easier to use.

Findings:

None

Comments:

CPUC_observed that the SRTD safety department has been lacking in investigating accidents in the last two years but SRTD has recognized the problem and is taking steps to correct it. (Refer to checklist 10.)

Findings:

None.

Recommendations:

None.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	4	Element	System Safety Program Plan: Control and Update Procedure
Date of Audit	October 20, 2017 10:30-12:00 Room GM Conference Room	Department(s)	Safety Department
Auditors/ Inspectors	Stephen Artus Daren Gilbert Steve Espinal Mike Borer Matt Ames	Persons Contacted	Rob Hoslett 916 826-4182

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP), dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

System Safety Program Plan: Control and Update Procedure

Interview Director of Safety and review appropriate records to:

1. Ensure that Safety understands the requirements and is implementing them.
2. Solicit opinions regarding the effectiveness of the organization and request a few examples of how this organization has worked to resolve identified safety issues.
3. Verify that the required annual SSPP review process is being implemented according to the approved process specified in the SSPP. Review responsibility, internal timeframes, comprehensiveness, and sign-offs.
4. Review the SSPP to:
 - a. Ensure that it describes the process for an annual SSPP assessment and update.
 - b. Ensure that it describes the process for coordinating with the CPUC, including timeframes for submission, revision and approval.
 - c. Ensure that it contains a distribution and change control process.
5. Review records to:
 - a. Verify that all SSPP revisions have been submitted to the CPUC according to the

- approved process and timeframes by reviewing past correspondence and records.
- b. Verify that the annual review process is being implemented according to the approved process specified in the SSPP:
 - c. Review responsibility
 - d. Internal timeframes
 - e. Comprehensiveness
 - f. Sign-offs

FINDINGS AND RECOMMENDATIONS

Activities:

1. SRTD safety department understand that an Internal Safety Audit (ISA) must be conducted containing the required 21 elements to be conducted over a 3-year period.
2. SRTD holds a hazard review committee meeting on a monthly basis. All the departments are represented including Safety, Operations, Security and Procurement.
3. SRTD holds a hazard review meeting on a monthly basis. All the major departments are routinely represented including Safety, Operations, Maintenance, Security, and Procurement. At this meeting safety issues is discussed and alternatives to resolve are discussed, and Corrective Action Plans (CAPs) are developed.
4. SRTD reviews their SSPP annually. Any revisions have to be approved by the General Manager, Operations/Maintenance, Legal Department and Safety. Letters indicating SSPP reviews are being sent to the CPUC annually by February 15th of every year.
5. SRTD has conducted hazards analysis for new line extensions and vehicle refurbishment.

Findings:

Checklists 6 & 9 state: SRTD is not using TransitSafe software for rail safety data as stated in its SSPP. Safety department tracks accident data using MS Access. SRTD must update its SSPP if the database is no longer being used.

Comments:

None.

Recommendations:

SRTD must review and if necessary, update the SSPP on a yearly basis.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	5	Element	System Safety Program Plan: Implementation Activities and Responsibilities
Date of Audit	October 20, 2017 10:30-12:00 Room GM Conference Room	Department(s)	Safety Department
Auditors/ Inspectors	Stephen Artus Daren Gilbert Steve Espinal Mike Borer Matt Ames	Persons Contacted	Rob Hoslett 916 826-4182

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

System Safety Program Plan: Implementation Activities and Responsibilities

Interview SRTD appropriate personnel and review appropriate records to:

1. Verify each manager and department is charged with responsibility and accountability for SSPP implementation, enforcement, and effectiveness.
2. Identify any challenges each manager or department has in performing tasks relating to the SSPP or general safety.
3. Verify management accountability for the performance of safety-related activities, and, if serious or potentially serious deficiencies are found, expand the review to include additional and/or related activities.
4. Review the SSPP to:
 - a. Ensure that the SSPP accurately lists the safety-related activities necessary for SRTD Safety Department to effectively implement the safety program in a matrix or narrative format.
 - b. Ensure that each activity is assigned to a specific position with management accountability.

- c. Ensure that the SSPP accurately lists the safety-related activities to be performed by other SRTD departments to effectively implement the safety program in a matrix or narrative format.
 - d. Ensure that each activity for the other SRTD departments is assigned to a specific position with management accountability.
5. Select, at random, 3 activities performed by the safety function and 3 activities performed by other SRTD departments, and collect and review documents to:
- a. Verify that the safety-related activities are being performed.
 - b. Verify that identified positions are carrying out the safety-related tasks assigned in the SSPP.
 - c. Verify management accountability for the performance of the safety related activities.

FINDINGS AND RECOMMENDATIONS

Activities:

1. All new employees receive an orientation on the SSPP. New employees also receive training including hearing protection, hazardous materials, wayside worker protection, use of electronic devices, and rule book requirements. Each month employees receive toolbox training.
2. The SSPP details the safety department responsibilities. The SSPP describes the safety requirements at SRTD.
3. Challenges related to union contracts continue to be problematic. This situation is not unique to SRTD. There have been a lot of recent management changes. Safety continues to provide responsibilities of the Rail Transportation Section, Metro Control, LRV Maintenance, LRV Wayside Maintenance, Signal System, and Traction Power. The Director of Light Rail is responsible for verifying rail operations meet all safety requirements.
4. Reviewed documentation regarding the ISA and he ISAs are being conducted in accordance with their SSPP.

Findings:

None

Comments:

None

Recommendations:

None.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	6	Element	Hazard Management Process
Date of Audit	October 11, 2017 1:00-2:30 pm O Street East Conference Room	Department(s)	Safety Department
Auditors/ Inspectors	Claudia Lam Sal Herrera	Persons Contacted	Rob Hoslett, 916 826-4182

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP), dated January 2017
3. SRTD Accident/Incident Investigation Procedures (AIIP)
4. Hazard Resolution Fire/Life Safety Committee Meetings

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Hazard Management Process

Interview SRTD representatives and review appropriate records to determine whether:

1. SRTD is identifying hazards through the sources described in the SSPP.

Sources include, but are not limited to:

- a. Reports and complaints from passengers, field, or management personnel;
- b. Data mining of agency control logs and maintenance records
- c. Monitoring special orders and speed restrictions
- d. Shift Pass Down records;
- e. Review of OCC logs for unusual occurrences reports;
- f. SRTD's OSHA 300A;
- g. Annual ISAs;
- h. Weekly and monthly facilities inspections;
- i. Monthly and quarterly safety statistics reports
- j. OR&P compliance;
- k. Results from CPUC Triennial Reviews;
- l. Results from accident investigations and trend analysis.
- m. Reports from Operators and Supervisors

- n. Results from efficiency/proficiency testing and other rules compliance activities
- 2. The Safety Department maintains a mechanism to capture and track identified hazards through analysis and resolution.
- 3. SRTD has defined minimum thresholds for the notification and reporting of hazards to CPUC.
- 4. SRTD has a specified process for reporting hazard resolution activities to CPUC as required by General Order 164-D, Sections 6e and 6f.
- 5. Identified hazards are being evaluated according to the methods established in the SSPP.
- 6. Corrective Action Plans (CAPs) are developed to address identified hazards and the CAPs identify the individual or department responsible for implementation and a schedule for completion.
- 7. The Safety Department follows up on outstanding CAPs to mitigate or resolve hazards.
- 8. Safety Department has followed the resolution process, monitored other departments, and ensured identified hazards were reported. Request examples.
- 9. Review records to:
 - a. Ensure that the CPUC is being notified of identified hazards as specified in the SSPP.
 - b. Verify that the appropriate entities are performing hazard evaluation/categorization activities (Safety Committee, Director of Safety, etc.)
 - c. Verify that the Safety Department follows-up

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed SRTD staff, regarding Hazard Management Process and reviewed relevant program documentation. Staff determined the following in summary:

- 1. SRTD collects safety data from a variety of sources such as claims database, hazard identification forms (Safe 1, Safe 2, and Safe3), and accident reports. However, SRTD is not using any database to centralize the safety data.
- 2. Hazards are tracked through HRF/LSC and IBEW monthly meetings. However, no analysis such as Mil Std. 882 was used to analyze the hazards as stated in its SSPP.
- 3. SRTD has defined minimum thresholds for the notification and reporting of hazards to CPUC. For example, broken conductors falling onto LRV's or the ground due to Overhead Catenary System failures are not documented as hazardous conditions. Conductor wear, sag, hanger wear, OCS failure and

pantograph condition are not documented nor is a correction action generated. Finally, power reliability is not trended at SRTD. Other hazardous conditions that must be documented are running stop signals.

4. SRTD is currently using MS Access to capture the Corrective Action Plans (CAPS). The Safety Department follows up on the CAPs and monthly HRF/LSC also discusses and tracks the status of CAPs.

Findings:

1. Identified hazards are discussed during monthly Hazard Resolution Fire/Life Safety Committee (HRF/LSC). However, hazards are not being fully analyzed as mentioned in its SSPP. No documentation was shown for trend analysis, or Mil. Std. 882 hazard classifications for severity and Hazard classification for probability as specified in its SSPP.
2. Hazards are tracked in several places and Safety Department does not maintain a mechanism to capture and track identified hazards. Hazard example includes failing to document Overhead Catenary Systems (OCS) failures and their causes.

Comments:

1. SRTD is not using TransitSafe software for rail safety data as stated in its SSPP. Safety department tracks accident data using MS Access. SRTD must update its SSPP if the database is no longer being used.

Recommendations:

1. SRTD must follow its current requirement and expand its implementation of its Hazard Management Program to assign a hazard index to all identified hazards and conduct the data analysis and trending required by SSPP.
2. SRTD must maintain a mechanism to capture and track identified hazards, including failing OCS conductors and the cause.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	7	Element	System Modification
Date of Audit	October 17, 2017 1:00-2:30 pm Room RT Auditorium	Department(s)	Engineering Safety
Auditors/ Inspectors	Matt Ames Steve Espinal	Persons Contacted	Rob Hoslett 916 826-4182 Darryl Abansado 916 321-3876 Jan Mauricio

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

System Modification

Interview SRTD representatives and review appropriate records to determine whether:

1. The SSPP and referenced or supporting procedures ensure a process exists for addressing safety issues and concerns in system modifications.
2. The Safety Department is involved in assessing system modifications. Verify that, in at least two randomly selected system modifications implemented in the past three years; the process was consistent with SSPP requirements and included an evaluation of potential hazards arising from the proposed modification. (i.e., emails, meeting minutes, sign-offs, inspection checklists, etc.)
3. The Safety Department is involved in ensuring that safety concerns are addressed in system modifications by identifying their specific activities in the process such as documentation participation in testing and inspections and observations performed at work sites.
4. System modification projects meet the specifications or project requirements, and no unauthorized modifications were implemented. Select three system modification

projects implemented at random,

- a. Verify that this process was consistent with SSPP requirements and included an evaluation of potential hazards the modification could pose to the system.
 - b. Verify that these hazards were addressed.
 - c. Verify that any changes made as a result of a system modification are now reflected in final as-built drawings for the facility and/or specifications for the vehicle and/or equipment.
 - d. Verify that SRTD's configuration management process has been followed to address system modification.
5. Conduct interviews with SRTD Safety Department representatives to discuss their role in ensuring that safety concerns are addressed in system modifications.
- a. Be sure to have them identify any specific activities they perform such as participation in testing and inspections, receipt of sign-off inspection sheets from the field, observations performed at work sites, etc.
6. Conduct an interview with SRTD personnel who managed a recent system modification to assess the role of the Safety Department in addressing and resolving safety concerns regarding the modification.
7. Field Observations
- a. Conduct an inspection of three (3) system modification projects (i.e., station improvement, vehicle upgrade, etc.). Determine if the modification meets the specifications or project requirements, and if any unauthorized modifications were performed.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed SRTD representatives and reviewed appropriate records.

1. Staff referenced SRTD's SSPP to ensure that procedures are in place to address safety issues. The Safety director is involved in the process.
2. Staff verified that the Safety Department was involved, and the process was consistent with the SSPP in two system modification projects in the past three years. The process involves SRTD's configuration management procedures.
3. Staff verified that the Safety department is involved in addressing safety concerns. The Safety Director is part of the configuration management process that requires a safety review and safety sign off. Safety observations are tracked by the Safety Director.
4. Staff verified for three system modification projects that the specifications and

requirements were met. Staff discussed with SRTD personnel that the resident engineer is involved in change orders; any changes are referenced in a change review and sent to Safety. Staff identified resident engineer has a process to involve safety with critical items. Staff verified that Safety is aware of how the process works. Meeting minutes are required along with emails for documentation to make sure safety is involved with changes. Hazard management is addressed with the engineering department and with safety to ensure mitigations are closed. Design reviews for system modifications are relayed to safety for verification.

5. Staff interviewed Safety Department representatives and Safety has specific activities to ensure that safety concerns are addressed in system modifications. Safety is responsible for mitigation elements and documented sign off of certain safety hazards.
6. Staff interviewed Engineering to ensure that they were aware of the proper steps to involve the Safety Department in their day to day activities. The Safety Director is involved with safety observation reports which include worksite observations.
7. Staff verified during field inspections that system modification projects meet specifications and requirements.

Findings:

None.

Comments:

None.

Recommendations:

None.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	8	Element	Safety and Security Certification
Date of Audit	October 12, 2017 1:00 – 2:30 pm Engineering Conference Room	Department(s)	Safety Department
Auditors/ Inspectors	Claudia Lam	Persons Contacted	Rob Hoslett 916 826-4182

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP), dated January 2017
3. SA-SOP-06-009, dated 11/01/2006

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Safety and Security Certification

Interview the SRTD representative(s) in charge of the Safety Certification Program and review the records of all major projects to determine whether:

1. A formal SCP has been submitted by SRTD and approved by the Commission.
2. Each SCP was consistent with General Order 164-D, the SSPP, and applicable reference documents.
3. There has been effective communication with CPUC staff throughout the life of current and planned projects, including the Preliminary Engineering Design Phase.
4. All design and construction changes were properly coordinated and addressed in the Safety Certification process.
5. All identified hazards have been eliminated or controlled as required under the SCPs.
6. All submittal elements for Safety Certified projects during the past three years were identified for the Safety Certification Verification Report and submitted to CPUC in a timely manner, according to the requirements of General Order 164-D.
7. Review documentation to determine if New Starts and major projects by SRTD:
 - a. Address safety certification management, including organizational authority and responsibilities.
 - b. Identify the process used to verify and document conformance with safety and security requirements during design, construction, testing, and operational

- readiness.
- c. Are overseen and approved by FTA and its Project Management Oversight Consultants (PMOCs) for a formal safety and security certification program plan has been written for a specific project, review it to verify consistency with SSPP.
 - d. Is the certification program being administered by the transit agency or a contractor?
 - e. Was a PHA performed?
 - f. Are hazards being addressed as per the process defined in the safety certification program plan?
 - g. Is the hazard management process identified in the safety certification program plan consistent with the SSPP?
 - h. Has a certification committee been created?
 - i. Has a certifiable items list been created?
 - j. How are federal, state, and local agencies involved? This includes the SSO agency and emergency responders.
 - k. Have all designs been reviewed, stamped and sealed by a licensed Professional Engineer?
 - l. Are design changes and Non-Conformance Reports (NCRs) analyzed for safety impacts? Have these been thoroughly documented?
 - m. Have training programs been updated as necessary and have all employees been trained?
 - n. Has a testing program been developed and administered?
 - o. Is the GM/CEO required to formally sign and certify the project complete and safe for operations?
8. Conduct interviews with safety department personnel to determine how the department has been involved in the certification of SRTD New Starts and major projects.
 9. Interviews with Other SRTD Personnel
 - a. Conduct interviews with SRTD project staff involved in New Starts and major projects to discuss how safety concerns were addressed and the level of interaction with the Safety Department.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed the SRTD representatives in charge of the Safety Certification Program and documented the following statements:

1. There was no SSCP submitted to Commission for approval in the last three years. The

last SSCP was dated 11/28/2012 presented to the CPUC for approval and the resolution #136 is dated 3/23/2013. However, SRTD has recently submitted the Final verification report for South Sacramento Corridor Phase (SSCP2) and has recently closed out the punch list items on Safety Certification verification report.

In addition, Street car project "Downtown Riverfront Street Car" project final draft version completed in August 2017. Workshop has been scheduled for October 26 and 27, 2017 to discuss the items on the Preliminary Hazard Analysis (PHA). SRTD is anticipating submitting the PHA in late November of 2017 for CPUC review. Safety Certification (SC) plan estimated completion date by the end of 2017 for CPUC review.

2. Each SC plan was consistent with General Order 164-D, SRTD's SSPP and applicable reference documents.
3. SRTD maintains communications with CPUC staff during the current and planned projects. CPUC representative is invited to all of the meetings. The next workshop for "Downtown Riverfront Street Car Project" is scheduled on Oct 26 and 27, 2017 and SRTD will invite CPUC to participate.
4. Staff reviewed the last SSCP2 dated 11/28/2012 provided to CPUC (resolution # 136 dated 3/23/2013) and noted several exceptions which have been closed.
5. PHA was prepared for SSCP2 dated January 23, 2013. PHA for "Downtown Riverfront Street Car" final draft is estimated to be submitted to CPUC in late November 2017 for comments. All identified hazards have been eliminated or controlled and documented in the SCP.
6. SRTD has submitted the final verification report for SSCP2 and has recently closed out punch list items listed on Safety Certification verification report.
- 7a. SSMP Section 3 listed the Assignment of safety and security responsibility. PMOC representing the FTA has also listed the Assignments.
- 7b. SSCP also listed the process used to verify and document conformance with safety and security requirements during design, construction, testing and operational readiness.
- 7c. SSMP for SSCP2 was submitted to PMOC for review and approval. SSMP revision 3 dated Dec 21, 2012 was the last one submitted for review and approval. Streetcar's SSMP is in the draft format and ready to move forward by December 2017.
- 7d. SSCP 2 project: consultant handled the development and coordinate with SRTD.

Signatures and oversight were all done by Construction Management.

- 7f. PHA includes all the hazards in the design. The final component is the exception list – everything safety certification found non-compliant or everything that is not built into compliance with the design.
 - 7g. Certification Committee – SSMP requires SRTD to have a certification committee: 3.2 Committee Structure: Change of review Committee (CRC), Hazard resolution & Fire Life Safety, Rail Activation Committee (RAC)
 - 7i. SRTD has a master certifiable list: Safety Certifiable Elements and Sub-elements for SSCPs. Meetings are scheduled on a needed basis.
 - 7j. FTA-PMOC, quarterly meeting, CPUC meeting, and local enforcement are involved in the meetings, and emergency drills.
 - 7k. All design changes and NCRs are done by Construction Management through the weekly progress meetings. Also, there is a QA/OC section that talks about NCRs.
 - 7l. SSCP safety training section requires all employees to be trained.
 - 7m. SSMP Section 7 – Integration testing requires the testing program be developed and administrated.
 - 7n. SRTD's GM is required to formally sign and certify the project completion and review project safety certification for operation.
8. Safety Department has been actively involved in all the meetings related to certification of SRTD New Starts and major projects such as weekly progress meeting, Rail Activation Meeting, Safety Community Meeting, HRFLSC meetings.
9. Staff interviewed Director of Construction and noted this department will have a safety representative who will interact with Safety Department and attend the weekly progress meetings to discuss specific safety issues. SRTD maintains minutes.

Findings:

None.

Comments:

None.

Recommendations:

None.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	9	Element	Safety Data Collection and Analysis
Date of Audit	October 11, 2017 2:30 – 4:00 pm O Street East Conference Room	Department(s)	Safety
Auditors/ Inspectors	Claudia Lam Sal Herrera	Persons Contacted	Rob Hoslett 916 826-4182

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP), dated January 2017
3. SRTD Accident/Incident Investigation Procedures (AIIP)

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Safety Data Collection and Analysis

Interview the SRTD representative(s) responsible for safety data acquisition and analysis, and review the safety data acquisition and analysis program requirements to determine whether:

1. The data collected includes, at minimum: information concerning SRTD accident and incidents, employee performance failures, equipment failures, and procedural deficiencies.
2. The safety data is supplied by, and collected from, all departments, including Operations, Risk Management, and Maintenance, as appropriate.
3. The safety data collected is analyzed and incorporated into SRTD’s Hazard Identification and Resolution Process as necessary.
4. The safety data and analyses are made available to SRTD departments for use in planning their safety-related activities.
5. Periodic reporting regarding the results of the safety data analysis is provided to the SRTD Senior Management as appropriate.
6. Safety data sources identified in the SSPP are being used, and data analysis and distribution are being implemented. Possible sources include:
 - a. Claims databases;

- b. Daily activity reports;
 - c. Hazard Identification Forms;
 - d. Unusual Occurrence Logs;
 - e. Accident/incident reports;
 - f. Customer service inputs;
 - g. Audits;
 - h. Departmental performance reports;
 - i. Mining of maintenance records and documentation (including work orders); and Police Reports.
7. Review the safety data acquisition and analysis program requirements, records, and reports to determine if:
- a. The data collected includes, at minimum, information concerning SRTD rail transit accidents and incidents, employee performance failures, equipment failures, software failures, procedural deficiencies, external factors contributing to failures, environmental factors contributing to failures, accidents/incidents involving fatalities and/or injuries, accidents/incidents resulting in property damage, and accident/incidents resulting in environmental damage.
 - b. The safety data is supplied by and collected from all departments including Operations, Legal, Risk Management, and Maintenance as appropriate.
 - c. The data collected is then analyzed and, if necessary, incorporated into the SRTD's hazard identification and resolution process.
 - d. The data collected and the resulting analyses are made available to all SRTD departments for use in planning their safety-related activities.
 - e. Monthly or quarterly reporting regarding the results of the safety data analysis is provided to the SRTD's Executive Leadership as appropriate. The SSPP may establish a regular cycle of safety data analysis and reporting for internal and/ or external distribution. Verify that the analysis and distribution process is being implemented as described.
8. Interviews with SRTD Senior Management
- a. Ask the representatives to explain how they receive safety-related information from other departments, including the operations and maintenance departments.
 - b. Ask the Safety Department representatives to provide examples of how information received from the Operations and Maintenance departments was used to support safety data collection and analysis activities.
 - c. Ask the SRTD Safety Department representatives to explain how they collect information on derailments and rules violations in the SRTD's yard.
 - d. Ask the SRTD Safety Department how it ensures the quality and integrity of collected safety data.

- e. Ask the SRTD Safety Department representatives to explain how SRTD reports to FTA's National Transit Database (NTD).
- 9 Interview SRTD representatives from Operations and Maintenance and ask them to Explain how safety data collected by their personnel and in their information systems is shared with the Safety Department and other SRTD departments. For example, has the Wayside Maintenance of department identified any problems related to what may be poor quality track components (i.e., track inserts, concrete ties, plates, etc.) and has this information been shared with the procurement department to assure different vendors are used in the future.
- a. Ask SRTD representatives to provide examples of this process, including data from inspections that may indicate quality or maintenance issues.
10. Field Observations
- a. Ask a Safety Department representative to review and demonstrate the automated systems used by SRTD to report, analyze and track safety data.
 - b. Ask Operations and Maintenance department representatives to review and demonstrate the systems used by their departments to report, analyze, and track safety.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed SRTD staff, regarding Safety Data Collection and Analysis Program and reviewed relevant program documentation. Staff determined the following:

1. SRTD is not using TransitSafe Software for rail safety data as stated in its SSPP. The Safety Department is currently tracking accident data using MS Access.
2. SRTD collects safety data from a variety of sources such as claims database, hazard identification forms (Safe 1, Safe 2, and Safe 3), accident reports, customer service reports, audits, etc.
3. SRTD conducts monthly Hazard Resolution Fire/Life Safety Committee (HRF/LSC) and International Brotherhood of Electrical Workers (IBEW) meeting to discuss hazard safety issues. However, the safety data collected are not being fully analyzed and no documentation was shown for trend analysis as specified in its SSPP. This is a recommendation issued for Checklist 6 (Hazard Management Process).
4. Safety department prepares Key Performance Indicators (KPI) and

distributes at board meetings. KPI generates the reports per NTD and CPUC database and reports are made available to senior management.

5. KPI and Annual Report are made available to SRTD Senior Management for review.
6. Safety data sources identified in the SSPP are being used and shared with Safety Department whenever needed.
7. All departments belong to HRF/LSC and meet monthly to collect, transfer the data, and assign responsibility. Staff reviewed the meeting minutes and agendas to confirm. However, the documentation did not show how the trend analysis or safety data were fully analyzed. (See recommendation in checklist 6).
8. Safety related information from other departments—such as Operations and Maintenance—is shared by email and phone calls, monthly HRF/LSC meetings, and IBEW meetings. For example, Operation and maintenance departments collect safety data through occurrence reports and will share the information with Safety Department by emails or HRF/LSC meeting. Safety management is responsible for the quality and integrity of collected safety data. Information is also collected by SRTD Internal Safety Audit (ISA) and CPUC’s Triennial Safety Review.
9. According to SRTD LR Maintenance Superintendent, Wayside Maintenance Department conducts monthly safety inspections and notifies the department immediately if there’s any incident. If there is any quality issue, wayside addresses the issues immediately with procurement department and informal meetings will be scheduled. This information will also be shared through HRF/LSC and IBEW meetings. In addition, Wayside Department is planning on using “SharePoint” software to input data electronically in the field.

Findings:

Safety data sources identified in the SSPP such as daily activity reports, unusual occurrence reports, and maintenance records are not being fully analyzed. No documentation was shown for trend analysis as specified in the SSPP.

Comments:

SRTD must update its SSPP if the database is no longer being used. For

example, TransitSafe software is not being used but was specified in its SSPP.

Recommendations:

SRTD must follow its current requirement to conduct the data analysis and trending required by SSPP

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	10	Element	Accident/Incident Investigations
Date of Audit	October 10, 2017 1:00 – 3:00 pm O Street East Conference Room	Department(s)	Safety Department
Auditors/ Inspectors	Steve Espinal Daren Gilbert	Persons Contacted	Rob Hoslett 916 826-4182

REFERENCE CRITERIA

1. General Order 164-D
2. General Order 172
3. Code of Federal Regulations, Title 49 Parts 659.33 – Accident notification, 659.35 – Investigations, and 659.37 – Corrective Action Plans
4. SRTD Rail System Safety Program Plan (SSPP), dated January 2017
5. SRTD Accident/Incident Investigation Procedures (AIIP)

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Accident/Incident Investigations

Interview the SRTD representative(s) responsible, and randomly select at least four CPUC-reportable accidents and/or incidents involving an injury or fatality to determine whether:

1. All accidents and incidents including security incidents were reported to CPUC according to the requirements in General Order 164-D.
2. All accidents and incidents were reported within two hours of occurrence, as required by General Order 164-D, Sections 7.1 and 7.2.
3. All immediately reportable accident or incident notifications to CPUC contained all the information required by General Order 164-D, Section 7.3.
4. All accidents and incidents were investigated in compliance with the requirements of General Order 164-D, Section 8, and SRTD’s CPUC-approved AIIP.
5. Video recordings from inward-facing in-cab cameras are reviewed under the required conditions listed in General Order 172, Section 4.3.

6. A final report was submitted for each accident or incident according to the requirements in General Order 164-D.
7. Each final report includes identification of:
 - a. All items covered in the investigation;
 - b. Findings of the most probable cause(s);
 - c. Findings of contributory cause(s);
 - d. CAPs to address the identified causes to minimize the probability of recurrence;
 - e. A schedule for implementing the CAPs, including completion date or plan for monitoring progress on an on-going basis.
8. Review the Accident Investigation Procedure developed by SRTD to verify that it:
 - a. Identifies primary roles and responsibilities for performing investigations consistent with the SSPP.
 - b. Includes processes for root cause analysis (this must include processes for accident scene investigation, equipment and vehicle inspection, interviewing of witnesses, etc.).
 - c. Identifies when external, specialized expertise is needed to identify root causes.
 - d. Identifies how the CPUC is involved.
 - e. Includes the review of rules and procedures that may have contributed to the accident.
 - f. Includes an assessment of the role that fatigue may have played in the accident, including work histories for involved employees.
 - g. Includes a process for developing CAPs that are consistent with the accident root causes.
 - h. Verify this process includes representatives from all necessary departments (i.e., Safety, Operations, Maintenance, and Engineering).
 - i. Includes a process for evaluating and implementing CAPs consistent with the Hazard Management Process.
9. For the last 12 months, review the NTD reports filed with FTA by SRTD and compare them with RTA records and notifications to the CPUC. Identify any discrepancies in reporting.
10. Review accident reports from incidents occurring in the SRTD's rail yard:
 - a. What are the most commonly occurring incidents?
 - b. What corrective actions have been developed to address them?
 - c. Are any special monitoring programs in place to review yard accidents?
11. Interview Safety Department representatives and discuss:
 - a. Past issues with the CPUC receiving required accident investigations reports on-time and what has been done to address them.
 - b. Coordination of investigation process with the CPUC.

- c. Submission to the CPUC of all supporting reports and documentation that comprise the full accident investigation report.
- d. Any other problems or issues with this process.

FINDINGS AND RECOMMENDATIONS

Activities:

1. Not all accidents have been reported strictly following General Order 164-D. This historically had been a problem for SRTD.
2. All accidents have been reported in the 2-hour reported time frame.
3. In the past, not all information required by GO 164 has been received on initial accidents, requiring follow-up by Staff. However, SRTD has corrected that deficiency and have reported the required information.
4. Not all accidents have been investigated according to their SSPP or AIP. SRTD Safety Department indicates it has been insufficiently resourced during the audit period due to the departure of the Safety Department Chief.
5. SRTD consistently reviewed the in-cab and forward-facing cameras video for each and every accident investigation. However, more than a few accidents had non-functioning cameras or the wrong cab videos were downloaded.
6. SRTD has been significantly behind investigating accidents. In accordance with GO 164 Section 8.3.e., accident reports are required to be submitted within 60 days, or if the investigation and report take longer, the RTA must submit interim status reports every 30 days. As of the time of the audit, SRTD had not produced 8 accident investigation reports in 2014, 13 in 2015, 22 in 2016 and 19 in 2017. This is a total of 62 accident investigation reports open at the time of the audit. SRTD staff repeatedly stated not enough staff is available to conduct the accident investigations and develop the final reports in a timely manner.
7. Each final report includes identification of:
 - a. All items covered in the accident investigation plan and SSPP.
 - b. CAPs to address the identified causes to minimize the probability of recurrence;
 - c. A schedule for implementing the CAPs, including completion date or plan for monitoring progress on an on-going basis.
8. SRTD has an acceptable accident investigation procedure. However, it has not always been followed. SRTD has not always submitted timely accident investigation reports and had built up a backlog at the time of the audit. As noted below, executive management has become involved and the backlog has been addressed.

9. SRTD does report accidents to NTD and does take care of any and all discrepancies.
10. It is very rare when SRTD had an accident in the yard based on reportable accidents. None occurred during the audit period.
11. SRTD has been deficient in turning in accident reports in the timely manner. SRTD safety department revealed a disregard for General order 164-D regarding accident investigations.

Findings:

SRTD is not generating accident investigation reports in a timely manner as dictated by GO 164-D and in procedure SA-SOP-00-006.

Comments:

Since the audit with General Manager Li in October of 2017 to the present, SRTD turned in over 60 accident reports. Staff reviewed many of the accident reports and have been able to accept and close 58 accident reports. Since General Manager Li's involvement, SRTD has made a good faith effort to catch up and close open accident reports.

Recommendation:

SRTD must generate accident investigation reports as dictated in its Accident Investigation Procedure SA-SOP-00-006 and include all required info in General Order 164-D. SRTD must complete accident investigations and turn in the reports in a timely manner, or provide meaningful updates as required.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	11	Element	Emergency Management Program
Date of Audit	October 19, 2017 2:30-5:30 pm O Street East Conference Room	Department(s)	Operations Department Safety Department
Auditors/ Inspectors	Matt Ames Adam Freeman	Persons Contacted	Rob Hoslett 916 826-4182 Lisa Thompson Lisa Hinz John Darragh

REFERENCE CRITERIA

1. General Order 164-D
2. Code of Federal Regulations, Title 49 Part 659.23 – System security plan: contents
3. SRTD Rail System Safety Program Plan (SSPP), dated January 2017
4. SRTD System Security Plan (SSP)
5. SRTD Light Rail Emergency Plan

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Emergency Management Program

Interview the appropriate SRTD representatives involved in SRTD’s Emergency Planning, Training, and Drill/Exercise Program, and review appropriate records to:

1. Solicit a process overview of the SRTD’s Emergency Planning, Training, and Drill/Exercise Program. Review specific examples of coordination with emergency response agencies on emergency planning and drills/exercises.
2. Assess the biggest challenges the Safety Department faces in coordinating or supporting SRTD’s emergency planning process.
3. Verify a drill/exercise schedule has been created and followed.
Last exercise September 30, 2017. SRTD actually made a terrorist derauling device and tested it. Train derailment 2017 test as well as 2015 and 2016 conducted a drill as well.
4. Verify emergency responders and other outside agencies participate in SRTD’s emergency planning as appropriate.
5. Determine when the last drill/exercise was performed, and whether a Post-

Drill/Exercise Action Report was developed. Was the Post-Drill/Exercise Action Report used to make revisions to SRTD's Emergency Familiarization Response Plan and/or Procedures through the Corrective Action Plan process?

6. Verify that Corrective Actions were implemented by SRTD and the applicable Emergency Response Agencies. (Worked with local SWAT team related to corrective action in 2016.)
7. Determine whether SRTD conducts periodic Fire Life Safety meetings with sheriff and fire departments. (Hazmat team)
8. Determine whether Emergency Response Agencies have participated in emergency familiarization activities. Verify the following:
 - a. Documents include a description of the transit agency's activities with external emergency response agencies to support emergency planning and response.
 - b. SSPP and procedures clearly define SRTD personnel roles and responsibilities.
 - c. SSPP and procedures include a process for evaluating emergency drills and exercises.
 - d. The process is linked to the hazard management process requirements of the SSPP.
 - e. SSPP and procedures require the development of after-action reports for all real-life emergencies and practice drills and exercises.
 - f. Review SSPP and procedures to verify that they include a description of the processes used to train local emergency responders.
 - g. Verify SSPP and procedures clearly document how and to whom updated emergency response procedures will be distributed.
9. Review any rules related to emergency response and determine if they have been updated to address current conditions and distributed to appropriate SRTD personnel. (Very little rules changes.) (Police do have the authority.) Police chief on call 24 hours a day. Fire department contacts police department.
10. Verify when applicable procedures were last reviewed and revised.
 - a. Determine who was involved in the review and revision process (safety, security, emergency responders, operations, maintenance, committees, contractors, CPUC, etc.)?
 - b. Determine if revisions were evaluated to ensure they would not create new hazards or system risks?
11. Verify SSPP and procedures define how often drills, table-tops, and field exercises will be performed.
12. Verify that a drill/exercise schedule has been created and followed:
 - a. When was the last one performed?
 - b. Was an after-action report developed?

- c. Was the after-action report used to make changes to the SRTD procedures?
13. SRTD emergency response training:
- a. Review training programs to verify they contain training curriculums for emergency response procedures and activities appropriate for each job classification.
 - b. Review training programs to verify frequency of employee emergency response training and if this frequency is consistent with SSPP requirements.
 - c. Randomly select six (6) employees from the following safety sensitive job classifications and review their emergency response training records to verify who has been trained and that training has been properly documented:
 - a. Train Operators (VTT training Terrorist Training, updated July 2017)
 - b. Rail Supervisors
 - c. Rail Controllers (rule book and different and what they suppose. They train on the rule book.)
14. Verify the process through which emergency responders and other outside agencies are involved in the SRTD's emergency planning.
- a. Contact local emergency response agency liaisons to verify that they have received familiarization training and that they participate in the emergency planning process with SRTD.
 - b. Review past documentation to verify that drill outcomes and evaluations were incorporated into response plans and procedures as appropriate.
 - c. Review records and documentation for the past 12 months to determine if:
 - SRTD has held periodic Fire Life Safety meetings with police and fire departments in the applicable SRTD jurisdictions.
 - Emergency response agency familiarization activities have occurred as scheduled.
 - Corrective actions have been implemented.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff reviewed records and interviewed representatives involved in the emergency planning, training and exercise program.

1. Staff was informed that SRTD conducts an exercise every year and receives grant funding for the exercises. The exercises are coordinated with outside agencies.
2. The biggest challenge the Safety Department faces is change in internal personnel.
3. Staff was informed that each exercise has a schedule and timeline of events/tasks that will be completed.
4. Staff verified that outside agencies participate in the exercises.

5. The last exercise was performed in September 2017. An exercise after action report was generated and did not make changes to the program.
6. Staff verified that other than immediate processes utilized during the exercise, corrective actions are not generally implemented.
7. Staff verified that periodic HRFLSC meetings are conducted and outside agencies are invited. Corrective actions from the exercises are discussed during these meetings.
8. Staff verified that the SSPP describes all requirements.
9. Staff reviewed emergency response rules and determined that they are distributed to appropriate personnel.
10. Staff verified that procedures are reviewed and revised during exercises. All departments are included in the revision process.
11. Staff verified that exercises will be performed at least once per year.
12. Staff verified that an exercise is conducted once per year and the last one was conducted in September 2017. After-action reports are developed and used to make changes. However, corrective actions are not always tracked to conclusion.
13. Staff reviewed the emergency response training program and training records. Staff verified that the employee safety program includes emergency response training and that employees are being trained.
14. Staff verified with outside agency personnel present at the interview that training is provided, and exercises are conducted.

Findings:

Exercise after-action report corrective actions are not tracked to completion.

Comments:

None.

Recommendations:

Generate and track exercise after action report corrective actions per SSPP Part 11.3.

2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT

Checklist No.	12	Element	Internal Safety Audits/Reviews
Date of Audit	October 17, 2017 1:00 – 4:00 pm Old Administration Conference Room 1400 29 th Street	Department(s)	Safety Department
Auditors/ Inspectors	Steve Espinal Sal Herrera Matt Ames	Persons Contacted	Rob Hoslett 916 826-4182

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017
3. SRTD Internal Safety Audit (ISA) 3-year Schedule

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Internal Safety Audits/Reviews

Interview the appropriate SRTD representatives involved in ISSAs, and review appropriate records to:

1. Determine if a three-year internal audit schedule was developed and submitted to CPUC.
2. Verify that all elements of the SSPP were evaluated within the past three years.
3. Verify that each audit lists the involved SRTD departments, the safety-related activities addressed, and the reference criteria for the audit.
4. Determine whether the ISA's adequately address interdepartmental and interagency communication issues, and whether or not SRTD has process for addressing and overcoming non-responsiveness of departments and failures to implement audit recommendations.
5. Determine how expertise for auditing specific functions is evaluated, and how personnel are assigned per the SSPP to ensure ISSA quality.
6. Verify that audits have been properly documented and included references for documents and activities reviewed criteria for evaluation and notes to support findings and recommendations.

7. Verify the Annual Reports and accompanied by letters from the GM/CEO stating SRTD's compliance status with the SSPP and Corrective Plans for elements determined not to be in compliance.
8. Verify that SSPP includes a description of the processes used by SRTD to perform internal safety audits.
 - a. Verify this process is consistent with Part 659 and the CPUC's requirements.
 - b. Verify SSPP identifies what departments and functions are subject to review.
 - c. Verify SSPP clearly defines roles and responsibilities for performing the internal safety audits.
 - d. Verify this process is fully endorsed by the GM/CEO.
 - e. Verify the internal safety audit process and any findings are tied to the hazard management process defined in the SSPP.
 - f. Verify internal safety audit process findings are analyzed to determine if they pose a hazard.
 - g. Verify the SSPP includes a description of the process used to document and communicate internal safety audit results to appropriate personnel and departments, as well as the CPUC.
 - h. Verify the SSPP and/or referenced or supporting procedures require that CAPs be developed, documented, and implemented to address internal safety audit findings and concerns.
9. Review any rules related to the conduct of the SRTD's internal safety audit process and determine if they have been updated to reflect current conditions and distributed to appropriate SRTD personnel.
10. Review SRTD documents/records to determine if:
 - a. A Three-Year Internal Safety Audit Schedule was developed and submitted to the CPUC.
 - b. Internal safety audit procedures have been developed and submitted to the CPUC for each audit area.
 - c. The internal safety audits have been performed as scheduled and following the procedures submitted to the CPUC.
 - d. The scope of audit activities includes the required elements specified in GO 164-D.
 - e. Internal safety audits have been properly documented and include references for documents and activities reviewed, criteria for evaluation, and notes to support findings and recommendations.
 - f. An Annual Report has been submitted to the CPUC for each of the last three (3) years documenting the results of the internal safety audit process.
 - g. The Annual Report is accompanied by a letter from the GM/CEO, stating the

SRTD's compliance status with its SSPP and corrective actions for elements determined not to be in compliance. Did send out a letter in 2017.

- h. Corrective actions to address findings from the process were scheduled and implemented.
- 11. Determine how required expertise for auditing specific functions, such as track or signal inspections, is provided to ensure the rigor and quality of the internal safety audit.

FINDINGS AND RECOMMENDATIONS

Activities:

1. SRTD does conduct an Internal Safety Audit containing the 21 required elements.
2. All Findings in the Internal Safety Audit (ISA) have been addressed and closed.
3. If a department is non-responsive to Findings and Recommendations, the issue is raised to the executive management such as the Assistant General Manager. The General Manager signs off on the ISA's.
4. On some checklists, it is difficult to audit. For instance, checklist 1 subordinates are effectively auditing their bosses. Checklist 1 included a complimentary note of the auditees. It was surprising during the audit the fundamental equipment for rail transit was not audited. This includes light rail maintenance, track maintenance, traction power, and operations were not audited. Due to this fact the Internal Safety Audit is incomplete.
The 2016 Maintenance Audit included a review of the floor hoist in the shop. There were insufficient records available to determine that the in-floor lift has undergone preventative maintenance. "The in-floor hoist was red tagged until evaluation by a competent person was performed."
5. The internal auditors were experienced Rail Transit personnel. However, for the 2016 audit, checklist 5 the SRTD auditor had audited himself which is generally an unacceptable practice, although the SRTD auditor was above board for the checklist and included Findings and Recommendations. Internal auditors must be technically knowledgeable on the area being audited without being directly involved in the activities being audited.
6. The internal audit identified enough reference criteria to conduct an audit.
7. SRTD only supported the 2015 ISA audit with a letter signed by the General Manager which was sent to the CPUC.
8. The SSPP was sent to the CPUC for review and approval. The Staff didn't respond to SRTD request for review and approval of the SSPP.
9. SRTD follows their rules conducting the internal audit.

10. SRTD conducted an internal audit of the system including the FTA requisite 21 elements.
11. For the most part, the internal auditors were qualified to conduct the audits, however job critical equipment used to conduct light rail service was not audited including tracks, signals, light rail vehicles, and traction power.

Findings:

1. The internal auditors were experienced Rail Transit personnel. However, for the 2016 internal audit Checklist 5, the auditor had audited himself, although the SRTD auditor did include Findings and Recommendations.
2. The Internal Safety Audit reports for 2016 and 2017 were not signed off by the General Manager.

Comments:

The SRTD Internal Safety Audit (ISA) did not include fundamental job-critical equipment. This includes light rail vehicle maintenance, track maintenance, signal maintenance, traction power, and operations were not audited.

The 2016 Maintenance Audit included only a review of the floor hoist in the shop. There were insufficient records available to determine that the in-floor lift has undergone preventative maintenance. "The in-floor hoist was red tagged until evaluation by a competent person was performed."

Every Internal Safety Audit must include the fundamental equipment in order to guarantee state of good repair. This includes light rail vehicles, tracks, signals, and traction power maintenance.

Recommendations:

1. Internal auditors must be technically knowledgeable on the area being audited without being directly involved in the activities being audited.
2. The General Manager must sign off annually the Internal Safety Audit.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	13-A	Element	Rules Compliance: Observation and Enforcement
Date of Audit	October 19, 2017 9:00-10:30 Metro Upstairs Conference Room 2700 Academy Way, Sacramento	Department(s)	Operations Department Maintenance Department
Auditors/ Inspectors	Debbie Dziadzio Richard Fernandez Michael Rose	Persons Contacted	Rob Hoslett 916 826-4182 John Darragh 916 869-8456

REFERENCE CRITERIA

1. General Order 164-D
2. General Order 172
3. SRTD Rail System Safety Program Plan (SSPP) dated January 2017
4. SRTD Rulebook
5. SRTD Personal Electronic Device Policy

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance: Observation and Enforcement

Interview the appropriate SRTD representatives and review appropriate records to:

1. Verify that SRTD performs formal observations of controllers and operators as specified in the SSPP.
2. Verify SRTD performs observation of Maintenance Employees as specified in the SSPP and/or supporting procedures.
3. Verify that SRTD has conducted random evaluations regarding personal electronic device use as required by General Order 172, Sections 4.3.e, 4.5, and 6.2.
4. Verify that operations and maintenance employees are evaluated based on their performance during unannounced observations to assess their compliance with safety rules, procedures, and/or practices.
5. Determine whether any accidents/incidents were determined to have resulted from inadequate operations procedures and verify appropriate Corrective Action Plans

(CAPs) were implemented in response.

- a. If so, verify what steps were taken to correct these issues (i.e., employee retraining, suspension, dismissal, etc.).
6. Determine how SRTD performs efficiency testing of operating and maintenance personnel and verify CAPs are implemented when appropriate
7. Determine whether SRTD has developed and implemented a zero-tolerance policy and program regarding personal electronic device usage, as required by General Order 172, Section 5.
8. Verify that Hazard Resolution Committee receives reports from Operations and Maintenance Departments regarding rules compliance assessment and testing. Are hazards identified from the rules-compliance process, reported to the Hazard Resolution Committee, and tracked through the Hazard Management Process?
9. At random, select several operating procedures (4 or 5) and ride the system to verify that these rules are being followed (such as performing station announcements, look-back procedures, or end of line vehicle inspections, etc.).
10. Review SRTD appropriate program documentation, and ensure that the following are addressed:
 - a. Medical Monitoring
 - b. Fatigue Management
 - c. Over-the-Counter Medications
 - d. Stress
11. Review documentation to verify that supervisors are citing operating and maintenance personnel for rule violations. If there is no record of employees being disciplined for failing to follow a rule or procedure, then the supervisor is not likely performing these activities appropriately.
12. Interview operations and maintenance supervisory staff to determine how they monitor employee compliance with rules and procedures.
13. Interview operations and maintenance supervisory staff to determine their familiarity with rules and procedures.
14. Conduct random interviews of operators and mechanics to verify how often they receive training on rules and procedures and how the transit agency monitors their compliance with rules and procedures.
15. Conduct a random sample inspection of transit operators to determine if they are carrying their rulebook, if they have the proper safety equipment in their cabs, and if their radios are functioning.
16. Accompany a light rail supervisor personnel during compliance checks and assess how these checks are conducted and ensure that final reporting matches the findings in the field.

FINDINGS AND RECOMMENDATIONS

Activities:

1. Questions related to PED observation compliance checks are reflected on Checklist 22.
2. Staff reviewed SRTD formal observations for four Controllers and 33 Operators per LR-SOP-12-201. Staff also reviewed observations records of Maintenance employees as per SSPP 13.04.
3. Staff learned SRTD had two accidents/incidents that, upon investigation, was caused by rules violations.
4. Staff reviewed Hazard Resolution Fire Life Safety Committee meeting minutes for items relating to Operations and Maintenance Departments.
5. Staff reviewed appropriate program documentation via Headways On-Line system regarding Medical Monitoring, Fatigue Management, Over-the-Counter Medications, and Stress.
6. Staff confirmed documentation of employee discipline for rules violations. Staff learned that observations are performed daily in the Maintenance Shop/Yard area, both formal and informal observations that include coaching and counselling.
7. Staff rode the system, interviewed LRV Operators, Controllers, and Maintenance employees, and performed radar speed checks of trains arriving into various stations. During the system rides and Operator inspections, Staff found the Operators following the General Operating rules. The Controllers interviewed were knowledgeable in their duties and proficient with their time management regarding multi-tasking. The Maintenance employees were knowledgeable of their duties and rules compliance and had proper PPE and clean and safe work environment. The facility had the proper safety devices in place, required signage.

Findings:

1. Group Supervisors are not conducting required observations of Operators (Level I, II, III) as per LR-SOP-12-201. This was a finding in 2014 Triennial Audit. There appears to be no change in Group Supervisor performance of their duties.
1. Staff reviewed records for 2015, 2016, 2017:

Level 1 observations (3-4 per year) 22 non-compliant out of 34 records

Level II observations (2 per year) 19 non-compliant out of 34 records

Level III observations (1 per year) 6 non-compliant out of 14 records.

2. Staff reviewed four randomly selected evaluation records for Group Supervisors. Staff noted that the evaluation verbiage was identical for all four Supervisors, including performance related to Level 1, Level II, and Level III observations. The Transportation Superintendent evaluated all Supervisors at 'meets standards' for B1 category (that relates to observation frequency).
3. When two accidents/incidents occurred, there were no CAPs implemented.
4. There is no rules compliance assessment and testing during SRTD Hazard Resolution Committee as per SSPP 6.2
5. Staff observed one LRV Operator not complying with SRTD Rule 3.42 when departing Broadway Station.
6. On three separate occasions, Staff observed RWP On-track Safety (OTS) rules violations and immediately notified SRTD Controllers and Management. Two instances of General Order 175, Section 6.2, and one instance of Roadway workers occupying a yard track, repairing on-track equipment, without lockout procedures (switches lined and locked). 7-8 Roadway workers were repairing the on-track equipment and 3 did not have the required hardhats as per GO-175, Section 5.1 paragraph c, and SRTD On-Track Safety Program 6.a.
7. Staff observed (and mentioned to SRTD Management) a Transit Agent not performing his duties and responsibilities as per PS-SOP-16-100.

Comments:

SRTD advised Staff that a new evaluation system for Supervisors who are responsible for Level I, Level II, and Level III observations is in process.

Recommendations:

1. SRTD must apply a greater degree of scrutiny in enacting their compliance oversight program and ensure that Group Supervisors perform their duties as required and expected.
2. SRTD must initiate a CAPs program when rules violations cause

accidents/incidents as per General Order 164-D, Section 9.1, and SSPP 10.3.

3. SRTD must abide by their SSPP 6.2 and follow their own outline.
4. SRTD must review, retrain, and initiate a formal rules compliance oversight program for RWP/OTS.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	13-B	Element	Rules Compliance: Operations Safety Compliance
Date of Audit	October 18, 2017 9:00-12:30 Metro Upstairs Conference Room	Department(s)	Operations Department Safety Department
Auditors/ Inspectors	Debbie Dziadzio Richard Fernandez Michael Rose	Persons Contacted	Rob Hoslett 916 826-4182 John Darragh 916 869-8456

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017
3. SRTD Rulebook
4. SRTD Personal Electronic Device Policy

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance: Operations Safety Compliance

Interview SRTD safety and operations representatives, observe and inspect operations, and review appropriate records to determine whether:

1. Maintenance Workers
 - a. Are in compliance with rules examples include verifying that mechanics are wearing appropriate Personal Protective Equipment, that they are using and storing hazardous materials correctly, or that safety signs, barricades or other warning systems are being used appropriately.
 - b. Know and understand the rules and procedures for mainline operations.
Interview at least two individuals.
2. Controllers
 - a. Are properly preparing and maintaining records, reports, and logs;
 - b. Are performing duties in accordance with standard operating procedures, rule books, and bulletins;
 - c. Are knowledgeable in dealing with accidents/incidents and emergency response situations and coordinating with others during the same.

Randomly select several controllers, operators, and maintenance personnel, and verify their compliance with applicable rules, that they have the proper safety equipment, that their radios are functioning, and that they are complying with the personal electronic device policy.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff entered SRTD Maintenance Shop and observed all working employees were equipped with the appropriate PPE for their job duties. Staff observed placards being utilized correctly, caution tape was used for barricades, safety signs, i.e. DO NOT ENTER and DANGER were clearly visible.

Staff interviewed Maintenance personnel and found all to be knowledgeable of operating rules and procedures.

Staff entered Metro Control and interviewed two Controllers (#616 and #2389), and reviewed control logs, which are retained for one year. The control logs contain unusual occurrences, ramp counts, train times (including delay times and reasons), Notices, Bulletins, etc. Staff found the logs to be orderly, legible, and well maintained.

Staff observed Controller #2389 call Video 1 regarding trespassing on the Right of Way at Center Parkway Station according SRTD SOPs. Video 1 in turn contacted Transit Agents to clear the right of way. The Controller then held an inbound train at Franklin Station until the right of way was clear.

Findings:

None

Comments:

Staff observed that the Dispatcher (person who gives daily job briefing with Operators), issued the Light Rail Operating Bulletin but does not discuss the Daily Rule of the Day with the Operators.

Recommendations:

None

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	13-C	Element	Rules Compliance: Operator, Controller, and Maintenance Personnel Hours of Service
Date of Audit	October 16, 2017 1:00-2:30 pm Metro Upstairs Conference Room	Department(s)	Operations Department Safety Department
Auditors/ Inspectors	Debbie Dziadzio Richard Fernandez Michael Rose	Persons Contacted	Rob Hoslett 916 826-4182 John Darragh 916 869-8456

REFERENCE CRITERIA

1. General Order 143-B, Rule 12.04 Hours of Service-Safety Sensitive Employees
2. General Order 164-D
3. SRTD Rail System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance: Operator, Controller, and Maintenance Personnel Hours of Service

Select at least six employees at random from each of the following classifications:

- Train Operator
- Train Controller
- Track Maintenance
- Signals Maintenance
- Vehicle Maintenance
- Supervisor or Manager

Inspect the employees' time cards for a three-month period during the past 18 months to determine whether:

1. Shifts were in compliance with the requirements that safety-sensitive employees may not remain on duty for more than 12 consecutive hours, or for more than 12 hours in any 16-hour period.
2. Each initial on-duty status was preceded by eight consecutive hours of off-duty status.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff reviewed the timekeeping records for, (at a minimum) 6 employees each from the above categories. Staff ensured no employee worked over the 12-hour maximum and/or had at least 8 hours off prior to return to duty.

All employees were in compliance to GO 143-B, Section 12.04, regarding Hours of Service for Safety Sensitive employees except as noted below:

Findings:

Rail Supervisor/Controller:

#760 1/13/17 – worked 12.75 hours.

Comments:

Communication by the employee to a supervisor needs to occur when it becomes clear the HOS policy will be violated.

Recommendations:

Ensure employees know, understand, and abide by HOS policies and procedures.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	13-D	Element	Rules Compliance: Contractor Safety Program
Date of Audit	October 19, 2017 10:30-12:00 Old Administration Conference Room	Department(s)	Operations Department Safety Department
Auditors/ Inspectors	Debbie Dziadzio Richard Fernandez Michael Rose	Persons Contacted	Rob Hoslett 916 826-4182

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance: Contractor Safety Program

Interview the SRTD representative responsible for the Contractor Safety Program and review SRTD's relevant program documentation to determine whether:

1. SRTD has developed and implemented a control document clearly establishing its responsibilities and requirements for the contractor safety program, including:
 - a. Training and certification for contractors and their employees.
 - b. The rules, regulations, and procedures applicable to contractors and their employees.
2. SRTD's procedures and practices clearly identify that SRTD is ultimately in charge on its system, and that contractors and their employees must comply with all established safety rules and procedures.
3. SRTD procedures require regular internal audits and inspections of construction sites to monitor compliance with its safety requirements.
4. SRTD procedures establish the range of activities for monitoring Contractors and their employees and enforcing compliance with safety requirements through regular unscheduled and unannounced compliance checks, as well as by scheduled periodic audits and inspections.
5. SRTD's monitoring and enforcement activities are properly recorded, distributed, and

filed.

There is sufficient interagency coordination among various contractors regarding Safety issues.

FINDINGS AND RECOMMENDATIONS

Activities:

1. Staff reviewed one SRTD ITB (Invitation to Bid) and one finished Contract and observed contract language in Section 6.35 titled, General Safety Requirements, that require PPE, Fall Protection, EIC requirements, On-Track Safety training requirements as per SSPP 16.3. Staff read in the contracts that SRTD is ultimately in charge of its system and that contractors as well as their employees must comply with all established safety rules and procedures.
2. Any construction job that fouls the track zone requires an SRTD Escort.
3. Staff was advised that on big projects, an SRTD Safety Rep/Consultant and a Contractor designated "Responsible Individual" have safety oversight responsibilities. On smaller projects, Staff was advised that no SRTD Safety Rep/Consultant nor Contractor designated "Responsible Member" is required, however, a Field Inspector floats to the construction job sites. Currently the Field Inspector is responsible for 11 projects and does not go to each job site on a consistent routine basis.
4. Staff asked to review two randomly selected projects to review inspections regarding monitoring contractors and their employees (City College Pedestrian Bridge and College Green LR Station, Christie Box). Staff also asked to review daily inspection reports initiated by the Field Inspector for one month (July 2017).

Findings:

1. No documentation was found regarding compliance oversight for the two projects randomly selected.
2. Field Inspectors were not maintaining daily inspection logs. Monitoring and enforcement activities were not properly recorded, distributed, and filed.

Comments:

During the review of the contract language, Staff noted that in the area of Federal, State, and Local regulations, CPUC General Orders were not listed.

Recommendations:

1. SRTD must consider additional personnel for compliance oversight or assigning the Field Inspector additional duties to ensure RWP/OTS compliance oversight occurs. SRTD must follow General Order 143-B, 13.04, regarding operational evaluations.
2. SRTD must follow General Order 164-D, Section 3.2 (i), regarding receiving and distribution of safety data.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	13-E	Element	Rules Compliance: Operating Rules and Procedures Manual and Operations Bulletin Revisions
Date of Audit	October 16, 2017 2:30 – 4:00 pm Metro Upstairs Conference Room 2700 Academy Way, Sacramento	Department(s)	Safety Department Operations Department
Auditors/ Inspectors	Debbie Dziadzio Richard Fernandez Michael Rose	Persons Contacted	Rob Hoslett 916 826-4182 John Darragh 916 869-8456

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017
3. SRTD Rulebook

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance:

Operating Rules and Maintenance Procedures Manual and Operations Bulletin Revisions

Interview SRTD representative responsible for operations rules and procedures (OR&P) and review necessary documentation to determine whether:

1. Revisions to the OR&P are performed systematically and distributed to the relevant personnel.
2. Operating bulletins are issued in a timely manner and provided to train operators as necessary, with adequate information for responsible implementation.
3. Submitted unusual occurrence reports regarding operations are reviewed and approved by the personnel responsible and addressed by the appropriate departments.
4. Any discrepancies in unusual occurrence reports and CAPs were mitigated in a timely

manner and tracked until completion.

5. All new operating rules and bulletins were distributed to CPUC Staff during the past 12 months, and the rule/bulletin distribution process has been tracked.
6. Determine how many operating bulletins are issued each year and how SRTD Safety Department is involved in the review, approval and dissemination of these bulletins.
7. How long do operating bulletins typically stay in effect? Does the SRTD have a process in place to review operating bulletins to determine when they should be incorporated into the rulebook?
8. Does SRTD Safety Department conduct assessments to evaluate safety-related impacts to rules changes and bulletins?
9. Discuss the process used to review and update rules and to review and issue operating bulletins.
10. Interview SRTD Safety Department representatives to determine when rules and procedures were last reviewed (certain rules and procedures should be reviewed after accidents) and revised.
11. Conduct interviews with SRTD Safety Department representatives to discuss their role in ensuring that safety concerns are addressed in SRTD's rules compliance program.
12. Do Safety Department representatives support any rules compliance activities?
13. Do they receive reports from the SRTD's operations and maintenance departments regarding the performance of rules checks, assessments, and testing?
14. Are hazards identified from the rules compliance process and reported to SRTD Safety Department and managed through the hazard management process?

FINDINGS AND RECOMMENDATIONS

Activities:

1. Staff interviewed above listed SRTD personnel and learned that revisions to the Rules Book are systematically reviewed and distributed to pertinent personnel. Rule Book Committee is formed and meets multiple times. Drafts of proposed rule additions, deletions, and revisions are sent to various department heads where the language, understanding, and how the change is applied is reviewed. When all comments are received, reviewed, and agreed upon, a final version of the rule book will go to print. The new rule book is then distributed with all employees signing to verify the new book is received and that a 45-minute training session occurred on the additions, deletions, and revisions from the prior rule book. SOPs and Notices (bulletins) are reviewed every 3 years and go through the same review process as listed above. The new SOPs are posted on-line and Notices are posted throughout SRTD departments.

2. Staff was advised that “occurrence report” forms are filled out by Operators at the end of their shifts. The Operators give the form to the Controllers who distribute to the Superintendent, Risk Management. Safety is not copied on Occurrence Report forms but go to Transportation Superintendent area to gather and copy any relevant information approximately 1-2 times per month. Safety analyzes the information learned from the reports to include during the HRFLSC meetings.
3. Permanent Notices are distributed on an as-needed basis. Notices are reviewed during various rule book meetings.
4. Safety Department was not present nor engaged in this checklist for Staff to inquire about Safety’s involvement regarding review, approval and dissemination of bulletins, and assessments to evaluate safety-related impacts to rule changes. The supervisor has no records indicating receipt of SOPs, rules, and bulletins.
5. Staff learned that permanent notices are in effect for approximately 3 years, at which time, they are reviewed and possibly retained, deleted, or issued as a new operating rule.
6. Staff was advised that all LRV Operators have, at a minimum, 6 efficiency tests per year.
Level 1 – 3-4 tests/year
Level 2 – 2/year
Level 3 – 1/year
7. Safety Department does not support any rules compliance activities.
8. Safety Department does not receive reports from SRTD Operations and Maintenance departments regarding the performance of rules checks, assessments, and testing.

Findings:

1. There is no Corrective Action Plan procedure when discrepancies from an “occurrence report” are generated.
2. Staff was advised by SRTD Safety that CPUC RTSB Supervisor was currently on the distribution list for rules/bulletins, but a subsequent check indicates he has not been receiving them during the time of the audit period.
3. Safety Department does not support any rules compliance activities.
4. Safety Department does not receive reports from SRTD Operations and Maintenance

departments regarding the performance of rules checks, assessments, and testing as per GO 164-D, Section 3.2 (i).

Comments:

Regarding new Notices and SOPs. SRTD must acquire a sign-in/tracking system to ensure Notices are being issued and read to pertinent personnel (via Toolbox Safety Meetings, review-verification sheet to be signed by Operators, etc.).

Recommendations:

1. SRTD must incorporate a Correction Action Plan into the “occurrence report” process.
2. SRTD must include CPUC on distribution list for updates/revisions to operating rules, notices, SOPs as per GO 164-D.
3. Safety must be more hands-on and provide support for rules compliance activities.
4. Safety must receive reports from SRTD Operations and Maintenance departments regarding the performance of rules checks, assessments, and testing.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	14-A	Element	Facilities and Equipment Inspections: Wayside Equipment
Date of Audit	October 13, 2017 10:30 – 12:00 Wayside Conference Room	Department(s)	Wayside Maintenance
Auditors/ Inspectors	John Madriaga Matt Ames Sal Herrera	Persons Contacted	Rob Hoslett 916 826-4182 Michael Cormiae 916 869 - 8454

REFERENCE CRITERIA

1. General Order 164-D.
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Equipment Inspections: Wayside

Interview SRTD Wayside inspectors, and review appropriate records to determine whether:

1. Required inspections were performed.
2. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
3. Potential hazards found during inspections were tracked from recommendation, Corrective Action Plans, and implementation.
4. Check a sampling of hazards identified during inspections to ensure they are immediately reported, documented, and tracked through resolution.
5. Check a sampling of "Corrective Action Plans" to determine timeliness of resolution and ensure follow-up activities are performed, hazard resolution has taken place, and a measure of the effectiveness of implemented hazard controls has taken place, documented and noted discrepancies were corrected in a timely manner.

FINDINGS AND RECOMMENDATIONS

Activities:

1. Staff reviewed inspection records.
2. Conducted field switch inspections
3. Switches F109a/b, F101, N71

Findings:

1. Field review
Inspection records do not reflect condition of track.
Switch F 109A – loose transit bracket
Switch F101- Curve closure rail measured 57 ¾" Gauge
Switch N71- loose brace plates, loose #1 switch rod, I/J was pumping and had loose bolts.
2. Track maintenance personnel sometimes took corrective action based on inspection findings without documenting them.

Comments:

Inspection forms must reflect the condition of track. Switch maintenance is not performed correctly. If there are no defects noted on the forms, then nothing should be found in the field. SRTD wayside personnel must ensure that they are filling out and performing the inspections correctly. SRTD Supervisors must ensure that the tasks are being performed correctly and completely. Failing to document inspection findings can lead to the conclusion that SRTD is attempting to hide maintenance failures from the CPUC. It is Staff's opinion after field inspections with SRTD that the personnel not properly trained or complacent and that Supervisors are not checking that tasks are being performed correctly, or what training is needed.

Recommendations:

1. CPUC staff recommends that SRTD conduct proper training on performing and documenting track and other wayside inspections and repairs for its Supervisors and MOW personnel. Supervisors need to ensure that all tasks are being performed and that personnel are getting the proper training. CPUC staff recommends SRTD review its maintenance certification program and implement a more robust formal training program.
2. Document track problems and repairs on the SRTD maintenance forms and database. Making field repairs and not documenting them is unacceptable.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	14-B	Element	Facilities and Equipment Inspections: Stations and Emergency Equipment
Date of Audit	October 17, 2017 9:00 – 10:30 am O Street East Conference Room	Department(s)	Facilities
Auditors/ Inspectors	Mike Borer Matt Ames	Persons Contacted	Rob Hoslett 916 826-4182 Jeffrey Anderson 916 261-4587

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Facilities and Equipment Inspections: Stations and Emergency Equipment

Interview SRTD facilities inspectors and review appropriate records to determine whether:

1. Required inspections were performed.
2. Inspections were properly documented and noted discrepancies were corrected in a timely manner.
3. Potential hazards found during inspections were tracked from recommendation, Corrective Action Plans, and implementation.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff reviewed inspection records, Manager Plus database, and interviewed SRTD Facilities Superintendent and the Director, Construction Management.

1. Required inspections were inconsistently conducted prior to July 2017.
2. Staff requested records of inspections prior to July 2017; staff was informed that

records are not available.

3. Since July 2017 hazards found during inspections are tracked until completion. Employees conduct inspection of facility, note findings on PM form and submit form to Supervisor. The Supervisor reviews the PM form, enters information into database and generates any necessary work order requests. A Standard Operating Procedure or process has not been created for this process.

Findings:

1. Facility inspection activities prior to July 2017 are not documented and findings from inspections are not tracked. Corrective action plans and implementation are not recorded.
2. A description of the process used for facilities and equipment safety inspections is not available.

Comments:

The following changes could be made to the Facilities and Grounds workers Monthly Inspection PM Form (filled out by hand):

1. Add Month, Day, Year to date line
2. Add method for Supervisor to note that the form has been reviewed
3. Add checkbox for Inspector to request Engineering/Safety review

Recommendations:

1. Record inspection activities and findings. Enter inspection results into database and track findings, include corrective action plans and implementation. Comply with RSSPP (SSPP) January 2017, 5.3.5 and 15.1.3.
2. Provide a description of the process used for facilities and equipment safety inspections (standard operating procedure) per General Order 164-D, Part 3.2, Subpart n, i-iv.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	14-C	Element	Facilities and Equipment Inspections: Bridges and Aerial Structures
Date of Audit	October 13, 2017 10:00 to 5:00 pm Room O Street East Conference Room	Department(s)	Engineering
Auditors/ Inspectors	Jamie Lau Matt Ames	Persons Contacted	Rob Hoslett 916 826-4182 Darryl Abansado 916 275-3269

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017
3. CT-SOP-08-001, Bridge/Structure Inspections & Reports

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Facilities and Equipment Inspections: Bridges, and Aerial Structures

Interview SRTD representatives and review appropriate records to determine whether:

1. Structures inspections were performed.
2. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
3. Potential hazards found during inspections were tracked from recommendation, Corrective Action Plans, and implementation.
4. The Hazard Resolution Committee is aware of any safety hazards pertaining to civil structures.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed the Director of Civil and Track Design (Director) and reviewed records of SRTD's structures inspections. SRTD is in compliance with its SSPP and inspection procedures.

1. According to SRTD's procedures, bridges and structures are inspected biennially (once every two years). CT-SOP-08-001 (SOP) requires that the inspections be performed by a Registered Structural or Civil Engineer; inspector was Mr. Luis Moreno, a registered civil engineer. Mr. Moreno is a contractor hired by SRTD to inspect bridge structures.
2. Each inspection is recorded on a checklist listing any defects found, which are then organized in a spreadsheet. Each defect is assigned a priority level, described in part 3 below, and corrected as necessary.
3. The Director maintains a spreadsheet of corrective actions resulting from the biennial inspections. Each action receives a row number, identifies the location of the repair, and a priority level from 1 to 4:
 - Level 1 - Complete action within 90 days
 - Level 2 - Complete action within 6 months
 - Level 3 - Complete action within 12 months
 - Level 4 - Monitor

Items which have been corrected receive a completion date. SRTD shares some bridge structures with Caltrans. The Director informed Staff that any defects found on shared structures are reported to Caltrans and handled by the responsible party. The priority levels and associated repair duration are not detailed on the SOP, but on an inspection tracking form.

4. Staff reviewed the following monthly meeting minutes:
 - July 14, 2017,
 - August 11, 2017, and
 - September 22, 2017.

Biennial bridge inspection progress was discussed in all three meetings.

Staff requested proof of quarterly reports being submitted to the Director of Civil and Track, the Chief of Operating Officer, and Director of Light Rail. SRTD had no record of such submittal to the designated personnel.

Staff reviewed all bridges and structures biennial inspection records for the past 3 years, including inspections done in 2015 and 2017, with the following findings:

- Outbound Bee Bridge had a level three priority corrective action of cleaning an OCS pole base on September 1, 2015; item still open.
- Outbound Brighton Bridge had a level three priority corrective action of

- grouting under an OSC pole plate on September 1, 2015; item still open.
- Willow Creek Bridge had a level three priority corrective action of repairing concrete spall at the edge of deck on September 1, 2015; item still open.
- SMUD Undercrossing had a level three priority corrective action of cleaning spalling on deck and applying epoxy coating to protect re-bars on September 1, 2015; item still open.
- American River Route 160, Bridge #24-01L had a level three priority corrective action of cleaning deck expansion joints; item still open.
- Viaduct Bridge Route 160, Bridge #24-100 had a level three priority corrective action of cleaning deck expansion joints; item still open.
- Florin Grade Separation had a level three priority corrective action of conducting a corrosion inspection for the MSE walls; item still open.
- Grand Avenue Bridge had a level three priority corrective action of cleaning expansion joints, installing new expansion joint material, and clean drains; item still open.

Furthermore, staff reviewed SRTD's stray current protection inspection report. The inspection was done in year 2011, with final report completed in April 2013. Such inspection was required to be done biennially since the SOP adoption in 1988. Staff requested all reports since 1988, but SRTD only provided the report completed in 2013. The inspection recommended various corrective actions for SRTD's bridge corrosion control systems. Staff requested SRTD to provide scheduled work orders showing due dates for those corrective actions; SRTD indicated they are still "in process of getting all the equipment and manpower necessary to start testing per their recommendation", but without providing a scheduled due date for those actions.

Comments:

1. SOP does not describe repair priority levels and their associated repair time frame; Staff suggests SRTD to add that to its SOP, instead of only a note on a structural inspection form.
2. SOP requires structure should be observed during the passage of trains, so that the effects of vibration and deflection may be noted. However, Staff found SRTD's bridge inspection reports do not indicate whether an

inspection was done during passage of trains. Staff suggests adding a checklist confirming the structure was inspected under the required condition.

3. SOP requires upon receipt of a reported defect, a review by the Director should be made to determine the action to be taken. SRTD's records indicated the structural inspector sent inspection reports with recommended actions to the Director, but without Director's proof of review and acknowledging actions to be taken. Staff suggests SRTD to add a sign-off field on the inspection form for the Director.
4. SOP requires structures to be inspected whenever abnormal conditions occurred, such as earthquakes, vehicle damage, fires or floods. SRTD does not have an inspection form for such inspections. Staff suggests SRTD to create an abnormal condition inspection form for such purposes.

Findings:

1. Eight bridge structures have open corrective actions since 2015. All open corrective actions were assigned a level three priority, which is to complete within 12 months. SRTD did not complete these level three corrective actions within 12 months.
2. Since 1988 (SOP adoption), SRTD had only one stray current protection inspection report completed in year 2013. SOP requires stray current protection inspection to be done biennially, which SRTD did not follow.
3. In year 2013, the stray current protection inspection report recommended various corrective actions. At the closing of audit, SRTD did not schedule corrective actions per recommendations.
4. SOP requires completed corrective actions shall be signed off in the appropriate column after repairs have been confirmed and verified. Although completion dates were provided for completed items, SRTD's bridge inspection maintenance tracking reports did not have a sign-off column showing who confirmed and verified the repair.
5. SOP requires quarterly reports to be submitted to Director of Civil and Track, the Chief of Operating Officer, and Director of Light Rail. SRTD had no record of submitting quarterly reports to the designated personnel.

Recommendations:

1. Resolve the eight open corrective actions from bridge inspection since year

2015.

2. Ensure that SRTD performs stray current protection inspection biennially.
3. SRTD to address the recommended corrective actions from the stray current protection inspection report in year 2013.
4. SRTD to add a sign-off column on the bridge inspection maintenance tracking report.
5. SRTD must submit quarterly reports to Director of Civil and Track, the Chief of Operating Officer, and Director of Light Rail as required by its SOP.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	14-D	Element	Facilities and Equipment Inspections: GO 95 Right-of-Way Compliance
Date of Audit	October 12, 2017 10:30 – 5:00 pm Wayside Conference Room	Department(s)	Wayside
Auditors/ Inspectors	Steve Espinal Sal Herrera	Persons Contacted	Rob Hoslett 916 826-4182 Michael Cormiae 916 869-8454

REFERENCE CRITERIA

1. General Order 95
2. General Order 164-D
3. SRTD System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Facilities and Equipment Inspections: GO 95 Right-of-Way Compliance

Select at least four (4) of mainline or yard track sections at random from each of the following areas to determine:

- North Line
 - South Line
 - Folsom Line
- a. The required monthly and annual inspections were performed during the past 12 months as required by the referenced procedure.
 - b. The inspections were properly documented and noted discrepancies were corrected in a timely manner.

Interview SRTD Wayside inspectors, review appropriate records, and perform visual inspections and measurements to determine whether:

1. Right-of-Way inspection and maintenance standards and programs are compliant with General Order 95.

2. Inspections were properly documented, and discrepancies were corrected in a timely manner.
3. Potential hazards found during inspections were tracked from recommendation, Corrective Action Plans, and implementation.
4. All right-of-way components are in compliance with the applicable reference criteria, or variances were submitted properly and approved by CPUC.

FINDINGS AND RECOMMENDATIONS

Activities:

Substation Inspections:

North substation 3

Adjacent overhead catenary system pole didn't have a cover board for the guy wire. The fence was in good shape. The substation is inspected biweekly and shut down for tests quarterly. The substation was very clean and little to no dust. Eyewash was present. Battery water level was within range. Emergency phones worked properly.

Substation N2A (Arden/Del Paso)

Substation did not contain a fire extinguisher.

Substation 1

Eye wash was present. The substation was clean with little to no dust. Fire extinguisher was present with no inspection records. The phone worked properly. The substation was surrounded by a fence with barbwire at the top.

Substation S-100 (100 Hz)

The substation powers the gates and lighting. Logbooks are properly filled in. There are shrubs inside the fencing drying which is a fire hazard. The dried shrubs must be removed from the substation. The OCS system guy wire has a broken cover board which must be replaced.

Substation S-1

The substation has proper fencing. The disconnect switch has a history of getting stuck. A note in the logbook stated, "dash pot removed, and breaker disabled on August 25, 2015". Eyewash was present. The fire extinguisher inspection was current with a date of February 20, 2017.

Inspected the overhead catenary under highway 50 underpass and 12th street on the

Folsom Line. The hanger on the low end of the overpass was not properly situated in the saddle.

Comments:

None.

Findings:

None.

Recommendations:

None.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	14-E	Element	Facilities and Equipment Inspections: Signal System and Vital Relay Maintenance
Date of Audit	October 11, 2017 10:30-5:00 pm Wayside Conference Room 2750 Academy Way	Department(s)	Wayside
Auditors/ Inspectors	Shane Roberson Sal Herrera	Persons Contacted	Rob Hoslett 916 826-4182 Michael Cormiaie 916 869-8454

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Facilities and Equipment Inspections: Signal System and Vital Relay Maintenance

Interview SRTD's representative responsible for Wayside Maintenance, and randomly select four vital relay Preventative Maintenance (PM) records from the past 12 months and determine whether:

1. Signal Systems and Power Switch Maintenance Program:
 - a. A standard operating procedure or other directive describing SRTD's PM program for interlocking plants is current, has been approved, and is being implemented.
 - b. All required PM activities were documented on standardized inspection report forms.
 - c. Defects and non-compliances noted on inspection report forms were tracked from recommendation, Corrective Action Plan, and implementation.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff noted SRTD is currently using industry and manufacturer's recommended standards for conducting their PM's of Vital Relays.

Staff reviewed records from: F276, S12, 18th St., N487, Meadowview, N11RC/N842RC, N182RC, F124, F775IH/F151A-F151B, S945IH.

Findings:

1. Staff noted at Meadowview, relay tests were not completed in June of 2017. Previous date of inspection noted is 6-18-15. LR-SOP-91-422
2. Staff noted N487 relay tests were not completed in June of 2017. Previous date of inspection noted is 5-30-15. LR-SOP-91-422.

Comments:

Staff noted corrections made to records without signing or initialing.

Recommendations:

1. Staff recommends SRTD perform biennial inspection at Meadowview and N487. SRTD must ensure all relay tests are completed within the biennial inspection intervals. LR-SOP-91-422
2. SRTD must ensure all entries made to inspection forms are properly filled out and signed and if any corrections are made (black outs or white outs) the author must initial said corrections. LR-SOP-91-422.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	14-F	Element	Equipment Maintenance Program: Measurement and Testing Instrumentation
Date of Audit	October 12, 2017 9:00 – 10:30 am Metro Upstairs Conference Room 2700 Academy Way, Sacramento, Ca	Department(s)	Maintenance Department
Auditors/ Inspectors	Mike Borer Adam Freeman	Persons Contacted	Rob Hoslett 916 826-4182 Michael Cormiaie 916 869-8454

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Facilities and Equipment Inspections: Measurement and Testing Instrumentation

Interview responsible SRTD representatives from each department, review appropriate records, inspect equipment storage facilities, and inspect no fewer than eight measuring or testing instruments to determine whether:

1. The selected gauges, micrometers, calipers, torque wrenches, multi-meters, etc. are properly inventoried, stored, distributed for use, calibrated at prescribed intervals, and marked, tagged, or otherwise identified to show current calibration status.
2. The next scheduled testing/calibration due date is shown on each instrument.
3. Tools and instruments requiring calibration are addressed in an appropriate procedure(s)

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed the SRTD employees responsible for the calibration of the measuring and testing equipment. Staff reviewed the most recent equipment calibration procedure

(LR-SOP-01-224). Staff reviewed the master tool inventory list and selected 9 measuring or testing devices stored inside the LRV maintenance facility tool room and employee provided devices stored throughout the shop.

The following measuring and testing instrumentation were randomly selected and inspected to ensure that the device was labeled with the most up to date calibration test dates, next due calibration & ID number:

- ID # AB1604 Torque wrench, Calibration date 7/24/17 Due date 7/24/18
- ID# AH3245 Thermometer, Calibration date 7/24/17 Due date 7/24/18
- ID #AQ5381 Fluke Multi-meter, Calibration date 7/24/17 Due date 7/24/18
- ID # DF3593 Torque Wrench, Calibration date 7/24/17 Due date 7/24/18
- ID # F5593 Torque wrench, Calibration date 7/24/17 Due date 7/24/18
- ID # M4802 Fluke 87 Multi-meter, Calibration date 7/24/17 Due date 7/24/18
- ID # M4849 Digital Caliper, Calibration date 7/24/17 Due date 7/24/18
- ID # SRT-029 Pi-tape, Calibration date 7/24/17 Due date 7/24/18
- ID # Y3151 Power Supply, Calibration date 7/24/17 Due date 7/24/18

Findings:

None

Comments:

Staff suggested removing tools from the master tool list that have been lost, defective and/or unrepairable, tools needing or awaiting repair must be noted on the master tool list and remain on the master tool list until repairs are made. This should be noted on the calibration procedure.

Recommendations:

None

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	15-A	Element	Maintenance Audits and Inspections: Rail Vehicles
Date of Audit	October 11, 2017 9:00 – 4:00 pm Metro Upstairs Conference Room 2700 Academy Way Sacramento, Ca	Department(s)	LRV Maintenance
Auditors/ Inspectors	Adam Freeman Mike Borer	Persons Contacted	Laura Espinoza 916 869-7552 Rob Hoslett 916 826-4182

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD System Safety Program Plan (SSPP) dated January 2017
3. VMP-06-002
4. VMP-06-006
5. VMP-07-009

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

**Maintenance Audits and Inspections:
Rail Vehicles**

1. Perform detailed inspections of SRTD’s revenue and non-revenue rail vehicles to determine if the following components are properly and adequately maintained:
 - a. Axle-mounted gearbox
 - b. Truck, axle, and wheel assemblies
 - c. Brake systems
 - d. Door assemblies
 - e. Lighting
 - f. Passenger doors
 - g. Passenger component and safety appliances
 - h. Public address and intercom systems
2. Determine whether the cars are in compliance with the applicable references based on record review and inspections.

3. Verify that the SSPP provides a description of the SRTD's maintenance audits and inspection program, including identification of the affected facilities and equipment audited/inspected, maintenance cycles, and required documentation.
4. Randomly select three (3) audited system elements and review the maintenance records for those elements for the past year. Check to see that:
 - a. The preventive maintenance (PM) performed was consistent with the transit agency's maintenance program;
 - b. The PMs were conducted on schedule;
 - c. The proper type of PM was conducted according to the maintenance cycles promulgated in the maintenance program.
5. Randomly select three (3) audited system elements and check failure history and hazard tracking log for the previous three years. Note if a correlation between the PM maintenance cycle and corrective action/hazard reports exist to ascertain possible PM procedural deficiencies.
6. Review corrective action and failure records for three (3) audited systems and note repetitive failures that might indicate mechanic error and/or training requirement, ineffective procedure, and/or material deficiencies.
7. Verify all documentation has dates, approvals, and control numbers.
 - a. Verify that documentation is available for all identified maintenance elements.
 - b. Verify that the documentation is current, consistent with each other, readily available to end users, and written and illustrated for the intended users.
8. Review records responsible for maintenance and inspection.
 - a. Review past documentation to verify that safety concerns and hazards identified from maintenance audits and inspections are being fed into the SRTD's hazard management process.
 - b. Review random sampling of three (3) system elements and ensure that the appropriate checklists, i.e. ("*Inspection Card*") include item inspected, type inspection performed, date of inspection, mechanic performing inspection, responsible supervisor, supervisor and mechanic approval signature, that all items associated with the type inspection have been properly inspected, and that deficient items have been properly documented and/or repaired.
9. Interview representatives from the Safety Department to determine:
 - a. How they coordinate with the SRTD's maintenance functions to ensure that inspections and audits are being performed as required for safety-critical systems, such as track, structures, train control, and transit vehicles.
 - b. How they receive assurances that these safety-critical systems are inspected/tested and/or serviced on a scheduled, periodic basis.
 - c. How they receive assurances that, if an inspection were to indicate that a safety-

critical system failed or was found to be in an out of tolerance condition, operations would be restricted to maintain safety until such time as an appropriate remedial action has been completed.

- d. Any independent inspections/audits performed by Safety Department representatives.
 - e. Randomly interview maintenance personnel, including both supervisors and mechanics, to verify that they have available the most current maintenance procedures and that they understand and have been properly instructed on using the information.
 - f. Ask these personnel if they have access to the testing and measurement equipment or devices that may be specified by inspection and testing procedures.
 - g. Ask these personnel if they know of any immediate safety concerns or hazards that are the result of poor maintenance activities.
 - h. Interview maintenance supervisors to verify how they communicate these issues to the SRTD's Safety Department and other departments.
 - i. Note if their responses are consistent with what is stated in the SSPP and referenced/supporting procedures.
10. At random and field review a sampling of the most recent completed preventive maintenance reports (PMs), and, through visual inspection, ascertain, to the extent possible, whether the required maintenance procedure was completed.
- a. This is best done by using the "Preventive Maintenance Checklist" with each item on the list correlated with a specific procedure. Note any areas from the checklist that simply say "checked," "tightened," or "tested" without specific readings. These items must be noted as deficiencies if specific readings are supposed to be noted in the maintenance documentation.
 - b. Select and inspect at least two (2) vehicles from each of the SRTD's vehicle fleets to determine if SRTD is maintaining its vehicles properly and adequately.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff performed detailed inspection of the revenue and non-revenue rail vehicles located at the SRTD, LRV maintenance facility, 2700 Academy Way, Sacramento.

Non-revenue vehicles inspected: NRV #181 & NRV #693. Staff inspected the vehicles and reviewed maintenance records which included pre-trip inspections and periodic maintenance inspection records.

Revenue vehicles inspected: LRV #202, 113, 238 & 133. Staff requested to inspect LRV #202 and 113 to inspect gear boxes that were reportedly leaking, these reports were previously noted on repair orders attached to PM records, additionally PM records indicated that wheels were close to condemning limits, these repair order items were verified to be within acceptable tolerances. Staff did note defects which included hydraulic hose clamps missing and fire extinguishers out of date, these defects were immediately corrected by SRTD.

Staff also measured rotors on LRV #238.

All of the components inspected on the above referenced vehicles appear to be adequately maintained and/or serviced.

1. Staff reviewed preventative maintenance records related to the above referenced vehicles, these vehicles were found to be in compliance with inspection intervals and each maintenance task was signed off by the person who completed the task, all repair work orders were generated, and repairs were noted on repair orders.
2. Staff reviewed the standard operating procedure related to the LRV mileage-based inspection intervals (LR-SOP-06-300), the SSPP does provide a descriptive inspection program to include maintenance cycles/intervals, the SOP also includes employee responsibilities related to the Maintenance Superintendent, Maintenance Supervisor, Maintenance Trainer & Light Rail Technicians.
3. Staff randomly selected completed PM records related to the Siemens, CAF & UTDC revenue vehicles. Staff determined that the PM's are being conducted according to SRTD's maintenance program and they are also being completed at the required maintenance intervals. Inspections are being performed at a 10k mileage interval, 10k, 20k & 30k. Siemens vehicles have an additional 150k inspection requirement performed at the 5th 30k inspection interval. The CAF vehicles have additional inspection or maintenance intervals required at 150k, 300k, 450k & 600k intervals.

Staff did ask SRTD if there are additional PM's required for the UTDC vehicles but since they have been recently overhauled the additional PM's have not yet been determined.

The following LRV's were selected and weekly, 10k, 20k & 30k PM records reviewed;

- a. Siemens 106, 113 & 131
- b. CAF 202, 214 & 227

c. UTDC 302

4. Staff reviewed repair work orders related to the above referenced vehicles and found that the repairs are being accurately tracked and recorded through preventative maintenance records/documentation.
5. Based on the preventative maintenance records that staff reviewed, staff did not note any repetitive failures related to mechanical errors or training requirements.
6. Preventative maintenance records related to the 10k inspections were properly dated and activities related to PM tasks were properly signed off by the employee responsible for completion.
7. Staff reviewed completed PM records for the above listed vehicles and did note that wheel reports that are attached to the PM inspections are sometimes incomplete with lines through wheels rather than an accurate measurement of wheel readings, inconsistent record keeping related to wheel inspection reports (see findings below).
8. Staff did discuss with safety how they perform random independent inspection audits within the LRV maintenance facility which could include interviews with maintenance personnel or quality assurance inspections to equipment and/or facilities.
9. Staff performed follow-up visual field inspections shortly after reviewing of the randomly selected preventative maintenance records to determine whether the completed procedures have been completed as required and as specified. All follow-up inspection items were found to be completed as noted, all field interviews with SRTD employees were positive, staff did not receive any negative feedback regarding maintenance training and/or procedures.

Findings:

Staff found inconsistencies related to the completed wheel report measurements. Several wheel reports that were reviewed showed lines drawn through by the person conducting the wheel measurements, which must actually show the actual wheel size that was measured.

Comments:

None

Recommendations:

Each wheel measurement must be properly recorded on wheel report rather than a line drawn dictated by the current procedures; VMP-06-002, VMP-06-006 & VMP-07-009, which are being revised to an SOP. Additionally, Staff did note several corrections that

were made to dates and measurements; any correction to a document should be lined out, corrected and then be dated and initialed to identify correction clearly.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT**

Checklist No.	15-B	Element	Maintenance Audits and Inspections: Traction Power System
Date of Audit	October 13, 2017 9:00-4:00 pm Wayside Conference Room, Field Inspections 2750 Academy Way Sacramento	Department(s)	Wayside
Auditors/ Inspectors	Steve Espinal Sal Herrera	Persons Contacted	Rob Hoslett 916 826-4182 Michael Cormiae 916 869-8454

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD System Safety Program Plan (SSPP) dated January 2017
3. LR-SOP-86-405

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

**Maintenance Audits and Inspections:
Traction Power System**

Select at least one section of rail traction power system from each of the following areas:

- North Line
- South Line
- Folsom Line

For each section, review the appropriate documentation to determine whether:

1. The rail traction power system is inspected and maintained in compliance with applicable standards.
2. Substations and are inspected and maintained in compliance with applicable standards.

Perform a visual inspection of one substation for each of the three areas to determine whether they are in compliance with SRTD standards and are in a state of good repair.

Perform a detailed inspection of substation components.

Review SRTD's stray current program to determine whether:

1. SRTD is active in mitigating the effects of stray current on its own and surrounding structures.
2. SRTD has procedures in place to identify and correct hazards caused by stray current.

Any hazards identified have been addressed and tracked through Corrective Action Plans to completion.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff met with PG&E staff regarding stray current issues in Sacramento. According to PG&E staff Sacramento Regional Transit District have no concerning stray current issues with SRTD traction power system.

Review of Substation Quarterly reports:

Tests include Undervoltage Relays, Overcurrent Relays, Ground Test, Battery Voltage, Battery Charger Rate, Battery Maintenance & Test "Low Voltage" Alarm

Substation N3 inspected: 7/14/17, 4/5/17, 1/24/17, 12/8/16, 9/1/16, 6/16/16, 3/15/16, 3/11/15, 9/8/14,

SRTD Traction Power and Signal Quadrennial Protective Relay Testing: Pre-2013

Substation N4 inspected: 7/18/17, 4/19/17, 1/25/17, 12/7/16, 9/8/16, 6/9/16, 3/7/16, 7/21/16, 3/25/15, 10/5/15, 12/16/15,

Substation N5 Records reviewed: 7/11/17, 4/20/17, 1/26/17, 12/6/16, 9/12/16, 6/22/16, 3/9/16, 3/24/15, 7/22/15, 9/30/15, 12/31/15

Substation A2 inspection records reviewed: 10/7/17, 6/8/17, 12/15/16, 9/16/16, 1/23/17, 2/3/15, 4/23/15, 7/30/15, 10/28/15

Substation A1 records review: 7/10/17, 1/9/17, 12/16/16, 9/16/16, 2/2/15, 4/20/15, 7/30/15, 10/28/2015

Substation Y2 inspection records review: 8/7/17, 2/11/17, 10/3/16, 1/16/16, 1/28/15, 4/22/15, 7/29/15, 10/27/15

Substation Y1 inspection records review: 8/24/17, 5/17/17, 2/21/17, 9/29/16, 5/17/16, 2/16/16, 1/4/16, 10/23/15, 9/5/15, 4/25/15, 1/31/15

Substation F2 reviewed inspection records: 8/8/17, 4/28/17, 2/13/17, 3/21/16, 6/16/16, 9/19/16, 12/14/16, 6/10/15, 10/7/15, 12/11/15

Substation F3: 2/14/17, 5/1/17, 8/19/17, 3/4/16, 6/10/16, 9/20/16, 12/6/16, 1/15/15, 3/17/15, 6/23/15, 10/7/15

Substation F4 inspection records reviewed: 8/14/17, 5/4/17, 2/6/17, 2/8/16, 5/17/16, 8/2/16,

11/10/16, 2/5/15, 5/21/15, 8/31/15, 11/3/15

Functions of the Quadrennial

Inspect, Test and Calibrate protective relays and meters,

Substation F9 Quadrennial Inspection: Protective Relay Testing 2/8/16 Day PMI 2/6/16
Protective Relay Testing 10/3/11 Day PMI 10/10/11, Protective Relay Testing 10/15/17, Day
PMI 10/10/07

Substation Quadrennial Inspection F7: Protective Relay Testing 1/15/16 Day PMI 1/2/16
Protective Relay Testing 8/2/2011 Day PMI 8/8/2011, Protective Relay Testing 8/20/07,
Day PMI 8/22/07

Substation Quadrennial Protective Relay Testing F6: 12/8/15 Day PMI 12/7/15, Protective
Relay Testing 7/6/2011 Day PMI 7/8/2011, Protective Relay Testing 7/19/07, Day PMI
7/16/17

Substation Quadrennial Inspection N1: Protective Relay 3/11/13 Day PMI 2/11/13,
Protective Relay Testing 1/15/09 Day PMI 1/13/09, Protective Relay Testing 8/17/05

Substation Quadrennial Inspection Y1: Protective Relay Testing 7/22/13 Day PMI 7/15/16
Protective Relay Testing 4/22/09, Day PMI 4/21/09, Protective 11/21/05 Day PMI 11/22/05

Substation Quadrennial N2: Protective Relay Testing 3/6/13 Day PMI 2/18/13, Protective
Relay Testing 2/13/09 Day PMI 2/1/09, Protective Relay Testing 9/24/05 Day PMI 9/19/05

No documentation of down OCS conductors.

Findings:

None

Comments:

According to SRTD staff it is necessary to replace the OCS insulators on the Gold Line.

Downed OCS Lines refer to checklist 6.

Recommendations:

None

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	15-C	Element	Maintenance Audits and Inspections: Signals
Date of Audit	October 10, 2017 9:00-4:00 pm Wayside Conference Room, Field Inspections 2750 Academy Way	Department(s)	Wayside
Auditors/ Inspectors	Shane Roberson Sal Herrera Steve Espinal	Persons Contacted	Rob Hoslett 916 826-4182 Michael Cormiae 916 869-8454

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Maintenance Audits and Inspections: Signals

Perform detailed inspections of the signal system components to determine whether or not they are in compliance with applicable reference criteria. Select at least one track section at random from each of the following areas to inspect, including at least one at-grade section, one and one aerial section:

- Blue Line
- Gold Line
- Green Line

FINDINGS AND RECOMMENDATIONS

Activities:

Staff conducted field inspection and reviewed records for:

Mather Field Rd. 83E-11.76

Butterfield 83E-9.53

47th 83S-5.40

21st 83S-2.42

Findings:

1. Field Inspections

a. Mather Field Rd. 83E-11.76:

Staff noted north island gate low. SRTD Corrected.

Staff noted guide wire cover missing. SRTD Corrected

Staff noted North West gate striping inconsistent. SRTD Corrected.

All defects noted have been corrected by SRTD.

b. 47th 83S-5.40:

Staff noted vegetation surrounding signal house. LR-SOP-86-408, GO 143-B, 9.12

South West gate has unsecured gate light cord and 1 light out. SRTD corrected.

c. Bradshaw 83E-10.03:

Staff noted broken liquid tight on North West island gate with temporary wrap on the fitting. LR-SOP-86-408, CFR 234.211

Comments:

When Staff reviewed the records, Staff noted that the temporary repairs made to the broken fitting at Bradshaw was not noted. SRTD had no records or work orders in place to complete repairs.

Recommendations:

1. SRTD must ensure that all corrections made are noted on the inspection forms. If it is necessary to return to complete repairs at a future date, a Work Order should be completed and tracked until such repairs have been completed. LR-SOP-86-408, CFR 234.211
2. SRTD must ensure that all vegetation is cleared around all equipment. LR-SOP-86-408, GO 143-B, 9.12.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	15-D	Element	Maintenance Audits and Inspections: Tracks and Turnouts
Date of Audit	October 12, 2017 9:00-4:00 pm Wayside Conference Room Field Inspections 2750 Academy Way Sacramento	Department(s)	Wayside
Auditors/ Inspectors	John Madriaga Matt Ames Sal Herrera	Persons Contacted	Rob Hoslett 916 826-4182 Michael Cormiae 916 869-8454

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Maintenance Audits and Inspections: Tracks and Turnouts

Review SRTD's records of preventative maintenance, schedule and unscheduled maintenance activities for two separate 6 month periods in the past 3 years:

1. Track Inspection:
 - a. Randomly select at least two separate track inspection areas to determine whether:
 - i. Mainline and tracks were inspected at the proper frequency.
 - ii. Inspections were properly documented and noted defects were corrected in a timely manner and tracked until completion.
 - b. Randomly select at least two separate recorded geometry car inspection reports to determine whether:
 - i. Mainline and tracks were inspected at the proper frequency.
 - ii. Inspections were properly documented and noted defects were corrected in a timely manner and tracked until completion.
 - c. Review SRTD internal rail defect reports to determine whether:
 - i. Mainline and yard tracks were inspected at the proper frequency.

- ii. Inspections were properly documented and noted defects were corrected in a timely manner and tracked until completion.
 - iii. Verify that documentation is available for all identified maintenance elements.
 - iv. Verify that the documentation is current, consistent with each other, readily available to end users, and written and illustrated for the intended users.
2. Turnout Inspection:
 - a. Randomly select at least two separate turnout inspection areas to determine whether:
 - i. Mainline and yard tracks were inspected at the proper frequency.
 - ii. Inspections were properly documented and noted defects were corrected in a timely manner and tracked until completion.
 3. Review SRTD rail defect reports during the last three (3) years to determine if:
 - a. All mainline tracks were inspected as required by a device capable of detecting internal flaws in the running rails.
 - b. The required inspections were properly documented and noted defects were corrected in a timely manner.
 4. Review SRTD track inspection reports for at least three (3) separate month-long periods during the last three (3) years to determine if:
 - a. All mainline and yard turnouts were inspected as required by on-foot inspection.
 - b. The required inspections were properly documented and noted defects were corrected in a timely manner.
 5. Perform detailed visual and dimensional inspections/measurements of sample sections of mainline track, switches, crossovers, and turnouts to determine if the selected components are in compliance with the SRTD's track standards.
 6. At random, select several basic track maintenance procedures (2 or 3) and observe performance of track maintenance activities to verify that procedures are being followed.

FINDINGS AND RECOMMENDATIONS

Activities:

Inspection records do not reflect any defects or maintenance performed.

Findings:

Results of the field inspections with SRTD indicate that the personnel are either not properly trained and/or are complacent. Lead rail maintenance work manual stated that they do not note defects or minor general maintenance; they just simply fix and move on.

Comments:

Inspection forms must reflect the condition of track. Switch maintenance is not performed correctly. SRTD wayside personnel must ensure that they are filling out and performing the inspections, noting any maintenance and defects found or repaired. SRTD Supervisors must ensure that the tasks are being performed correctly and completely.

Recommendations:

1. CPUC staff recommends that SRTD properly train Supervisors and MOW personnel. Supervisors must ensure that all tasks are being performed correctly and personnel are getting the proper training. Any defects or maintenance performed must be noted on inspection forms. Supervisors should verify that all tasks are performed correctly or determine if training is needed.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	15-E	Element	Training and Certification Programs: Operators, Controllers, and Supervisors
Date of Audit	October 16, 2017 9:00-10:30 Metro Upstairs Conference Room 2700 Academy Way Sacramento	Department(s)	Operations Department
Auditors/ Inspectors	Debbie Dziadzio Richard Fernandez Michael Rose	Persons Contacted	Rob Hoslett 916 826-4182 John Darragh 916 869-8456

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

**Training and Certification Programs:
Operators, Controllers, and Supervisors**

Interview SRTD representative(s) responsible for operations personnel training, certification, and recertification programs, and review appropriate records to determine whether:

1. Employees have completed the initial training program, refresher, and remedial training as necessary.
2. Employees have been certified, and recertified at the required frequency, and currently meet all criteria for proper performance of his or her duties.

Select at least three (3) employees at random in each of the following classifications:

- Train Operator
- Rail Supervisor

Review training, certification, and recertification records of the selected employees to

determine whether:

3. All personnel successfully completed initial training programs, and any discrepancies were addressed and resolved.
4. All personnel have been retrained and recertified at the correct frequency and are currently certified to perform their duties.
5. Verify that, in the SSPP and referenced or supporting procedures, the SRTD has established a program to ensure that employees are qualified to perform their job duties in compliance with established rules and procedures.
6. Through a records review:
 - a. Verify that a process for maintaining and accessing employee training records is in place.
 - b. Verify that categories of safety-related work requiring training and certification have been identified.
 - c. Verify that employee and contractor job classifications requiring initial and refresher training and certification have been identified.
 - d. Verify that SRTD has process is in place to assess compliance with its training and certification requirements.
 - e. Verify that corrective actions taken to discipline employees and contractors for failure to follow established procedures once trained and certified are established and consistent.
7. Review training programs to verify:
 - a. That training records are maintained in both hard copy and soft copy formats.
 - b. That training consists of both classroom and hands-on training.
 - c. Verify that contractor training requirements are specified in contract documents.
 - d. Review documents and verify that requirements are being met.
8. Review training and recertification records for the above employees for the past three (3) years to determine if:
 - a. The employee has completed the initial training program and refresher and remedial training as necessary.
 - b. The course content was appropriate and adequate to meet training and recertification requirements.
 - c. The employee has been recertified at the correct frequency and currently meets the criteria to operate a vehicle or perform maintenance work.
9. Conduct interviews with representatives from the Safety Department to:
 - a. Assess the role of safety in supporting and evaluating the SRTD's training needs and programs.
 - b. Verify that training programs are reviewed and revised as necessary to ensure accuracy and relevance to current operations and maintenance.

FINDINGS AND RECOMMENDATIONS

Activities:

1. Staff randomly selected a minimum five employees from the employee rosters for Train Operators, Rail Supervisors/Controllers, Managers and Supervisors, Wayside, and LRV Maintenance. Staff wanted to confirm all employees had completed the required initial training and were recertified at the correct frequency and currently certified to perform their duties. Also, Staff wanted to ensure that SRTD SSPP and SOPs established procedures to guarantee employees are qualified to perform their job duties in compliance to established rules and procedures.
2. Through records review, Staff verified that employee training records were maintained and easily accessible. They were maintained in both hard and soft copies.
3. Staff learned that the training consisted of both classroom and hands-on training.
4. Staff learned that the Safety Department supports and evaluates SRTD's training program via Internal Audits (that occur once every 3 years), various committees relating to rule book and bulletin/notice reviews and how they will be implemented into the training programs. Staff verified that the training programs are reviewed and revised on an as-needed basis, i.e. when the new Blue Line extension from Meadowview to Cosumnes Stations, new bulletins/notices went into effect and were taught during training.

Findings:

During training records review, Staff found the following instances of:

1. Missing training documentation.
2. Recertification frequency failures.

Supervisors/Managers: LR-SOP-12-200 (recertification on rules every two years recertification)

#432 – No recertification training (1/28/13 – 2/28/17).

#2840 – No recertification training (5/31/14 – 8/17/17)

#2670 – No recertification in correct frequency (1/28/13 – 10/3/17)

#2758 – No recertification in correct frequency (7/24/14 – 3/1/17)

Wayside Employees: LR-SOP-01-425 (recert on rules every two years recert)

- #2265 – No recertification in correct frequency (3/26/14 – 5/3/17)
- #2886 – No recertification in correct frequency (6/8/10 – 5/16/14, 5/16/14 – 8/17/17)
- #2289 – No recertification in correct frequency (5/16/14 – 7/18/17)

LRV Maintenance: LR-SOP-99-030 (recert on rules every 24 months)

- #2678 – No recertification in correct frequency (10/21/13 – 7/13/17)
- #3398 – No recertification in correct frequency (4/26/11 – 8/15/17)
- #3614 – No recertification in correct frequency (11/8/13 – 7/11/17)

LRV Operators: All operators reviewed were in full compliance to all required training and timeline.

Comments:

SRTD must be consistent in their verbiage regarding training requirements, i.e. SOP refers to Recertification or Annual Retraining, the Master Training Record sheet inside each employee training file refers to Refresher or Annual Refresher, the SSPP refers to Certification or Recertification.

Recommendations:

1. SRTD must ensure that all employee training documents are in employee training files.
2. Also, SRTD must ensure all pertinent employees received training in the required frequency as outlined in LR-SOP-12-200, LR-SOP-99-030, and LR-SOP-01-425.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	16	Element	Training and Certification Programs: Employees and Contractors
Date of Audit	October 16, 2017 10:30-12:00 Metro Upstairs Conference Room 2700 Academy Way, Sacramento	Department(s)	Operations Department
Auditors/ Inspectors	Debbie Dziadzio Richard Fernandez Michael Rose	Persons Contacted	Rob Hoslett 916 826-4182 John Darragh 916 869-8456

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Training and Certification Programs: Employees and Contractors

Interview SRTD representative(s) responsible for Wayside and LRV Maintenance Personnel training and certification programs, and review records for at least 3 active employees and 2 active contractors (if applicable) to determine whether:

1. Employees and contractors have completed the initial training program, refresher, and remedial training as necessary.
2. Employees and contractors have been certified, and recertified at the required frequency, and currently meets all criteria for proper performance of his or her duties.
3. Review any rules related to the training and certification program for employees and contractors and determine if they have been updated and distributed to SRTD personnel.
4. Verify that, in the SSPP and referenced or supporting procedures, SRTD has established a program to ensure that employees and contractors are qualified to perform their job duties in compliance with established rules and procedures.
5. Through a records review:

- a. Verify that a process for maintaining and accessing employee and contractor training records is in place.
 - b. Verify that categories of safety-related work requiring training and certification have been identified.
 - c. Verify that employee and contractor job classifications requiring initial and refresher training and certification have been identified.
 - d. Verify that SRTD has a process is in place to assess compliance with its training and certification requirements.
 - e. Verify that corrective actions taken to discipline employees and contractors for failure to follow established procedures once trained and certified are established and consistent.
6. Review training programs to verify:
- a. That training records are maintained in both hard copy and soft copy formats.
 - b. That training consists of both classroom and hands-on training.
 - c. Verify that contractor training requirements are specified in contract documents.
 - d. Review documents and verify that requirements are being met.
7. Randomly select at least three (3) RTA employees in each of the following classification
- a. Track Inspector
 - b. Vehicle Maintainer
 - c. Contractor
8. Review training and recertification records for the above employees for the past three (3) years to determine if:
- a. The employee has completed the initial training program and refresher and remedial training as necessary.
 - b. The course content was appropriate and adequate to meet raining and recertification requirements.
 - c. The employee has been recertified at the correct frequency and currently meets the criteria to operate a vehicle or perform maintenance work.
9. Conduct interviews with representatives from the Safety Department to:
- a. Assess the role of safety in supporting and evaluating the SRTD's training needs and programs. Verify that training programs are reviewed and revised as necessary to ensure accuracy and relevance to current operations and maintenance.
10. Conduct interviews with SRTD training representatives to:
- a. Determine the expertise of the trainer(s).
 - b. Determine the extent and types of training offered.

- c. Determine if budget constraints have prevented training.
- d. Determine how changes to training programs are communicated to the Safety Department prior to their implementation.

FINDINGS AND RECOMMENDATIONS

Activities:

The Contractors referenced in this checklist will be covered in Checklist 13-D.

Through records review, Staff verified that employee training records were maintained and easily accessible. The records were maintained in both hard and soft copies.

Staff learned that the training consisted of both classroom and hands-on training.

Staff learned that the Safety Department supports and evaluates SRTD's training program via Internal Audits (that occur once every 3 years), various committees relating to rule book and bulletin/notice reviews and how they will be implemented into the training programs. Staff verified that the training programs are reviewed and revised on an as-needed basis, i.e. when the new Blue Line extension from Meadowview to Consumnes Stations, new bulletins/notices went into effect and were taught during training.

Staff asked if budget constraints prevented training and were advised YES.

Changes to training programs are communicated to the Safety Department prior to implementation via Rule Book review, HRFLSC.

Findings:

None

Comments:

None

Recommendations:

None

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	17	Element	Configuration Management and Control
Date of Audit	October 17, 2017 1:00 – 2:30 pm Old Administration Conference Room	Department(s)	Engineering
Auditors/ Inspectors	Steve Espinal	Persons Contacted	Eric Oparko 916 275-3244

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD System Safety Program Plan (SSPP) dated January 2017
3. Configuration Management Procedure

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Configuration Management and Control

1. Randomly select two recent SRTD system modifications or changes during the last year to ensure configuration management documentation was properly updated to include at minimum:
 - a. As-Built Drawings;
 - b. As-Built Specifications.
2. Randomly select a Project Concept submitted and verify that:
 - a. Modification and Change Request Forms were used;
 - b. Modification and Change Request Forms were circulated;
 - c. The required review, analysis, and approval of the Modification and Change Request Forms for the project were completed;
 - d. The modification or change was circulated to the proper departments prior to implementation;
 - e. All necessary parties or contract employees within or outside the agency were properly notified of the modification or change.
3. Verify that the SSPP and/or referenced and support procedures provide a description of SRTD's configuration management control process. Verify that this process includes:

- a. the authority to make configuration changes,
 - b. process for making changes, and assurances necessary for all involved departments to be formally notified.
4. Verify the “*Configuration Management Plan*” includes as a minimum the following:
- a. The system’s baseline system configuration process.
 - b. A tracking mechanism for the evolution of the system through its life cycle.
 - c. An Interface process or an attendant “Interface Coordination Document” that defines this process and responsibilities.
 - d. Methods used to track configuration control changes, such as engineering change requests (ECRs), engineering change notices (ECNs), field modification instructions (FMIs), etc.

FINDINGS AND RECOMMENDATIONS

Activities:

Reviewed system wide painting and concrete work.

UTDC Project. LTK and SRTD went through the specifications and determined what needed to be modified to bring the vehicle into compliance and to assimilate them into SRTD service. Siemens was the prime contractor on the project. Light Rail-Reggie Silva, Laura Espinosa and Colleen Elders represented SRTD. Safety Department was involved in the specification review.

- 1) SRTD produced three drawings.
 - a. Reviewed the Watt/I-80 Station Modification CR NO-17 included drawings and plans
 - b. Railyard Improvement Project Initiated at 7th and G Streets included plans.
- 2) Change request forms were both used and circulated, as required.
- 3) SRTD provided Standard Operating Procedures Configuration Management Plan. Every major project must generate as-built CAD drawings.
- 4) Must create construction change orders and request for information, produce a design change notice which ultimately results in a change order.

Findings:

1. The Director of Information Technology doesn’t attend the Change Review Committee Meeting, as stated in the minutes. They must attend these meetings as per the SSPP.
2. Review Committee changes have been documented, however as-builts drawings were never developed for some projects.

Comments:

Should consider using QA to monitor the Safety Department. Quality Assurance should be involved throughout the District.

Tore down a station on 7th and K and rebuilt another station. Opened in October 2016 with no formal Staff Review (7th and K).

Recommendations:

1. The Director of Information Technology must attend the Change Review Committee Meeting as dictated in the SSPP.
2. As-builts must be updated and generated, as needed dictated by the Change Review Committee.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	18	Element	Local, State, and Federal Requirements: Employee Safety Program
Date of Audit	October 10, 2017 1:00 – 2:30 pm 2811 O Street, Sacramento, Ca	Department(s)	Safety
Auditors/ Inspectors	Matt Ames Adam Freeman	Persons Contacted	Rob Hoslett 916 826-4182

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Local, State, and Federal Requirements: Employee Safety Program

Interview personnel and review appropriate records to determine whether:

1. SRTD holds monthly meetings to discuss safety issues.
2. An appropriate procedure and reporting form is being implemented, and is distributed to all employees to effectively report safety hazards in the work place.
3. Required corrective actions have either been satisfactorily completed or are being actively tracked and documented.
4. Verify that the SSPP and referenced/supporting procedures include a description of the safety program for employees and contractors that include applicable local, state, and federal requirements.
5. Verify that SRTD’s employee and contractor safety programs incorporate all elements required by local, state or federal law.
6. Verify that the safety requirements that employees and contractors must follow when working on, or in close proximity to SRTD controlled property, are in place.
7. If SRTD has ever had a problem with complying with local, state, or federal requirements, review past documentation to verify how the issue was handled and resolved by SRTD.
8. Verify construction projects have specific procedures in place to ensure worker

protection and public safety by fostering an awareness and concern for safety on the job site.

9. Verify that implementation of these procedures is the responsibility of the contractor organization performing the work and SRTD.
10. Verify SRTD's operating and maintenance safety rules and procedures are included in construction contracts to bind contractors and employees to fulfilling their roles and responsibilities safely.
11. Verify that SRTD has a process in place for ensuring employees and contractors know and follow safety rules and procedures.
12. Verify appropriate forms of disciplinary action are taken consistently to correct employees and contractors who have not followed established safety rules and procedures.
13. Randomly interview employees and contractor personnel to determine their levels of awareness regarding local, state, and federal laws.
 - e. Are they aware of OSHA Right to Know regulations?
 - f. Are contractors aware of the penalties that may be imposed if they fail to comply with laws and regulations?
14. Conduct field inspections of SRTD facilities to verify basic OSHA or state equivalent requirements are being met (i.e., general housekeeping of maintenance facilities, employee use of PPE, hazardous materials storage and MSDS locations, provision of eye wash stations, first aid kits, and fire extinguishers, provision of fall protection and/or warning systems around maintenance pits, etc.).

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed SRTD personnel responsible for the Employee Safety Program to determine whether the program is being followed in accordance with Local, State & Federal requirements and according to SRTD's SSPP (2017) and IIPP (2009).

1. Staff reviewed 2015, 2016 & 2017 SRTD monthly meetings minutes and corrective action plan related to each reported safety issue identified.
IIPP (2009)-III, B. IBEW representatives are present at safety committee meetings.
ATU Employees may discuss employee safety concerns at labor management meetings.

Safety Committee Meeting - Agendas and Minutes:
2017 – Up to date

2016 – 7/16 missing minutes and SRTD states that no meeting was held
2015 – Up to date

2. SRTD employees have access to SAFE-1 form, this form is currently being updated, it's available online; employees can fill out by hand or online. Completed forms can be submitted to immediate supervisor. Provided SAFE-1 forms submitted in 2015.
3. SAFE-1 forms for 2016 and 2017 were not available. Three SAFE-1 forms from 2015 have no Authority Response (6-22-15, 6-26-15, 11-5-15). SAFE-1 forms discussed and tracked by secretary present at Safety Committee and HRFLSC meetings.
4. IIPP-III, C. Safety Alert Bulletins issued as Safety Newsletter and presented at tool box top meetings.
5. Staff reviewed SRTD's employee and contractor safety program, SRTD added RWP to SSPP, page 69, Employee Safety Program list.
6. Staff verified this is found in the SSPP, page 70, 18.2. LR-SOP-10-018.
7. SRTD has received complaints from OSHA, Safety responding to OSHA complaints (3-26-15, 3-28-15, 6-4-15, 7-3-17, 5-12-17, 6-15-17). Sac County CUPA-Environmental Management Division found defective conditions. Supervisors to receive Title 22 Hazardous Waste training. Training in progress.
8. Periodic safety department inspection specific procedures located in the contract process.
9. Staff reviewed the general safety requirements that are included in each contract. (See 6.35 Safety-6.35.1 General Safety Requirements.)
10. In contract process.
11. Staff verified that the appropriate forms of disciplinary action are taken consistently to correct employee's and contractor's behavior who have not followed established safety rules and procedures. Staff discussed with the SRTD personnel responsible for administering discipline towards employees and

contractors, the disciplinary action consists of a positive discipline program, the first safety rule violation involves a documented coach and counseling, this level of discipline is in effect for a six month probationary period. The disciplinary levels rise with each rule violation.

12. Staff interviewed randomly selected LRV maintenance employees and supervisors observed working in the maintenance facility. The selected employees were aware of all local, state & federal laws requirements.

13. Staff conducted a field inspection of SRTD facilities and verified that basic OSHA requirements are being met with the exception of the warning system placed around pits (see comments below).

Findings:

1. SRTD missed one Safety Committee Meeting during calendar year 2016.
2. SAFE-3 forms not available.
3. Departmental meeting agendas and lists of employees in attendance not available.

Comments:

1. Agendas and Minutes for Safety Committee Meetings and Labor Management Meetings must be stored/filed per SRTD records management procedures.
2. Due to non-compliance with SRTD IIPP, SAFE-1, 2 & 3 process needs to be centrally managed.
3. The process for ATU employees discussing employee safety concerns at labor management meetings is not addressed in the IIPP.

Recommendations:

1. Conduct Safety Committee Meetings per IIPP, Part III-B-1 & 2.
2. Utilize and submit SAFE-3 form per IIPP, Parts: IV-C-5; VI-A-6; VII-A & C.
3. Departments need to submit meeting agendas and lists of employees in attendance to the Safety Department per IIPP, Part III-C.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	19	Element	Hazardous Materials Program
Date of Audit	October 10, 2017 2:30 – 5:00 pm 2811 O Street Sacramento, Ca	Department(s)	Safety
Auditors/ Inspectors	Matt Ames Adam Freeman	Persons Contacted	Rob Hoslett 916 826-4182

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD System Safety Program Plan (SSPP) dated January 2017
3. FM-SOP-06-022, Hazardous Materials Management Program

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Hazardous Materials Program

1. Select at random at least two SRTD employees responsible for handling hazardous materials and verify that they have received specific training for reporting requirements, product release or spill, and spill incident response and clean-up.
2. Verify that hazardous materials discharge/spill reports for incidents in the past 12 months have been prepared and filed properly.
3. Verify that all MSDSs are available to all personnel who handle hazardous materials.
4. Verify that the SSPP and/or referenced and supporting procedures contain a description of the hazardous materials program, including the process to ensure knowledge of and compliance with the program requirements.
5. Review any rules related to SRTD’s hazardous materials program and determine if they have been updated and distributed to SRTD personnel.
6. Verify that a hazardous materials (HazMat) program is documented in a hazardous materials plan or procedure.
7. Verify that the transit agency has developed an OSHA or state equivalent compliant HazMat program (if applicable).
8. Verify that the program includes a process to familiarize the employees with the

hazards presented by materials used in the work place and the Employee Safety Program.

9. Verify the program assigns roles and responsibilities to specific departments and personnel for reviewing and approving materials used or to be purchased and used on transit agency property.
10. Verify that follow-up activities are performed to verify field use of approved materials to ensure that safe and proper use, handling, storage, and disposal methods are employed.
11. Verify that all MSDS are available to all personnel who work with hazardous materials.
12. Interview RTA Safety Department representatives to discuss SRTD's hazardous materials program and the role of the RTA Safety Department in enforcing this program. Be sure to discuss the following:
 - a. The procurement process for insecticides, herbicides, chemicals, and solvents.
 - b. If a MSDS for each hazardous material is on file with the System Safety Department.
 - c. If the approved MSDSs have been entered into an MSDS filing system for tracking.
13. Observe SRTD maintenance personnel working with hazardous materials. Ensure that they follow all applicable rules and procedures. Note any discrepancies.
14. Verify the appropriate personal protective equipment (PPE) is provided and used as required by the MSDS, material manufacturer, and SRTD.

FINDINGS AND RECOMMENDATIONS

Activities:

1. Staff interviewed random SRTD employees who were observed working on the shop floor; these employees are responsible for handling hazardous waste. Staff reviewed at least two randomly selected employees and verified that all the training records were properly recorded, and training was completed in the calendar year 2017. Staff reviewed a power point training presentation that is conducted by the safety specialist.
2. SRTD did not have any reportable spills in the past 12 months.
3. Staff did review a random sampling of chemicals used by employees in the LRV maintenance facility to ensure the most up to date MSDS are available to employees handling such chemicals.
4. Staff reviewed the referenced SSPP related to the hazardous materials program. FM-SOP-06-022.

5. Staff reviewed the shop bulletin board where the most recent rules related to SRTD's hazardous materials program are being updated and provided to SRTD personnel.
6. Staff reviewed Hazmat program.
7. Hazmat program is in compliance with all the required components.
8. Staff reviewed educational training records related to familiarizing employees with the potential hazards related to chemicals/materials used in the work place.
9. Staff verified that the program assigns roles and responsibilities to Safety, the specific department, and they are responsible for reviewing and approving material used or purchased by SRTD.
10. Staff inspected hazardous material storage areas at the LRV maintenance facility and ensured that all hazardous materials are being properly labeled, handled, stored, disposed and/or recycled. See comments below.
11. Staff reviewed random samplings of hazardous material used within the LRV maintenance facility to determine that the most recent MSDS are available to all employees who use such products.
12. Staff interviewed SRTD safety representatives to discuss SRTD's hazardous material program and the role of safety in enforcing the program: A) SRTD has a procurement program; B) 964 approved chemicals, C) Online MSDS filing system.
13. Staff observed LRV maintenance employees wearing the appropriate PPE while performing tasks that involved hazardous materials.
14. PPE is readily available to all SRTD employees who handle hazardous materials.

Findings:

None

Comments:

Eye wash signage was not properly posted inside hazardous material storage containment area outside of the LRV maintenance facility.

Signage at propane tank, storage locker, and outside of the enclosed hazardous material shed has faded or illegible warning labels.

Oxygen and acetylene storage area contains cylinders that are not properly secured.

Recommendations:

None

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	20	Element	Drug and Alcohol Program
Date of Audit	October 19, 2017 1:00 – 2:30 pm O Street East Conference Room	Department(s)	Employee Relations
Auditors/ Inspectors	Matt Ames Steve Espinal	Persons Contacted	Rob Hoslett 916 826-4182 Steve Booth 916 917-1761

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD Rail System Safety Program Plan (SSPP) dated January 2017
3. SRTD Drug and Alcohol Program
4. 49 CFR 655–Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Drug and Alcohol Program

Interview SRTD representatives and review appropriate records prepared in the past 12 months to:

1. Verify that the number of employees in safety-sensitive positions who tested non-negative or refused to take the test was reported accurately.
2. Verify that SRTD has a policy for managing the use of over-the-counter drugs.
3. Select at random at least two safety-sensitive employees who tested non-negative for drugs or alcohol in the past year. Determine whether:
 - a. The employee was evaluated and released to duty by a Substance Abuse Professional (SAP);
 - b. The employee was administered a return-to-duty test with verified negative results;
 - c. Follow-up testing was performed as directed by the SAP according to required follow-up testing frequencies in the reference documents after the employee returned to duty.
4. Verify that the SSPP contains a description of SRTD’s drug and alcohol program

requirements.

5. Verify that SRTD has a drug and alcohol policy and that it is consistent with federal and state requirements.
6. Review any rules related to the SRTD's Drug and Alcohol Program and determine if they have been updated and distributed to SRTD personnel and to contractors.
7. Assess whether the SRTD has ever undergone a federal or state audit of its drug and alcohol program?
 - a. If so, what were the outcomes?
 - b. Have all findings or recommendations been addressed?
8. Review training program curriculums to verify SRTD is training all employees regarding its drug and alcohol policy.
9. Confirm that this information was accurately reported to FTA through the RTA's annual submission to the Drug and Alcohol Management Information System (DAMIS).
10. Interview SRTD Safety Department personnel to verify that they are familiar with the requirements and are implementing the program according to federal standards.
11. Ensure SRTD Safety Department personnel support implementation of the SRTD's post-accident drug and alcohol testing during accident investigations.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed SRTD representatives and reviewed records.

1. Staff verified that the number of employees in safety-sensitive positions who tested positive or refused to take the test were reported accurately. SRTD has approximately 650 employees in safety-sensitive positions.
2. Staff verified that the policy for managing the use of over-the-counter drugs is discussed in the Drug and Alcohol Testing and Rehabilitation policy.
3. Staff selected two safety-sensitive employees who tested positive for drugs or alcohol in the past year. Staff verified that the employees were evaluated and released by the SAP, were administered a return-to-duty test with verified negative results, and follow-up testing was performed as prescribed by the SAP.
4. Staff verified that the SSPP contains a description of the drug and alcohol program. The SSPP covers this program in section 20.0.
5. Staff verified that the drug and alcohol policy is consistent with Federal and State requirements.
6. Staff was informed that when updates are generated to the program, employees

are required to sign for the mailed update. Updates are also provided to each department.

7. Staff received the results from the FTA 2017 annual review. All findings and recommendations from the review have been closed. The review included the policy manual, program manager interview and records management interview. The policy manual review included several updates and wording changes.
8. Staff reviewed the training requirements and records. Safety-sensitive employees are being trained on the drug and alcohol policy.
9. Staff reviewed reports submitted to DAMIS by March 15th of each year. Information was accurately reported.
10. SRTD Safety department personnel are familiar with the drug and alcohol policy and requirements.
11. SRTD Safety department personnel support implementation of the post-accident testing during accident investigations.

Findings:

None.

Comments:

None.

Recommendations:

None.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	21	Element	Procurement Process
Date of Audit	October 17, 2017 10:30-12:00 Old Administration Conference Room 1400 29 th Street Sacramento, Ca	Department(s)	Procurement Services
Auditors/ Inspectors	Mike Borer Adam Freeman	Persons Contacted	Rob Hoslett 916 826-4182 Fernando Barcena 916 524-5777

REFERENCE CRITERIA

1. General Order 164-D
2. SRTD System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Procurement Process

Interview SRTD representatives and review appropriate documentation to:

1. Verify that SRTD personnel are following applicable procurement quality assurance procedures and ensure safety issues and concerns are addressed in the procurement process.
2. Determine that adequate procedures and controls are in place to preclude the introduction of defective or deficient equipment into the SRTD System.
3. Determine that adequate procedures are in place to deal safely with defective or deficient equipment in the event such equipment is introduced into the SRTD System.
4. Verify that the SSPP and any referenced or supporting procedures include a description of the process used by SRTD to ensure that safety issues and concerns are addressed in the procurement process. Ensure that any updated rules relevant to SRTD procurement process are communicated appropriately.
5. Verify that the SSPP contains a description of the basic procurement processes that must be followed by SRTD to assure that safety concerns and issues are addressed.
 - a. Is the procurement process tied to SRTD's hazard management process?
 - b. Are procurements of new equipment and material first reviewed by the safety

- department, engineering, operations, and/or maintenance staff to verify the new equipment or materials won't present a hazard to the existing system?
- c. Do all procurement processes for hazardous materials address all appropriate rules and regulations?
6. Interview Safety Department representatives and have them explain how they work through their procurement process to ensure that safety issues are identified, assessed, and resolved.
 7. Interview SRTD personnel responsible for procurement to verify that they are aware of, and are following, the SRTD's processes to ensure that safety issues and concerns are addressed in the procurement process.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff conducted interviews with Rob Hoslett SRTD system safety and Fernando Barcena from procurement services.

1. Staff verified that procedures are in place for procurement.
2. Staff reviewed SRTD's SOP's for procurement. SOP-14-002 was reviewed dated 07/23/14. SOP-14-002 procedures are in place for the general manager to delegate the authority of procurement to a contracting officer and all procurement activities must follow SOP-14-002. Change orders are implemented into the procurement program to allow consistent purchasing of equipment.
3. Staff reviewed SRTD's Procurement Policy Manual to make sure procedures and controls are in place to address safety issues. PPM section 4.5 (1) (a) gives procurement general terms for specification and descriptions of items to be purchased for quality assurance.
4. Procurement process is sufficiently tied to hazard management. Procurement hazardous materials program is directly reviewed by the safety department. MSDS forms are generated and incorporated into hazard management. New products procured are updated into the MSDS system for all employees to review. Safety reviews of new hazardous materials are mitigated for employee use.
5. Staff reviewed fire extinguisher testing, maintenance, and procurement plan. SRTD does have a contracted plan dated June 2016 for the testing and replacement of fire extinguishers for LRV's and the maintenance buildings.
6. Staff requested training for the required procurement process training. SRTD was not able to produce current training records. Training is required every four years and initially for employees involved in the procurement process. Staff also was made aware that procurement services are understaffed.

Findings:

Documented procurement process training records could not be produced.

Comments:

None

Recommendations:

SRTD must follow the rules and procedures for the procurement policy manual. Training is required every four years for employees involved in the procurement process. New hires initially have to be trained as well.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	22	Element	General Order 172
Date of Audit	October 18, 2017 1:00-5:30 pm Metro Upstairs Conference Room	Department(s)	General Order 172
Auditors/ Inspectors	Debbie Dziadzio Richard Fernandez Michael Rose Matt Ames Steve Espinal	Persons Contacted	Rob Hoslett 916 826-4182 John Darragh 916 869-8456

REFERENCE CRITERIA

1. General Order 172
2. SRTD System Safety Program Plan (SSPP) dated January 2017

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Personal Electronic Devices (PED)

Interview SRTD representatives and review appropriate documentation to:

1. What is the failure rate of in-cab cameras? How many cameras failed in the last three years? Verify that SRTD's recording retention complies with General Order 172?
2. Determine if the SRTD PED procedures adheres to General Order 172?
3. Is SRTD's zero tolerance being enforced?
4. Verify that SRTD has conducted random evaluations regarding PED use as required by General Order 172, Sections 4.3e, 4.5 and 6.2.
5. Determine whether SRTD has developed and implemented a zero-tolerance policy

and program regarding PED usage, as required by General Order 172, Section 5

6. Determine if SRTD is following their PED policy and General Order 172.

FINDINGS AND RECOMMENDATIONS

Activities:

1. Staff interviewed SRTD Maintenance Superintendent and learned that there are 76 LRVs with one in-cab and one forward facing camera at each end of the LRV; this is a total of 152 cameras. Staff reviewed records that showed 8 camera failures occurred on SRTD LRVs since the 2014 Triennial Audit. Video recording and camera equipment is inspected during LRV mileage PMs or when advised by department personnel when failures occur during random video review. Some repairs occur in-house, i.e. DVR repair, lens adjustment, camera replacement. When there is a need for DVRs to be rebooted or when cameras need to be repaired, they go to a vendor. Staff was advised that recording retention for the camera loop is 8 operational days (192 hours (691,200 seconds)).
2. Staff reviewed SRTD LR-SOP-14-101 to ensure SRTD's PED procedures adhere to General Order 172. Random observations are the responsibility of either the Group Supervisor or the Controller.
3. SRTD provided the procedure LR-SOP-14-101 regarding random observations of personnel required by General Order 172. SRTD Supervisors review 86 videos a month. By the end of the year all of the Operators have been subject to review.
4. Staff reviewed SRTD Memo dated 12/20/2011, "Zero Tolerance Policy Governing the use of Personal Electronic Devices", that outlines progressive discipline and reviewed records to determine enforcement.
5. Staff learned random PED observation compliance occurs during Level II Operating Efficiency Testing as per SRTD LR-SOP-12-201. A minimum of 2 Level II Operating Efficiency tests are required per year.
6. Staff reviewed Level II Operating Efficiency Testing for LRV Operators for 2015, 2016, 2017. Staff also reviewed PED compliance observation records for LRV Maintenance employees for 2015, 2016, 2017.

7. Staff reviewed discipline records for 2 employees regarding PED violations and determined that SRTD's Zero Tolerance PED Policy is being enforced.

Findings: LRV Operators 2 times per year.

2015 - 6 records were reviewed and 3 were non-compliant

2016 – 8 records were reviewed and 7 were non-compliant

2017 – 19 records were reviewed and 8 were non-compliant

Comments:

SRTD should ensure that Group Supervisors adhere to SRTD LR-SOP-12-201 requirements.

Recommendations:

Transportation Superintendents need to ensure that Group Supervisors are meeting the minimum Level II requirements for operator PED compliance observations, which are two times per year.

**2017 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR
SACRAMENTO REGIONAL TRANSIT DISTRICT**

Checklist No.	23	Element	General Order 175-A
Date of Audit	October 18, 2017 1:00 – 4:00 pm Wayside Upstairs Conference Room 2750 Academy Way Sacramento Ca	Department(s)	General Order 175
Auditors/ Inspectors	Sal Herrera Matt Ames	Persons Contacted	Rob Hoslett 916 826-4182 Michael Cormiae 916 869-8454
REFERENCE CRITERIA			
<ol style="list-style-type: none"> 1. General Order 164-D 2. SRTD System Safety Program Plan (SSPP) dated January 2017 			
ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION			
<p>Roadway Worker Protection Interview SRTD representatives and review appropriate documentation to:</p> <ol style="list-style-type: none"> 1. Determine whether SRTD’s Roadway Worker Protection procedure adheres to the General Order 175-A. 2. Determine if SRTD is following their procedure and adhering to General Order 175-A. 3. Review near miss program records (including in the SSPP and SRTD’s review (section 10.6)), unsafe acts and right to challenge history and training as well as 24-month retraining. Request a SRTD roadway worker rule book. 4. Witness a job safety briefing if possible and work site for verification. 5. Ask roadway workers if they have a roadway worker rule book. 6. What is the status of on rail movement into the work zone controlled by 			

early warning alarm device (General Order 6.3 d. i.(d))?

7. Have early warning alarm technology been acquired by SRTD as stated in Section 6.3 (f) in General Order 175-A.
8. Review RWP training records and compliance testing (Sections 9.3 and 9.4). Review classroom training material and field training.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed SRTD representatives and reviewed appropriate documentation. Staff reviewed the following documentation: RWP Manual, Near Miss Program, RWP Training Records, RWP Compliance Testing Records and RWP Training material.

1. Staff reviewed the RWP manual, applicable Light Rail Rule Book rules and the SSPP. The manual is titled 'On Track Safety Program'. Staff verified the On-Track Safety Program (OTSP) complies with General Order 175-A. For example, section 5 of General Order 175-A: Job Briefing is covered in the OTSP manual section 8 (a) Roadway workers (b) EIC and incorporates all requirements.
2. Staff verified adherence of OTSP procedures including training compliance.
3. Staff reviewed near-miss program and program records. Near-miss documentation was filed and available for review. Near-miss reports discussed during HRFLSC meetings. No right to challenge forms have been submitted in the past three years. Five 'Right of Way Incident Review/Assessment' forms submitted in the past three years.
4. Staff witnessed several Job Briefings and verified compliance with the OTSP.
5. Staff verified that roadway workers have access to the RWP manual.
6. SRTD requested an implementation deadline extension from the CPUC.
7. Staff was informed that Early Warning Alarm Technology has been acquired and is on-site. Funding for testing has been requested from the FTA.
8. Staff reviewed training records, compliance testing records, class room training and field training programs. Compliance tests are being performed by Supervisors. Compliance testing was performed on average at a rate of 5 per quarter.

Findings:

1. The On-Track Safety Program (RWP Plan) does not provide protections for emergency response personnel.
2. Near-miss program process/procedures not discussed during training.

Comments:

Compliance testing forms must be completely filled out.

OTSP training should discuss location of and procedure to fill out right-to-challenge forms. OTSP training should discuss Section 3 of the OTSP.

Field training portion of the OTSP must be documented and include minimum standards for completion.

Recommendations:

1. The On-track Safety Program must provide protection for emergency response personnel in compliance with General Order 175-A, Part 8: 8.1 & 8.2.
2. Discuss the near-miss program process/procedures during training per General Order 175-A, Part 9: 9.5, k.