2021

TRIENNIAL SAFETY REVIEW OF
SACRAMENTO REGIONAL TRANSIT DISTRICT

RAIL TRANSIT SAFETY BRANCH
RAIL SAFETY DIVISION
CALIFORNIA PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
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Final Report
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2021 TRIENNIAL SAFETY REVIEW OF SACRAMENTO REGIONAL TRANSIT DISTRICT

ACKNOWLEDGEMENT

The California Public Utilities Commission's Rail Transit Safety Branch (RTSB) staff conducted this safety program review. Staff members directly responsible for conducting the review and activities include:

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1. EXECUTIVE SUMMARY

The California Public Utilities Commission's (CPUC or Commission) Rail Safety Division (RSD), Rail Transit Safety Branch (RTSB) staff (Staff) conducted an on-site triennial safety review of the Sacramento Regional Transit District (SRTD) from October 18 through October 29, 2021. Such reviews are conducted for each California rail transit agency every three years and focus on verifying the effective implementation of the current Public Transportation Agency Safety Plan (PTASP) and former System Safety Program Plan (SSPP), as well as SRTD's compliance with State and Federal rules and regulations, and Industry Standards. This report reflects Staff's triennial safety review of SRTD, detailing Staff's investigatory actions, findings, and recommendations. The review revealed areas of non-compliance, as discussed below.

On Monday, October 18, 2021, SRTD personnel and Staff met for an opening conference, which preceded the on-site review activities. The review continued through October 29, 2021. A post-review conference meeting occurred on Thursday, January 13, 2022, with Staff providing SRTD personnel with a summary of all findings, recommendations, and comments. Staff identified 41 findings of non-compliance from this review and issued 41 recommendations for corrective action.

Section 2 (Introduction) of this report provides a summary of the authority under which the CPUC performs triennial reviews and presents a brief chronology of the review. Section 3 (Background) includes a description of SRTD's system. Section 4 (Safety Review Procedure) explains the procedures used by Staff during the Safety Review. Section 5 (Findings and Recommendations) outlines Staff's 41 findings of non-compliance and 41 recommendations, 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, the complete set of the 36 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. [1]

[1] Staff's security review and report, "2021 Triennial Security Review of Sacramento Regional Transit District" is being brought before the Commission concurrently in Resolution ST-247.

2. INTRODUCTION

The Commission's General Order (GO) 164-E, *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' 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 PTASP/SSPP, and to assess their level of compliance with GO 164-E and other Commission and regulatory safety requirements.

Staff conducted the previous SRTD on-site safety review in October 2017. Due to the COVID-19 pandemic which essentially began in the first months of 2020, on-site triennial safety and security reviews were suspended during 2020 until late 2021. Commission authorization for delaying and rescheduling the triennials was issued under Resolution ST-241.

On September 17, 2021, staff emailed a letter to SRTD's Accountable Executive, advising that the Commission's safety review had been scheduled beginning October 18, 2021. The letter included 36 checklists that served as the basis for verification of the effective implementation of SRTD's PTASP/SSPP.

Staff conducted an opening conference on October 18, 2021, with members of SRTD's executive management team, directors, and superintendents. Staff performed the on-site triennial safety review at various SRTD system locations. At the conclusion of each review activity, staff provided SRTD personnel a verbal summary of the preliminary findings and discussed preliminary recommendations for corrective action.

On January 13, 2022, Staff conducted a post-review exit meeting with SRTD's management team. Staff provided attendees with a summary of the review and the findings of non-compliance derived from the 36 checklists used to guide the review and discussed the need for corrective actions where applicable.

3. BACKGROUND

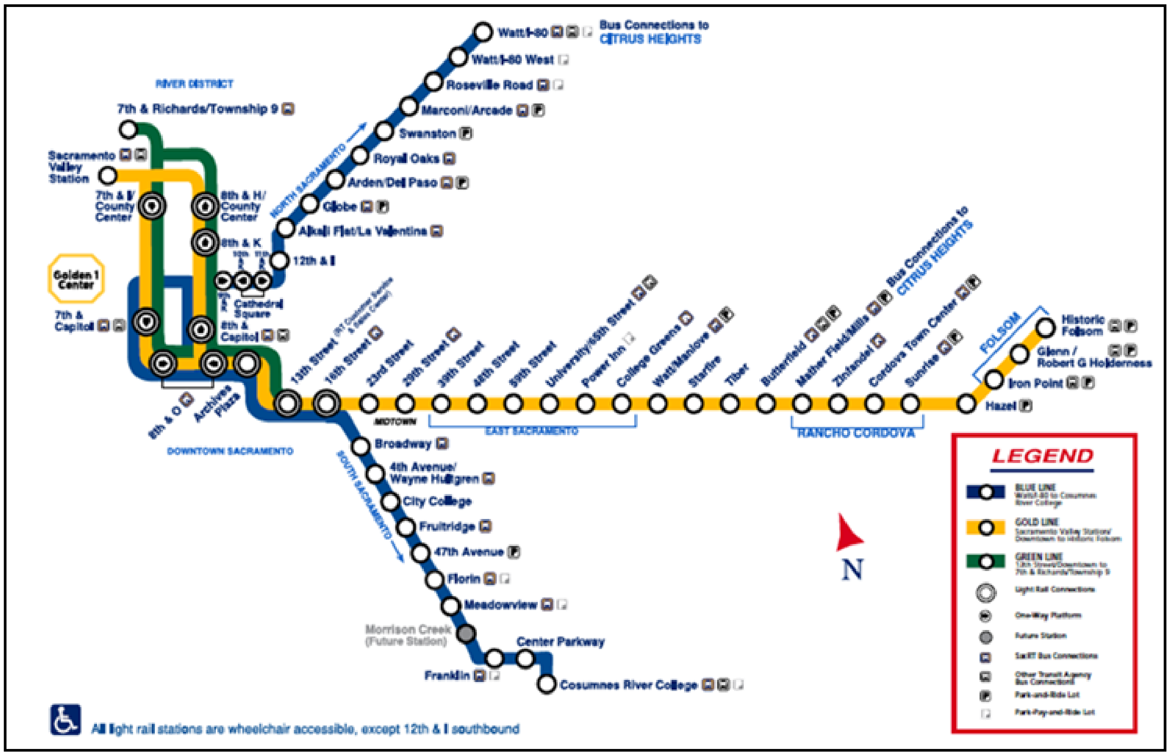
The Sacramento Regional Transit District (SRTD) is the regional transit provider in Sacramento, California. An 11-member Board of Directors governs the Sacramento Regional Transit District (SRTD), comprised of members of the Sacramento, Rancho Cordova, Citrus Heights, Elk Grove, and Folsom City Councils, as well as the Sacramento County Board of Supervisors.

SRTD Rail System

SRTD operates approximately 43 miles of track, covering a 422 square-mile service area with 52 stations. Light rail trains currently operate from 3:53 AM to 12:59 AM daily with service every 15 minutes during the day and every 30 minutes in the evening, on weekends and holidays. In 2020, annual ridership was about 23 million 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 Folsom (Highway 50) corridors with downtown Sacramento. In 1998, SRTD began expanding the light rail system to meet the transportation needs of the Sacramento area. Since then, SRTD completed several light rail expansion projects, 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
- 2015 – 4.3-mile extension of the South Line Project - Phase 2 ending at Consumnes River College



Sacramento Regional Transit District System Map

In late 2005, SRTD changed its light rail systems' 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 Consumnes River College Station in the south.

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

In 2003, SRTD purchased 21 light rail vehicles from the Santa Clara Valley Transportation Authority. SRTD initiated a project to renovate these cars, allowing them to operate on the SRTD light rail system.

Status of the 2017 SRTD Triennial Safety Review Recommendations

Staff performed the previous triennial on-site safety review in 2017. During that review, Staff identified 49 Findings with 46 Recommendations. In CPUC Resolution ST-220, adopted April 25, 2019, the Commission granted approval of Staff's final 2017 SRTD Triennial Safety Review report and its recommendations, ordering SRTD to develop appropriate corrective action plans and an implementation schedule. Resolution ST-220 also ordered SRTD to submit monthly status reports tracking the implementation of these corrective actions through their full completion.

SRTD developed and submitted corrective action plans and an implementation schedule to fulfill each of the recommendations. All of the Corrective Action Plans (CAPs) from the 2017 Triennial Safety Review have been corrected, field verified by Staff, and closed out.

4. SAFETY REVIEW PROCEDURE

Staff conducted the 2021 safety review in accordance with the RTSB Program Standard Procedure RTSB-4, *Procedure for Performing a Triennial On-Site System Safety and Security Reviews of a Rail Transit Agency*. Staff developed 36 checklists to cover various aspects of safety responsibilities, based on Commission and FTA requirements, SRTD's PTASP/SSPP, safety related SRTD documents, and the prior 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 evaluated by reviewing reports and records. The checklists' reference criteria include CPUC GOs, SRTD rules and SOPs, and other documents that establish the safety program requirements. The completed checklists include Staff's findings and recommendations corresponding to non-compliant findings with SRTD's PTASP/SSPP, its procedures, or CPUC regulations. The methods used to perform the review included:

- Discussions and interviews with SRTD's management
- Reviews 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.

5. FINDINGS AND RECOMMENDATIONS

The reviewers who participated in the On-Site Safety Review identified 41 findings of non-compliance and made 41 recommendations to SRTD regarding its safety program and its implementation. The review results are derived from documents reviewed and issues discussed with SRTD personnel.

Following are the findings and recommendations for each checklist:

1. **Policy Statement and Authority for PTASP: Management Involvement & Commitment to Safety**
   No findings of non-compliance; no recommendations.

2. **PTASP Goals & Objectives**
   No findings of non-compliance; no recommendations.

3. **Overview of Management Structure**
   No findings of non-compliance; no recommendations.

4. **PTASP: Control & Update Procedure**
   No findings of non-compliance; no recommendations.

5. **PTASP: Implementation Activities & Responsibilities**
   No findings of non-compliance; no recommendations.

6. **Hazard Management Process**
   No findings of non-compliance; no recommendations.

7. **System Modification**
   Findings:
   1. A1A TPSS – Substation Relocation Project is a proposed system change involving equipment of the Light Rail Transit system. Per SRTD PTASP, Rev 0, dated October 26, 2020, Section 3.4.2.3.1, Control, "proposed system changes involving facilities, equipment/software or other physical plant modifications will be submitted to the Change Review Committee (CRC) for evaluation to ensure safety requirements have been met." Prior to the PTASP requirement, SRTD determined that this project was not a major change to fit, form, or function. Staff finds that the A1A TPSS Relocation Project is not a minor project and should have gone through the CRC process.

   Recommendations:

1. SRTD must ensure the A1A TPSS – Substation Relocation Project is documented through the CRC process as outlined in SRTD PTASP. Per the PTASP, rail system equipment modifications are submitted to the CPUC for review as required. SRTD must also ensure CPUC Staff are involved in the change review process and approval. Since PTASP implementation SRTD updated the CRC process to include most changes to the system. Minor projects and other changes will be included in the CRC process.

8. Safety and Security Certification

Findings:

1. Staff found SRTD non-compliant with GO 164-E, Section 11, Requirements of Safety Certification Plan regarding Dos Rios Station, S700 Siemens LRV Procurement Project, and Gold Line Double Track Project. SRTD did not submit a project specific Safety Certification Plan during the PE phase for Commission approval. SRTD did not follow their Safety Certification Program, SA-SOP-09-006, issued February 23, 2007, for the Dos Rios Station, S700 Siemens LRV Procurement Project, and Gold Line Double Track Project.
2. SRTD Safety Certification Program, SA-SOP-09-006, issued February 23, 2007, has not been updated since 2007.

Recommendations:

1. SRTD must generate a Safety Certification Plan and submit it to CPUC staff for review and approval as required by GO164-E, Section 11 requirements for the Dos Rios Station, S700 Siemens LRV Procurement Project, and Gold Line Double Track Project.
2. SRTD must update their Safety Certification Program, SOP SA-06-009 to assure it is complete and future SCPs are submitted in a timely manner.

9. Safety Data Collection & Analysis

No findings of non-compliance; no recommendations.

10. Event Investigations

No findings of non-compliance; no recommendations.

11. Emergency Management Program

Findings:

1. As noted above during this review, SRTD's exercise dated November 1, 2020, After-Action Report identified multiple recommendations that were not tracked

in SRTD's "Security Recommendations Committee Tracking" matrix. (Refer #2 above).
2. The After-Action Report for October 5, 2019, noted that the exercise had seven (7) recommendations for SRTD to follow up. These were tracked in a matrix documented as "Security Recommendations Committee Tracking". Four (4) of the recommendations were rejected and two (2) of them were accepted while one (1) of them was missing on the matrix. (Refer # 3 above).
3. SRTD HRFLSC meetings for Year 2021 were not conducted due to Covid-19 restrictions. All agencies participating had their own challenges and limitations in attending. The requirement for the HRFLSC meeting was adopted with the PTASP in November 2020.

Recommendations:
1. SRTD must document, track, and follow up on all issued recommendations in an After-Action Report regardless of whether the item is acceptable or not.
2. SRTD must track each recommendation individually to show that each item has been discussed by the committee members and followed upon before closure with supporting documentation.
3. SRTD must conduct meetings (with virtual meetings as an option) in accordance with SRTD PTASP Section 4.10. SRTD is planning to conduct HRFLSC meetings going forward.

12. Internal Safety Audits

Findings:
1. In the past, there were some deficiencies in following the three-year Internal Safety Audit (ISA) schedules, and the 2017 ISA was not conducted, with no report submitted to CPUC.

Recommendations:
1. SRTD must conduct ISAs in full compliance with the requirements specified in CPUC GO 164 series and SRTD SSPP/PTASP including adherence to the three-year internal audit schedule for each audit cycle. SRTD has been conducting ISAs since 2018.

13-A. Rules Compliance: Observation & Enforcement

Findings:
1. LRV Maintenance Compliance Checklist for 9/29/2021 sited no specific rule or procedure on the checklist where it's called for. SRTD Supervision also checked the box for PASS when a corrective action was issued for re-hooking the pit chains for the employee.

Recommendations:
1. LRV Maintenance must notate the rule or procedure on the Compliance

Checklist that they are testing for, and mark the failure box, 'Yes' when the corrective action field is filled out.

13-B. Rules Compliance: Operations Safety Compliance

Findings:

1. SRTD must ensure tools, and/or apparatuses are not left in walkways or where they could cause injury.

Recommendations:

1. Staff verified the finding is closed and was swiftly remedied by SRTD Operations Supervisor #654. The Supervisor also made a note to discuss with facilities where to properly stow the A-Frame Barricade at the Stations.

13-C. Rules Compliance: Hours of Service – Safety Sensitive Employees

Findings:

1. Signal Maintenance Employee 3792 did not fully complete their timesheets and left On Duty, Off Duty and Total Hours Worked lines blank for every month audited.
2. SRTD Signal Maintenance Employees 3902 and 2636 used document correction fluid to correct mistakes on their timesheets for 2 of the months that were audited. Staff did note this trend on several other Hours of Service documents within the small sample that was audited. Use of document correction fluid is a violation of SRTD Department Notice LR-18-011M Documentation Guidelines.

Recommendations:

1. SRTD Signal Management must verify that Employees are completely filling out their timesheets to ensure document control and accuracy of the employee timecards. SRTD addressed the issue with the employee and has determined that there is not a systemic problem.
2. SRTD Management must ensure that Document Correction Fluid is not used on any documents as outlined in SRTD Department Notice LR-18-011M Documentation Guidelines.

13-D. Rules Compliance: Contractor Safety Program

Findings:

1. SRTD failed to conduct any type of monitoring and/or enforcement of SRTD safety rules, policies, or procedures on contractors performing work on their system. Compliance activities were not completed, properly recorded, distributed, nor filed for this or any other contractor work on SRTD Property. This is a violation of General Order 164- E, Section 3.2 r. (i & ii), and General

Order 143-B, Section 13.04. SRTD could not produce any documentation or verification showing compliance oversight for the Morrison Creek Station Project that Staff selected for review. This is a violation of General Order 164-E, Section r. (i & ii), and General Order 143-B, Section 13.04. Similar issues were found during the 2017 Triennial Audit.

Recommendations:

1. SRTD must follow General Order 164-E, Section r. (i & ii), and General Order 143-B, Section 13.04, and ensure SRTD Rules, Policies, and Procedures are being followed by all Contractors performing work on SRTD property. SRTD must complete site inspections and unannounced audits of all contracting work being performed on their property as outlined in General Order 164-E, Section r. (i & ii), and SOPs. SRTD provided 2017 Triennial CAP implementation substantiation in September 2021 and CPUC Staff accepted the information and closed the CAP. The Construction Project Management Manual was updated to include the need for routine and periodic safety inspections.

13-E. Rules Compliance: LR Rules, SOPs, Bulletins, & Notices

No findings of non-compliance; no recommendations.

14-A. Facilities & Equipment Inspections: Non-Revenue Facilities

Findings:

1. Portable Lift and Emergency Generator inspections were not being completed every 90 and 30 days, respectively.
2. Document correction fluid was used on multiple inspection forms. Weekly Hazardous Waste Storage Inspection forms were not being completed per instructions on the form.
3. Safety concerns on monthly inspection forms are not being tracked through resolution. There are multiple forms with housekeeping related items that were noted as having no corrective action.

Recommendations:

1. SRTD must maintain LRV lifts and emergency generators according to procedures.
2. SRTD must follow applicable directions and procedures when completing all forms. SRTD must stop the use of document correction fluid or corrective tape. SRTD has issued corrective actions during the triennial review cycle and improvement has been noted.
3. SRTD must ensure that all discrepancies noted on monthly inspection forms are addressed and identified hazards are tracked through resolution.

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

Findings:

1. Hazards and safety concerns are not corrected in a timely manner. Parking lot lights not working and damaged detectable warning tile identified by SRTD personnel over multiple years have not been repaired.

Recommendations:

1. SRTD must correct hazards and safety concerns in a timely manner. Lighting must be maintained to provide required lumen levels, and damaged detectable warning tiles should be replaced or repaired as needed, in a timely manner.

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

Findings:

1. Rating grade for repair priority between 2019 and 2021 corrective action lists are inconsistent.
2. Structural element condition numeric rating scale used in 2021 inspection was undefined in the report or SOP.
3. Buffalo Creek Culverts is not on Attachment 2 and 3 of SOP as a structure to be inspected.
4. Cathodic Protection inspection and maintenance procedure is not in the SOP.
5. Repair work orders assigned in 2019 remain open at the time of review.
6. Not all repair work order records were available for Staff's review upon request. SRTD was not able to provide Staff with some of the work order records of completed repair.

Recommendations:

1. SRTD must define rating grade for repair priority in SOP section 3.6.
2. SRTD must define structural element numeric condition rating scale in SOP section 3.7. Staff recommends adopting the National Bridge Inventory rating scale.
3. SRTD must add Buffalo Creek Culverts to Attachment 2 and 3 of SOP.
4. SRTD must add a dedicated Cathodic Protection section to their SOP, at minimum, covering the following topics: a list of CP inspection locations; the format of the CP inspection report; test methods and pass/fail criteria (including required potential range); inspection frequency; proper maintenance procedure.
5. SRTD must close the remaining open 2019 repair work orders as soon as possible.
6. SRTD must track work orders related to defect repair on Corrective Action List. Work order records should be available for review.

14-D. <u>Facilities & Equipment Inspections: GO 95 Right-of-Way Compliance</u>

<u>Findings:</u>

1. CPUC noted document correction fluid on an inbound North Line Inspection form dated 6-3-2020.
2. CPUC noted that SRTD does not have a work order system that would allow them to track hazards and safety concerns found during inspections that can't be immediately addressed during normal PMs.

<u>Recommendations:</u>

1. SRTD must follow SRTD Notice #LR-19-004W and CPUC RTSB guidance and eliminate the use of document correction fluid from all official forms.
2. SRTD must track all Hazards and Safety Concerns found during inspections to ensure that discrepancies are corrected in a timely manner.

14-E. <u>Facilities & Equipment Inspections: Grade Crossing Safety Inspections</u>

<u>Findings:</u>

1. CPUC noted that SRTD is not completing the quarterly inspection tests of the cutout circuits throughout the system at grade crossings per LR- SOP-86-408 and CFR 234.

   CPUC noted missing annual inspection for:
   - 2020 at Watt Ped, 2019 at Jackson,

   CPUC noted missing monthly inspection for:
   - 26th St. for February 2019.

   CPUC noted at:
   - Richardson 83N-1.18 - ground wire is missing at case, broken ground warning light, pedestrian swing gate is missing.
   - 12th 753.480T - plans do not reflect track layout conditions for IJ's. IJ is missing end post.
   - roadway 833.778C - ground wire is missing at Cantilever LR-SOP-86-408 and CFR 234
   - 21st 833775G - crossing gong rings but is weak at F4 standard #8.

2. CPUC Staff found the Relay Test at Jackson Rd. Crossing (753513D) track relays "E659TR & E658TR" with testing results out of compliance. The test results on 8/8/2020 for the drop away are lower than the specification on the relays. This test is a requirement of CFR 234 and SRTD LR-SOP-86-408.

<u>Recommendations:</u>

1. SRTD must maintain the system per referenced material for all Preventive Maintenance Inspections, and per 49 CFR 234 and SRTD LR SOP-86-408 requirements.

2. SRTD must retest Jackson Rd. Crossing track relays "E659TR & E658TR" to verify they are in compliance; if not compliance, the relays need to be replaced per 49 CFR 234 and SRTD LR-SOP-86-408.

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

Findings:

1. Staff observed tools without a current calibration sticker or red tag.

Recommendations:

1. SRTD must ensure that all required tools are calibrated on an annual schedule and have a current calibration tag. Required tools without current calibration tags shall be red tagged and removed from service.

15-A. Maintenance Audits and Inspections: Light Rail Vehicles & Non-Revenue Vehicles

Findings:

1. SRTD personnel do not consistently follow maintenance procedures (see Comments). Staff identified multiple defects on LRV's:

LRV 122 –

- A-end tacho-generator leaking at gearbox
- C-truck shock leaking
- B-truck track brake out of adjustment
- Door B3 Stop Request decal faded
- Stand Clear of Doors decals missing (A2, A3, A4, B1, B3)

LRV 107 –

- A-end taillight burnt out

LRV 240 –

- A and B cab Station Entry Speed decal missing from dash
- Door B1 Stop Request decal faded
- Door B4 Emergency Exit decal needs to be replaced

LRV 232 –

- A-end sandbox empty
- A cab windshield dirty
- Door B1 and B2 failed sensitive edge test
- Door B3 sensitive edge not working

LRV 211 –

- A and B cab Station Entry Speed decal missing from dash
- Door B2 sensitive edge not working

- Door A1 light barrier not working

LRV 133 –

- B-end Protran (Roadway Worker Protection) antenna broken
- B-truck track brakes out of adjustment
- B-truck motor bellow torn
- C-truck brake boot torn
- A-truck brake "askubal" boot torn
- B-cab dash fan broken; wires exposed
- Door B3 missing Stand Clear decal
- Door B3 sensitive edge not working
- A-end taillight out
- A, B, and C truck track brakes out of adjustment

2. Multiple mileage-based inspections completed outside the scheduled interval. Daily pre-pullout inspections are missing. Records are not properly documented. CAF 600k inspections have tasks listed as deferred but the inspection forms are signed off as complete with no notations about the deferred work.

3. Major components are not properly and adequately maintained. There are no planned overhaul projects in place for the deferred 600k work.

4. 360-degree beacon on NRV # 181 was not repaired within seven calendar days. NRV # 715 fire extinguisher missing from 4/9/19 – 6/14/21.

Recommendations:

1. SRTD must maintain LRV equipment in a safe proper working condition and consistently follow maintenance procedures.
2. SRTD must complete all LRV inspections on time as described in the SOPs and must follow the instructions on the PM forms to properly document deferred work.
3. SRTD must complete overhaul projects for deferred 600k maintenance.
4. SRTD must repair hi-rail equipment within 7 calendar days per 49 CFR 214.531.

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

Findings:

1. CPUC noted document correction fluid being used on a F2 substation inspection form for September 2021. Reference SRTD Notice # LR-19-004 W.

2. CPUC noted that SRTD has not been routinely conducting level 1 inspections, and level 2 inspections are randomly being missed. These are required per LR-SOP-86-402 and LR-SOP-86-403.

Recommendations:

1. SRTD must follow SRTD Notice # LR-19-004 W.
2. SRTD must follow LR-SOP-86-402 and LR-SOP-86-403 inspection intervals.

15-C. Maintenance Audits and Inspections: Train Control & Signal System

Findings:

1. For all lines/locations, CPUC noted an improper test maintenance procedure. During quarterly switch inspections SRTD personnel conducted an improper test on the M-23 Switch Power Switch Machine per 49 CFR 236.103. On Power Switch 196A, the quarterly passed with the cup gage but when asked by the CPUC to put a ¼" obstruction in the switch point and float the lock rod, the quarterly test failed. Failure indicates the switch didn't meet the ¼' obstruction in the switch points and the point detector rod had to be adjusted.
2. On the Blue Line at S205A & S205B, CPUC Staff found broken bridals of the shunt fouling. Reference LR-SOP-89-406 part c.

Recommendations:

1. SRTD must change their LR-SOP-89-406 part e Point Detector Test to comply with 49 CFR 236.103 requirements. The cup gage is only meant to test a latch out to verify functionality test. The cup gage does simulate a 1/4" obstruction but it does not test any lost motion in the switch, rods, and rail. Per CFR 236.103, "Test should be made with the obstruction gage placed between the stock rail and the switch point, 6 inches from the end of the switch point, to determine proper adjustment and operation." SRTD must ensure that personnel are properly trained to conduct a proper quarterly switch inspection in accordance with 49 CFR 236.103 requirements.
2. SRTD must replace broken fouling wire per LR-SOP-89-406.

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

Findings:

1. Defective tie conditions were noted. (49 CFR 213.109).
2. Multiple quarterly inspections were missing. (LR-SOP-87-413, 49 CFR 213.235B). Monthly Switch inspections are late between 44-60 days late in 2021 (LR-SOP-87-413, 49 CFR 213.235a).

3. Track and Switch inspections are not tracking defective or maintenance items on inspection reports (LR-SOP-87-413). CPUC notes SRTD failing to take proper remedial action for defective conditions found. SRTD failed to provide UT inspection records for 2019-2021 (49 CFR 213.237 (A) (C) & GO 164 E (LR-SOP-87-413).
4. SRTD failed to provide internal rail defect detection records to CPUC Staff.

Recommendations:

1. SRTD must replace defective ties throughout the system to be in-compliance with 49 CFR 213.109.
2. SRTD must follow LR-SOPs, CFRs, and GOs and ensure inspections are being performed properly and in a timely interval.
3. SRTD must make all track, geometry, and UT inspection records available for CPUC Staff review. These records should be kept as a hard copy or digital file (49 CFR 213.237(A) (C), G.O. 164 -E, LR-SOP-87- 413). SRTD provided available UT inspection records, some records were incomplete. During 2020 the UT Contractor was subject to travel restrictions and insufficient personnel due to COVID-19.
4. SRTD must conduct internal rail defect detection inspections as required by 49 CFR Part 213, and provide CPUC Staff with records, including remedial action records.

16-A. Training & Certification Programs: Operators and Transportation Supervisors

No findings of non-compliance; no recommendations.

16-B. Training & Certification Programs: LR Maintenance & Contractors

Findings:

1. Training records for multiple SRTD personnel show they did not receive Respirator, Bloodborne Pathogens, HazCom, or First Aid Training at the frequencies required per FM-SOP-07-025. Records reflect that several employees did not receive initial or refresher training from 2017 to 2020.

Recommendations:

1. SRTD must ensure that all training and recertification training is completed according to policies and procedures. SRTD experienced difficulty in providing training as required due to COVID-19 restrictions.

17. Configuration Management and Control

Findings:

The following finding and recommendation was issued during the 2017 triennial audit.

1. As-builts must be updated and generated as needed, dictated by the Change Review Committee.

Recommendations:

1. SRTD As-Builts must be updated and generated as needed, dictated by the Change Review Committee (from 2017 Triennial Audit Recommendation).

18. Local, State, & Federal Requirements

No findings of non-compliance; no recommendations.

19. Hazardous Materials Program

No findings of non-compliance; no recommendations.

20. Drug and Alcohol Program

No findings of non-compliance; no recommendations.

21. Procurement Process

No findings of non-compliance; no recommendations.

22. General Order 172

No findings of non-compliance; no recommendations.

23. General Order 175-A

No findings of non-compliance; no recommendations.

APPENDICES

APPENDIX A
ABBREVIATIONS & ACRONYMS LIST

Abbreviation / Acronym	**Description**
CAP	Corrective Action Plan
CA MUTCD	California Manual on Uniform Traffic Control Devices
CFR	Code of Federal Regulations
Commission	California Public Utilities Commission
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
LR	Light Rail
OCC	Operations Control Center
PHA	Preliminary Hazard Analysis
PM	Preventive Maintenance
PTASP	Public Transportation Agency Safety Plan
RSD	Rail Safety Division
RTSB	Rail Transit Safety Branch
SCP	Safety Certification Plan
SCVR	Safety Certification Verification Report
SMS	Safety Management System
SOP	Standard Operating Procedure
SSOA	State Safety Oversight Agency
SSP	System Security Plan
SSPP	System Safety Program Plan
Staff	RSD personnel (CPUC)
SRTD	Sacramento Regional Transit District

APPENDIX B
SRTD 2021 TRIENNIAL SAFETY REVIEW CHECKLISTS INDEX

Checklist Number	Element/Characteristic
1	Policy Statement and Authority for PTASP: Management Involvement & Commitment to Safety
2	PTASP Goals & Objectives
3	Overview of Management Structure
4	PTASP: Control & Update Procedure
5	PTASP: Implementation Activities & Responsibilities
6	Hazard Management Process
7	System Modification
8	Safety and Security Certification
9	Safety Data Collection & Analysis
10	Event Investigations
11	Emergency Management Program
12	Internal Safety Audits
13-A	Rules Compliance: Observation & Enforcement
13-B	Rules Compliance: Operations Safety Compliance
13-C	Rules Compliance: Hours of Service – Safety Sensitive Employees
13-D	Rules Compliance: Contractor Safety Program
13-E	Rules Compliance: LR Rules, SOPs, Bulletins, & Notices
14-A	Facilities & Equipment Inspections: Non-Revenue Facilities
14-B	Facilities & Equipment Inspections: Stations and Emergency Equipment

14-C	Facilities & Equipment Inspections: Bridges & Aerial Structures
14-D	Facilities & Equipment Inspections: GO 95 Right-of-Way Compliance
14-E	Facilities & Equipment Inspections: Grade Crossing Safety Inspections
14-F	Facilities & Equipment Inspections: Measurement & Testing Instrumentation
15-A	Maintenance Audits and Inspections: Light Rail Vehicles & Non-Revenue Vehicles
15-B	Maintenance Audits and Inspections: Traction Power System
15-C	Maintenance Audits and Inspections: Train Control & Signal System
15-D	Maintenance Audits and Inspections: Tracks and Turnouts
16-A	Training & Certification Programs: Operators and Transportation Supervisors
16-B	Training & Certification Programs: LR Maintenance & Contractors
17	Configuration Management and Control
18	Local, State, & Federal Requirements
19	Hazardous Materials Program
20	Drug and Alcohol Program
21	Procurement Process
22	General Order 172
23	General Order 175-A

APPENDIX C
SRTD 2021 TRIENNIAL SAFETY REVIEW RECOMMENDATION LIST

No.	Recommendations	Checklist No.
1	SRTD must ensure the A1A TPSS – Substation Relocation Project is documented through the CRC process as outlined in SRTD PTASP. Per the PTASP, rail system equipment modifications are submitted to the CPUC for review as required. SRTD must also ensure CPUC Staff are involved in the change review process and approval. Since PTASP implementation SRTD updated the CRC process to include most changes to the system. Minor projects and other changes will be included in the CRC process.	7
2	SRTD must generate a Safety Certification Plan and submit it to CPUC staff for review and approval as required by GO164-E, Section 11 requirements for the Dos Rios Station, S700 Siemens LRV Procurement Project, and Gold Line Double Track Project.	8
3	SRTD must update their Safety Certification Program, SOP SA-06-009 to assure it is complete and future SCPs are submitted in a timely manner.	8
4	SRTD must document, track, and follow up on all issued recommendations in an After-Action Report regardless of whether the item is acceptable or not.	11
5	SRTD must track each recommendation individually to show that each item has been discussed by the committee members and followed upon before closure with supporting documentation.	11
6	SRTD must conduct meetings (with virtual meetings as an option) in accordance with SRTD PTASP Section 4.10. SRTD is planning to conduct HRFLSC meetings going forward.	11
7	SRTD must conduct ISAs in full compliance with the requirements specified in CPUC GO 164 series and SRTD SSPP/PTASP including adherence to the three-year internal audit schedule for each audit cycle. SRTD has been conducting ISAs since 2018.	12
8	LRV Maintenance must notate the rule or procedure on the Compliance Checklist that they are testing for, and mark the failure box, 'Yes' when the corrective action field is filled out.	13-A
9	Staff verified the finding is closed and was swiftly remedied by SRTD Operations Supervisor #654. The Supervisor also made a note to discuss with facilities where to properly stow the A-Frame Barricade at the Stations.	13-B

10	SRTD Signal Management must verify that Employees are completely filling out their timesheets to ensure document control and accuracy of the employee timecards. SRTD addressed the issue with the employee and has determined that there is not a systemic problem.	13-C
11	SRTD Management must ensure that Document Correction Fluid is not used on any documents as outlined in SRTD Department Notice LR-18-011M Documentation Guidelines.	13-C
12	SRTD must follow General Order 164-E, Section r. (i & ii), and General Order 143-B, Section 13.04, and ensure SRTD Rules, Policies, and Procedures are being followed by all Contractors performing work on SRTD property. SRTD must complete site inspections and unannounced audits of all contracting work being performed on their property as outlined in General Order 164-E, Section r. (i & ii), and SOPs. SRTD provided 2017 Triennial CAP implementation substantiation in September 2021 and CPUC Staff accepted the information and closed the CAP. The Construction Project Management Manual was updated to include the need for routine and periodic safety inspections.	13-D
13	SRTD must maintain LRV lifts and emergency generators according to procedures.	14-A
14	SRTD must follow applicable directions and procedures when completing all forms. SRTD must stop the use of document correction fluid or corrective tape. SRTD has issued corrective actions during the triennial review cycle and improvement has been noted.	14-A
15	SRTD must ensure that all discrepancies noted on monthly inspection forms are addressed and identified hazards are tracked through resolution.	14-A
16	SRTD must correct hazards and safety concerns in a timely manner. Lighting must be maintained to provide required lumen levels, and damaged detectable warning tiles should be replaced or repaired as needed, in a timely manner.	14-B
17	SRTD must define rating grade for repair priority in SOP section 3.6.	14-C
18	SRTD must define structural element numeric condition rating scale in SOP section 3.7. Staff recommends adopting the National Bridge Inventory rating scale.	14-C
19	SRTD must add Buffalo Creek Culverts to Attachment 2 and 3 of SOP.	14-C
20	SRTD must add a dedicated Cathodic Protection section to their SOP, at minimum, covering the following topics: a list of CP inspection locations; the format of the CP inspection report; test methods and pass/fail criteria	14-C

	(including required potential range); inspection frequency; proper maintenance procedure.	
21	SRTD must close the remaining open 2019 repair work orders as soon as possible.	14-C
22	SRTD must track work orders related to defect repair on Corrective Action List. Work order records should be available for review.	14-C
23	SRTD must follow SRTD Notice #LR-19-004W and CPUC RTSB guidance and eliminate the use of document correction fluid from all official forms.	14-D
24	SRTD must track all Hazards and Safety Concerns found during inspections to ensure that discrepancies are corrected in a timely manner.	14-D
25	SRTD must maintain the system per referenced material for all Preventive Maintenance Inspections, and per 49CFR 234 and SRTD LR SOP-86-408 requirements.	14-E
26	SRTD must retest Jackson Rd. Crossing track relays "E659TR & E658TR" to verify they are in compliance; if not compliance, the relays need to be replaced per 49CFR 234 and SRTD LR-SOP-86-408.	14-E
27	SRTD must ensure that all required tools are calibrated on an annual schedule and have a current calibration tag. Required tools without current calibration tags shall be red tagged and removed from service.	14-F
28	SRTD must maintain LRV equipment in a safe proper working condition and consistently follow maintenance procedures.	15-A
29	SRTD must complete all LRV inspections on time as described in the SOPs and must follow the instructions on the PM forms to properly document deferred work.	15-A
30	SRTD must complete overhaul projects for deferred 600k maintenance.	15-A
31	SRTD must repair hi-rail equipment within 7 calendar days per 49CFR 214.531.	15-A
32	SRTD must follow SRTD Notice # LR-19-004 W.	15-B
33	SRTD must follow LR-SOP-86-402 and LR-SOP-86-403 inspection intervals.	15-B
34	SRTD must change their LR-SOP-89-406 part e Point Detector Test to comply with 49CFR 236.103 requirements. The cup gage is only meant to test a latch out to verify functionality test. The cup gage does simulate a 1/4" obstruction but it does not test any lost motion in the switch, rods, and	15-C

	rail. Per CFR 236.103, "Test should be made with the obstruction gage placed between the stock rail and the switch point, 6 inches from the end of the switch point, to determine proper adjustment and operation." SRTD must ensure that personnel are properly trained to conduct a proper quarterly switch inspection in accordance with 49CFR 236.103 requirements.	
35	SRTD must replace broken fouling wire per LR-SOP-89-406.	15-C
36	SRTD must replace defective ties throughout the system to be in-compliance with 49 CFR 213.109.	15-D
37	SRTD must follow LR-SOPs, CFRs, and GOs and ensure inspections are being performed properly and in a timely interval.	15-D
38	SRTD must make all track, geometry, and UT inspection records available for CPUC Staff review. These records should be kept as a hard copy or digital file (49 CFR 213.237(A) (C), G.O. 164 -E, LR-SOP-87- 413). SRTD provided available UT inspection records, some records were incomplete. During 2020 the UT Contractor was subject to travel restrictions and insufficient personnel due to COVID-19.	15-D
39	SRTD must conduct internal rail defect detection inspections as required by 49 CFR Part 213, and provide CPUC Staff with records, including remedial action records.	15-D
40	SRTD must ensure that all training and recertification training is completed according to policies and procedures. SRTD experienced difficulty in providing training as required due to COVID-19 restrictions.	16-B
41	SRTD As-Builts must be updated and generated as needed, dictated by the Change Review Committee (from 2017 Triennial Audit Recommendation).	17

APPENDIX D

SRTD 2021 TRIENNIAL SAFETY REVIEW CHECKLISTS

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**1**	**Element**	**Policy Statement and Authority for Public Transportation Agency Safety Plan (PTASP): Management Involvement and Commitment to Safety**
Date of Review	October 18, 2021 9:15-10:00	**Department(s)**	SRTD General Manager SRTD LR Executive Management
Reviewers/ Inspectors	Daren Gilbert Stephen Artus Mike Borer Sal Herrera Matt Ames	**Persons Contacted**	Henry Li, General Manager & Accountable Executive Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Edna Stanley, VP of Light Rail Operations Stephen McCabe, SR Manager EH & Safety

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, 175-A, & 95
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. SMS Committee Meeting Minutes

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Policy Statement and Authority for PTASP: SRTD Management Involvement and Commitment to Safety -

Interview SRTD General Manager (GM) and Executive Management to determine and discuss:

1. Source, frequency, and depth of safety information provided to Management, whether safety is included as a regular topic at Executive Management (EM) meetings, and how the Safety Department provides reports at EM Meetings.

2. Methods and incentives included in the management performance system to facilitate a safety culture within the organization.
3. Types of formal meetings held and attended by Management to discuss safety performance, such as ongoing evaluation of goals and targets.
4. Management awareness of high priority safety issues related to operations, maintenance, & capital projects for the Light Rail system.
5. Management awareness of the status of corrective actions including those initiated by incidents, hazardous conditions, internal safety & security audits, CPUC triennial reviews, and CPUC inspections.
6. How the Safety Management System (SMS) Committee and Hazard Resolution Fire Life Safety Committee (HRFLSC) reports to Management and provides for their participation in safety activities.
7. Which individuals and departments are involved in making safety decisions and to what degree Management is involved?
8. Scope of Management involvement, coordination, and communication in developing PTASP revisions.

FINDINGS AND RECOMMENDATIONS

<u>Activities:</u>
Staff interviewed the GM/Accountable Executive (AE), Executive Management Team (EMT) members, and Safety department representatives, and determined that:

1. Safety information is provided to the GM and EMT in several formats: biweekly EMT meetings, frequent discussions with the VP of Safety, bimonthly meetings with the Chief safety Officer (CSO) and AE, and monthly SMS Committee Meeting minute distributions. Safety department representatives provide the GM and EMT with descriptions of well-performing and underperforming safety items at the district, statistical updates, and the status of any unacceptable hazards. The GM and EMT are notified of events and provided updates in real time through a web application titled Informa CAST; notifications include accidents, incidents, occurrences, and hazardous situations.

   SMS Committee Meeting minutes present data, statistical analysis (injuries, NTD data, employee, and passenger injuries), and open items requiring corrective action.
2. The SRTD Strategic Plan for the GM and EMT includes extensive safety requirements and goals that are monitored quarterly. The GM holds the EMT accountable to safety requirements and goals. Safety topics are regular agenda items and are discussed at regular meetings as well as during nearly daily informal conversations. Light Rail departments hold personnel accountable to safety rules and policies by conducting field evaluations, observing daily activities, and investigating events. SRTD is

continuously encouraging a safety culture by reporting hazards, improving practices, and performing duties safely.

A Safety Award is presented to field level personnel by the Safety Department as recognition and as an incentive to follow rules, SOPs, and work safely. For example, the Safety Department gives safely performing Operators a patch that can be worn on their uniform.

The SRTD Strategic Plan is reviewed annually and updated as needed.

3. SRTD Management discusses safety performance, requirements, and goals at: Biweekly EMT meetings, monthly SMS Committee Meetings, monthly Safety meetings with Collective Bargaining Units (CBU), monthly workplace violence prevention taskforce meetings, bimonthly CSO & AE meetings, monthly town hall meetings, regular Capitol Project Committee (CPC) meetings, regular Change Review Committee meetings, and monthly Management meetings.
4. SRTD Management is provided information about high priority safety and security issues by Informal CAST and informal discussions. Safety and security issues related to projects are discussed at EMT Meetings where projects are discussed and monitored. CPC project approval lists are discussed during these meetings to allocate funding and address hazards as necessary. The EMT's goal is to address safety and security issues - either by preventing the issues or by taking immediate corrective action.

   Light Rail Management has collaborated with CBUs to promote and facilitate a positive safety culture.
5. Management is made aware of Corrective Action Plans (CAPs) for events, identified hazards, Internal Safety and Security Audit (ISSA) findings, CPUC Triennial Review and Inspection findings during EMT and SMS Committee Meetings. Regular updates are discussed informally and during these meetings.
6. The GM and EMT discuss SMS Committee (formerly known as the HRFLSC) topics at regular meetings. The EMT is held accountable to the SMS Committee's issues, and to the GM for progress in addressing issues. The GM and EMT are accountable for and provide support to Light Rail departments for addressing SMS Committee safety activities.
7. SRTD Management and all personnel are involved in safety decisions. Managers lead safety decisions and attempt to reduce departmental silos. Subject Matter Experts from the Safety Department and all other departments make safety decisions together with support and input from Management.
8. PTASP revisions are requested from the EMT on a continuous basis. EMT members solicit input from their managers and personnel. The Safety department solicits input from departmental trainers, SMS data analysis, departmental Management. The PTASP incorporates by reference departmental level SOP's, Bulletins, and Notices.

<u>Findings:</u>

None.

<u>Comments:</u>
None.

<u>Recommendations:</u>
None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**2**	**Element**	**PTASP Goals and Objectives**
Date of Review	October 18, 2021 9:15-10:00	**Department(s)**	SRTD General Manager SRTD LR Executive Management
Reviewers/ Inspectors	Daren Gilbert Stephen Artus Mike Borer Sal Herrera Matt Ames	**Persons Contacted**	Henry Li, General Manager & Accountable Executive Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Edna Stanley, VP of Light Rail Operations Ronald Forrest, Director, LR Operations Michael Cormiae, Director, LR Maintenance Stephen McCabe, SR Manager EH & Safety

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, 175-A, & 95
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

PTASP Goals and Objectives -

Interview Management and review appropriate records to:

1. Determine how the PTASP goals and objectives are evaluated, documented, and achieved via a reduction in incidents, hazards, rule violations, safety metrics, etc.
2. Determine how safety performance is reported to Management.
3. Determine if Management receives safety information to ensure that the SRTD Light Rail system is meeting its safety goals and objectives. Are rule violations and other key safety metrics being tracked and reported to Management?

FINDINGS AND RECOMMENDATIONS

Activities:
Staff interviewed the GM/AE, EMT members, Light Rail Management, Safety department representatives, and the CPUC Designated Representative and determined that:

1. SRTD's Goals and Objectives contained in the PTASP are evaluated annually based on internal and industry metrics. The year 2021's data is being used as a benchmark for metrics related to future events. Goals and Objectives for Operator Security events are being added to the PTASP. Monthly SMS Committee Meetings discuss and track PTASP Goals and Objectives. The EMT monitors and discusses safety performance. The data shows that reportable accidents have decreased over the past years. Reporting of hazards has increased with recently initiated reporting tools.
2. Safety performance information is provided to the GM, EMT, and Management in several formats: biweekly EMT meetings, frequent discussions with the VP of safety, bimonthly meetings with the Chief safety Officer (CSO) & AE, and monthly SMS Committee meetings with meeting minute distribution.
3. The GM, EMT and Management discuss SMS Committee topics at regular meetings. The EMT is held accountable to SMS Committee issues and progress for addressing them by the GM. The GM and EMT are accountable for and provide support to Light Rail departments for addressing the SMS Committee's safety activities. Management discusses safety goals and objectives at SMS Committee Meetings. SRTD provides the CPUC Designated Representative with safety information reports provided to the GM/AE. These reports demonstrate SRTD's level of compliance with PTASP goals and objectives.

Findings:

None.

Comments:
None.

Recommendations:
None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**3**	**Element**	**Overview of Management Structure**
Date of Review	October 18, 2021 10:00-10:30	**Department(s)**	SRTD General Manager SRTD LR Executive Management
Reviewers/ Inspectors	Daren Gilbert Stephen Artus Mike Borer Sal Herrera Matt Ames	**Persons Contacted**	Henry Li, General Manager & Accountable Executive Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Edna Stanley, VP of Light Rail Operations Ronald Forrest, Director, LR Operations Michael Cormiae, Director, LR Maintenance Stephen McCabe, SR Manager EH & Safety

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, 175-A, & 95
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. SMS Committee/HRFLSC Meeting Agendas and Minutes

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Overview of Management Structure -

Interview Management and review appropriate records to:

1. Discuss the process to integrate safety into 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 program due to limitations in personnel or resources. For example, discuss any difficulties in maintaining schedules for PTASP/SSPP updates, completing Internal Safety and Security Audits, or performing Accident/Incident Investigations.
4. Review SMS Committee/HRFLSC meeting agendas and minutes from the past twelve months to verify that the meetings were held according to the requirements in the PTASP.
5. Determine if the SMS Committee/HRFLSC has personnel resources allocated to support interdepartmental coordination on safety issues and concerns?
6. Ensure that the organization chart accurately depicts both the organization and the organization of the SMS Committee/HRFLSC.

FINDINGS AND RECOMMENDATIONS

Activities:
Staff interviewed the GM/AE, EMT members, Light Rail Management, and Safety department representatives and determined that:

1. Safety is integrated into Light Rail Operations and Maintenance activities, SOPs, daily job briefings, toolbox talks, routine inspections, accident investigations, corrective action plan development, training, after action reports, compliance checks, the SMS Committee, performance evaluations, and data tracking.
2. Operations, Maintenance, and Safety personnel discussed SRTD's current level of effectiveness and how the organization is continuously improving. Many changes have been made in recent years to address safety shortcomings across the organization and programs are beginning to show positive results.
   SRTD provided speeding into stations and 12th street corridor event reduction as examples of safety issues that have been resolved.
   SRTD has also implemented a program to notify Operators of their station entry speed and the locations where non-compliance is the highest. Using GPS tracking data, compliance activities can be targeted. Train station entry speed is greater than 99 percent compliance.

Additionally, SRTD has implemented a program where the number of trespassers and other activities are monitored within the 12th Street corridor to reduce the number of events that occur. The data is used to target enforcement, community outreach, and Operator familiarization activities.

3. SRTD has doubled the number of personnel assigned to the Safety Department in the last few years, added EMT positions accountable to safety programs, added finance personnel, and added Engineering Department personnel to handle aspects of capital projects including safety items. More resources were allocated for the recent pandemic so departments could continue improving safety programs while managing pandemic mitigation efforts. Departments were provided with the resources that were requested during the pandemic. The Safety Department has been continuing to improve SRTD's level of compliance with the CPUC's requirements and has a plan to address outstanding deficiencies.
4. SMS Committee Meetings were held according to the requirements prescribed in the PTASP. HRFLSC Meetings were held according to the requirements prescribed in the SSPP.
5. The SMS Committee/HRFLSC has personnel resources to support interdepartmental coordination on safety issues, reported hazards, identified concerns, and recommended improvements. Each Department provides information, reports data, and participates in the SMS Committee/HRFLSC. Committee meetings discuss open safety item, safety certification tasks, event investigations, corrective action plans, internal safety and security audit elements, and other safety data.
6. The organizational chart depicts the organization accurately and includes members of the SMS Committee/HRFLSC.

Findings:
None.

Comments:
None.

Recommendations:
None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**4**	**Element**	**PTASP: Control and Update Procedure**
Date of Review	October 18, 2021 10:30-11:00	**Department(s)**	SRTD LR Executive Management
Reviewers/ Inspectors	Daren Gilbert Stephen Artus Mike Borer Matt Ames	**Persons Contacted**	Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Edna Stanley, VP of Light Rail Operations Ronald Forrest, Director, LR Operations Michael Cormiae, Director, LR Maintenance Stephen McCabe, SR Manager EH & Safety

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, 175-A, & 95
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. Annual Submittals

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

PTASP: Control and Update Procedure -

Interview Executive Management and review appropriate records to:

1. Ensure that the SMS Committee and HRFLSC understands and is implementing PTASP/SSPP requirements and expectations.
2. Verify that the required annual PTASP/SSPP review process is being implemented according to the approved process specified in the

PTASP/SSPP. Review past correspondence and records for the last 3 years.

3. Review responsibility for PTASP/SSPP reviews and comments and verify PTASP/SSPP reviews and changes progress according to internal timeframes, are comprehensive in scope, and are signed-off by designated personnel.

FINDINGS AND RECOMMENDATIONS

Activities:
Staff interviewed the GM/AE, EMT members, Light Rail Management, and Safety department representatives and determined that:

1. The SMS Committee/HRFLSC maintains a standing agenda and defined expectations. The AE and EMT support and participate in the Committee. Members of the Committee are held accountable and responsible by the AE and other Committee members. The Committee includes members from other departments which include Finance, Risk, Procurement, IT, and Engineering. Required tasks such as corrective actions and investigations are tracked by the Safety Department and implemented by whichever department owns the task.
   Metrics defined in the PTASP are discussed and analyzed by Committee members.
2. Records and correspondence demonstrate that SRTD has been reviewing and submitting the required annual PTASP/SSPP submittals since 2018. The past 12 months are being used to benchmark PTASP metrics to adapt them to the district.
3. PTASP/SSPP reviews, comments, and changes are collected, tracked, and discussed. The annual review is conducted as required and the PTASP is updated as needed. All departments review updates.

Findings:
None.

Comments:
None.

Recommendations:
None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**5**	**Element**	**PTASP: Implementation Activities and Responsibilities**
Date of Review	October 18, 2021 11:00-11:30	**Department(s)**	SRTD LR Executive Management
Reviewers/ Inspectors	Daren Gilbert Stephen Artus Mike Borer Sal Herrera Matt Ames	**Persons Contacted**	Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Edna Stanley, VP of Light Rail Operations Ronald Forrest, Director, LR Operations Michael Cormiae, Director, LR Maintenance Stephen McCabe, SR Manager EH&SS

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, & 175-A
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

PTASP: Implementation Activities and Responsibilities -
Interview Executive Management and the Safety Department, and review appropriate records to:

1. Verify each Manager, Department, and Contractor is charged with responsibility and accountability for PTASP implementation, enforcement, and effectiveness.

2. Identify any challenges each Manager, Department, and Contractor have in performing PTASP or general safety tasks.
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.

FINDINGS AND RECOMMENDATIONS

Activities:
Staff interviewed the GM/AE, EMT members, Light Rail Management, and Safety department representatives and determined that:

1. The PTASTP defines the roles and responsibilities of SRTD positions. The PTASP categorizes positions as Accountable, Responsible, or Aware. Holders of Accountable positions will lead the group assigned to them and are accountable for PTASP implementation, enforcement, and effectiveness. Holders of Responsible positions will carry out PTASP implementation tasks, enforce PTASP requirements, and measure outcomes for PTASP task effectiveness. Holders of Aware positions are required to know which PTASP role they are involved in and how they need to effectively implement PTASP requirements.
2. SRTD has implemented feedback loops into the system to address challenges effectively and timely. For example: safety tasks, processes, and SOPs incorporated by reference in the PTASP are reviewed at will by departments. Changes are made and then submitted for EMT, CBU, the Safety Departments, and other departments' review. Notices and SOPs are reviewed to address challenges in performing safely and are changed as needed.
3. Management is held accountable by the AE. Safety related activities described in the PTASP are tracked by the SMS Committee and provided to the EMT and AE. Any deficiencies found are addressed and monitored until corrected. No serious deficiencies were identified for the time period covered by this triennial review.

Findings:
None.

Comments:
None.

Recommendations:
None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**6**	**Element**	**Hazard Management Process**
Date of Review	October 19, 2021 13:30-14:30	**Department(s)**	LR Operations & LR Maintenance Safety Department
Reviewers/ Inspectors	Noel Takahara Madeline Ocampo	**Persons Contacted**	Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Edna Stanley, VP of Light Rail Operations Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director Stephen McCabe, SR Manager EH&SS

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, 175-A, & 95
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. SA-SOP-00-006 - Rail Accident Investigation Plan (AIP), Revision # 073114-C
7. LR-SOP-86-011T LRT Accident Investigation Procedures
8. LR-SOP-86-017 Derailment Investigation

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Hazard Management Process

Interview specified representatives and review appropriate records to determine whether:

1. SRTD is identifying hazards through the sources described in the PTASP. Sources may include, but are not limited to:
   - Reports and complaints from passengers, field, or management personnel.
   - Data mining of Metro Control Center logs and maintenance systems.
   - Monitoring of bulletins, notices, and speed restrictions.
   - Review of Rules, SOPs, and processes.
   - Reports from operators and supervisors.
   - Review of Unusual Occurrence Reports.
   - Safety statistics reports.
   - Annual internal safety audits.
   - Facility and Equipment inspections.
   - Rules Compliance Program, including results from efficiency testing.
   - Results from CPUC Triennial Reviews and inspections.
   - Results from accident investigations and trend analysis
   - SMS Committee and HRFLSC Meetings.
   - SAFE I Forms
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 hazard(s) to the CPUC and has a specified process for reporting of hazard resolution activities to the CPUC (as required by items (e) and (f) in Section 6 of GO 164-D/E).
4. Identified hazards are being evaluated according to the methods established in the PTASP/SSPP.
5. 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.
6. The Safety Department and the SMS Committee and HRFLSC follows up on outstanding CAPs developed to mitigate or resolve hazards.
7. Request examples of how the Safety Department and the SMS

Committee and HRFLSC followed the process, monitored other departments, and ensured identified hazards were reported.

FINDINGS AND RECOMMENDATIONS

Activities:

1. The SRTD Sr. Manager of Safety stated that hazards are discussed during periodic meetings such as monthly specific labor union meetings or labor management committee meetings that include representatives from the ATU, IBEW, AFSCME, etc. The SRTD Sr. Manager of Safety stated that hazards are also discussed and documented during Safety Management System (SMS) Rail Committee Meetings (RCM). SMSRCMs are required by the SRTD PTASP, chaired by the SRTD Safety Department, and held at least on a quarterly basis.

   SRTD discussed numerous sources reviewed for identifying hazards such as the unusual occurrence reports, collision investigations, worker injury reports, inspections by regulatory agencies (e.g., CPUC, FTA, CalOSHA), and Safe 1 and Safe 2 forms. SRTD described usage of forms: Safe 1 -SRTD employees to report hazards and Safe 2 to report employee job related injuries. Safe 1 reports are currently not being submitted frequently by SRTD employees but SRTD informed Staff that they are encouraging employees to use the forms.

   As of April 2021, the phone application ALERT SACRT provides Safe 1 forms as an option for online reporting. SRTD informed Staff that the phone application is part of a larger project currently taking place to replace paper forms used currently used throughout SRTD divisions and move towards a centralized database with electronic reporting to improve hazard identification and tracking. The project is called IRIS (Integrated Risk Identification System) in the SRTD PTASP (Section 2.1.1) and is expected to provide more reliable and accessible data which should improve trend tracking and analysis. The project is expected to be completed by April 2022.
2. SMSRCM September 2021 Meeting minutes were reviewed which provided data relating to workplace injuries, passenger falls, incidents,

mechanical issues, blocked track locations, signal violations, near misses, trespassing, emergency brake applications, etc. The SRTD Sr. Manager of Safety stated that hazards are tracked by the Safety Department. If a hazard's corrective action cannot be implemented immediately, the hazard is documented, tracked, and status (open/closed) by the SMSRCM in meeting minutes.

3. The SRTD PTASP (Section 2.2.1) states that light rail related safety risks classified as "High" based on Mil Standard 882E will be communicated to the CPUC as soon as reasonably practicable. In addition, the SRTD Sr. Manager of Safety states that hazards are communicated to the CPUC through the SMSRCM. The CPUC is invited to the SMSRCMs, and the meeting minutes are provided to the CPUC.
4. The SRTD PTASP (Section 2.2.1) describes how SRTD assesses identified safety risks based on the Mil Standard 882E. Identified safety risks are assigned a risk assessment code (RAC) based on assessed risk severity and probability. The auditors reviewed the September 2021 SMSRCM minutes and found that the hazards being tracked have been assigned with a RAC.
5. The auditors reviewed the September 2021 SMSRCM minutes and found that CAPs were developed for the identified safety issues, and that each indicates the individual responsible for implementation with a schedule for completion.
6. The auditors reviewed the September 2021 SMSRCM minutes and found that the Safety Department and SMSRCM follows up on outstanding CAPs to mitigate or resolve safety related issues, including hazards. SRTD informed Staff that the purpose of the HRFLSC is to coordinate with outside emergency response or public works agencies, etc. on an annual basis for training and familiarization purposes as required by SRTD PTASP (Section 4.10). SRTD explained that prior to the implementation of the PTASP and SMS, they were holding periodic (quarterly or monthly, etc.) HRFLSC meetings. SRTD further explained that the SMS Committee has taken the place of prior HRFLSC functions as a multi-disciplinary safety committee since the implementation of SMS.
7. SRTD discussed in detail specific examples of how they worked together internally with the safety department and as the SMSRCM to

identify and mitigate hazards. SRTD provided additional documents and reports to show how they worked to improve conditions related to minor rail collisions in the central business district by identifying specific crossings and contributing conditions. The reports show how SRTD mitigated this hazard with CAPs that implemented a structured and documented post-accident retraining of train operators, increased safety risk awareness via periodic radio announcements to the train operators, and improved train operator accountability in preventable collisions. The reports noted a 42% reduction of minor rail collisions in 2020 and a continuation of improved results for 2021. SRTD also described in detail and provided additional documents and reports showing how they worked together to mitigate hazards related to LRV handicap ramps that were causing worker injuries when deploying and stowing. The reports indicated detailed analysis of the issue and indicate that the hazard is being mitigated with improved operator training for the different types of ramps and improved written maintenance procedures and documentation.

Findings:
None.

Comments:
1. SRTD is currently working on a new database and electronic reporting system, the Integrated Risk Identification System (IRIS), which will enhance the safety risk identification process. Although completion of the project appears to be following the PTASP defined schedule for the most part, SRTD informed that implementation of this project has slowed down in part due to shifting priorities with the IT department in dealing with COVID-19 to improve telecommuting capabilities. SRTD should aim to maintain the schedule outlined in the PTASP Section 2.1.1 for completion of the Integrated Risk Identification System (IRIS), or consider revising that section of the PTASP to provide more flexibility with the project schedule.

Recommendations:
None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**7**	**Element**	**System Modification**
Date of Review	October 20, 2021 9:00-10:30	**Department(s)**	LR Operations & LR Maintenance Engineering & Construction QA/Asset Management IT
Reviewers/ Inspectors	Ainsley Kung Steve Espinal	**Persons Contacted**	Sandy Bobek, AVP, Technology, Innovation & Performance Monitoring Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director Craig Norman, Acting Director, Engineering & Construction Eric Oparko, QA/Asset Management Stephen McCabe, SR Manager EH&SS Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Sandy Bobek, AVP of Technology, Innovation, & Performance Monitoring Francine Jimenez, SR Manager Cybersecurity & IT Project Management

REFERENCE CRITERIA

1. General Orders 164-D/E & 143-B

2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. PC-SOP-96-001 – Configuration Management Procedure Revision # 050110-B
7. SA-SOP-06-009 – Safety Certification Program, Dated 11/01/06
8. Configuration Change Request Forms
9. Configuration Management Committee (CMC) agendas and minutes
10. Change Review Committee (CRC) agendas and minutes
11. Rail Activation Committee (RAC) agendas and minutes
12. Project Management Plan
13. PE-SOP-003-2021 – Configuration Management Plan

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

System Modification -

Interview specified representatives and review appropriate records to determine whether:

1. System modification projects addressed safety issues and concerns during all phases of the project with the involvement of other required departments through the process.
2. The Safety Department is involved in assessing/ensuring 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.
3. Select three system modification projects implemented at random:
   a. Verify that this process was consistent with the PTASP and reference document requirements and included an evaluation of potential hazards the modification could pose to the system.
   b. Verify that these hazards were addressed and included an evaluation of potential hazards arising from the proposed modification. (i.e., emails, meeting minutes, signoffs, inspection checklists, etc.).

c. Verify that any changes made because 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 the configuration management process has been followed to address system modifications, and no unauthorized modifications were implemented.

FINDINGS AND RECOMMENDATIONS

Activities:
Staff interviewed SRTD Personnel identified in the System Modification Checklist. As a part of the Change Management Process, the system modification process follows SRTD's Public Transportation Agency Safety Plan (PTASP) Section 3.4.2.
Safety personnel explained the formal process of initiating a change request. The change process is reviewed by the Change Review Committee (CRC) and distributed by the CRC Chair to various departments. After the modification has been reviewed and approved, the Configuration Change Request Form (CCRF) is signed off by the appropriate department Director, Chief of Safety, Manager of Quality and Transit Asset Management (TAM).

Staff asked to review most recent system modification projects within the last three-year period that underwent the change review process. SRTD personnel mentioned several projects such as the Golden One Center Station Modification, TPSS Relocation, and Dos Rios Light Rail Station. SRTD Staff did not have the required documentation on hand but provided the following files via Dropbox Access after the audit meeting:

1. A1A TPSS Relocation Project
    a. Communication – Safety and Security Conformance Certificates
    b. TPSS – Safety and Security Conformance Certificates
2. CR 069-17 Dos Rios LR Station
3. CR 083-18 OP Mod of OCS Signaling Pole
4. CR 100-21 DGS at 9th and O
5. Scope CM Services for Dos Rios DRAFT

After review of these documents, Staff provided the following questions via email to SRTD regarding these documents.

1. "Do you have a signed CCRF for the Dos Rios Project (CR069-17)? Per the Change Review Committee Meeting Minutes on 7/22/2021, this project is out to bid in October 2021. So, a signed CCRF by the department director, Chief of Safety and the MQAT should be available. The one I see in Dropbox is not signed off by them."
2. "For the OCS/Signaling Project (CR083-18), no Cost (ROM) was indicated in the box. Is this the final CCRF signed off by all approving authorities? Per the Configuration Management Plan, "when requesting a CCN, the following must be provided to the MQAT: A. System and Facility, B. Change Title, C. Cost (ROM), Date for completing the change, D. Priority". I just want to make sure I am looking at the latest document."
3. "Do you have the CCRF for the A1A TPSS Substation Relocation Project? I don't see one in the project folder."

SRTD provided their responses to Staff in the document named "CPUC Checklist 7 Follow-Up Questions".

1. "No. Please see the most current Meeting Minutes, Meeting No. 141 from August 26,2021 which was provided in the document package for Checklist 17.
    - Item CR # 069-17 states that the Contract will be out to bid in the next few months. The design review and contract documents completion are still not complete, and the committee has not yet released it for construction yet."
2. "CR # 083-18 OP is an outside Project as annotated by the OP in the CR number. Since this is an outside Project SRTD has no obligation or knowledge of the ROM and therefore box 6. Cost indicates $TBD Design, $TBD construction. SRTD has no financial obligation and outside entities never share the cost with SRTD and we are most interested that the work is done correctly to our standards and that we get the As-built drawings."
3. "No, there is no CCRF for the A1 Project. I wasn't sure that it went through the Process, but I was to check. This Project did not go through the Configuration Control Committee since it was discussed that there

was no change in Fit, Form, or Function. Since it was also an Engineering Project processes are in place for thorough Engineering development, design reviews, and as-built drawings control."

Findings:

1. A1A TPSS – Substation Relocation Project is a proposed system change involving equipment of the Light Rail Transit system. Per SRTD PTASP, Rev 0, dated October 26, 2020, Section 3.4.2.3.1, Control, "proposed system changes involving facilities, equipment/software or other physical plant modifications will be submitted to the Change Review Committee (CRC) for evaluation to ensure safety requirements have been met." Prior to the PTASP requirement, SRTD determined that this project was not a major change to fit, form, or function. Staff finds that the A1A TPSS Relocation Project is not a minor project and should have gone through the CRC process.

Comments:

1. The Revision Log of the Configuration Management Plan, PE-SOP-003-2021, should be updated to reflect actual revision dates. Per SRTD Personnel, the original document of the Configuration Management Plan was issued in 1996, revised in 2006, 2010 and 2021.

Recommendations:

1. SRTD must ensure the A1A TPSS – Substation Relocation Project is documented through the CRC process as outlined in SRTD PTASP. Per the PTASP, rail system equipment modifications are submitted to the CPUC for review as required. SRTD must also ensure CPUC Staff is involved in the change review process and approval. Since PTASP implementation SRTD updated the CRC process to include most changes to the system. Minor projects and other changes will be included in the CRC process.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**8**	**Element**	**Safety and Security Certification**
Date of Review	October 20, 2021 10:30-12:00	**Department(s)**	LR Operations & LR Maintenance Engineering & Construction QA/Asset Management IT
Reviewers/ Inspectors	Ainsley Kung Steve Espinal	**Persons Contacted**	Sandy Bobek, AVP, Technology, Innovation & Performance Monitoring Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director Craig Norman, Acting Director, Engineering & Construction Eric Oparko, QA/Asset Management Stephen McCabe, SR Manager EH&SS

REFERENCE CRITERIA

1. General Orders 164-D/E & 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. SA-SOP-06-009 - Safety Certification Program, Dated 11/01/06
7. PC-SOP-96-001 – Configuration Management Procedure Revision # 050110-B

8. PE-SOP-003-2021 – Configuration Management Plan

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Safety and Security Certification -
Interview the specified representatives involved in the Safety Certification Program (SCP) and review the records for all minor/major projects to determine whether:

1. A formal SCP has been submitted during the Preliminary Engineering (PE) phase and approved by the Commission.
2. Each submitted SCP was consistent with General Order 164-D/E, PTASP, and applicable reference documents.
3. There has been effective communication with CPUC Staff throughout the lives of current and planned projects, including the PE phase.
4. All design and construction changes were properly documented and addressed in the Safety Certification process.
5. All identified hazards have been eliminated or controlled as required under the SCP.
6. All certifiable 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/E.

FINDINGS AND RECOMMENDATIONS

Activities:

1. Staff interviewed SRTD Personnel listed in the Safety and Security Certification Checklist. The latest Safety Certification Program, SA-SOP-06-009, is dated February 23, 2007. Staff requested to review most recent projects were currently going through Safety Certification or had undergone it within the last three-year period. SRTD personnel mentioned several projects, such as Morrison Creek LRT Station, Dos Rios LRT Station, S700 Siemens Light Rail Vehicle (LRV) Procurement, and raising station platforms in the future to accommodate S700 Siemens LRVs. SRTD did not have the required documentation on-

hand during the audit but provided staff with the following files via Drobox Access after the meeting:

015-07 South Line Phase 2 SSCVR
021-08-06 CPUC Notification Letter
021-08-06 SSCVR Morrison Creek Station (Final)
021-10-19 Morrison Creek Exceptions List
SacRT South Line Phase 2 Safety Certification Plan Sep 2011

2. Staff inquired about the SCP being fourteen years old and asked when SRTD would update the program. SRTD indicated that they plan on revising the Safety Certification Program in December 2021, once the CPUC Triennial Audit concludes. They concurred that the Safety Certification Program is outdated, and the Program is currently the Safety Department's priority task after the audit.
3. Staff inquired about S700 Siemens LRV Procurement Project. SRTD informed Staff that they plan on procuring twenty vehicles in the initial order, with the option of purchasing up to seventy-six vehicles. The Preliminary Engineering (PE) phase was this year, and it has concluded. No Safety Certification Plan (SCP) was submitted to CPUC for Commission approval per G.O. 164-E, Section 11, Requirements for Safety Certification Plan. SRTD indicates the CPUC designated representative has been made aware of the pending late SCP submittals, and they have discussed that the SCPs are late and out of compliance. SRTD stated that they plan on submitting an SCP for the S700 Siemens LRV Procurement Project beginning of year 2022.
4. - 6. Since no SCPs were submitted, no responses are documented.

<u>Findings:</u>

1. Staff found SRTD non-compliant with GO 164-E, Section 11, Requirements of Safety Certification Plan regarding Dos Rios Station, S700 Siemens LRV Procurement Project, and Gold Line Double Track Project. SRTD did not submit a project specific Safety Certification Plan during the PE phase for Commission approval. SRTD did not follow their Safety Certification Program, SA-SOP-09-006, issued February 23, 2007, for the Dos Rios Station, S700 Siemens LRV Procurement Project, and Gold Line Double Track Project.

2. SRTD Safety Certification Program, SA-SOP-09-006, issued February 23, 2007, has not been updated since 2007.

Comments:

1. Staff did not review South Line Phase 2 SSCVR documents because the project concluded in July 2015, which is beyond the three-year period of the audit. However, a separate SSCVR addendum was submitted for Morrison Creek Light Rail Station on August 6, 2021. Morrison Creek Light Rail Station was not safety certified in 2015 with the rest of South Line Phase 2 SSCVR due to an adjacent planned housing development delay. The Morrison Creek Light Rail Station SSCVR was an addendum to the South Line Phase 2 SSCVR and covering only the certification elements that were deferred due to the construction delay.
2. All Morrison Creek Station punch list items have been addressed, and the station is in revenue service.
3. Morrison Creek Safety Certification Verification Report was submitted in a timely manner. The station was approved for service in the requisite GO 164-E timeline.

Recommendations:

1. SRTD must generate a Safety Certification Plan and submit it to CPUC staff for review and approval as required by GO164-E, Section 11 requirements for the Dos Rios Station, S700 Siemens LRV Procurement Project, and Gold Line Double Track Project.
2. SRTD must update their Safety Certification Program, SOP SA-06-009 to assure it is complete and future SCPs are submitted in timely a manner.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**9**	**Element**	**Safety Data Collection and Analysis**
Date of Review	October 19, 2021 14:30-15:30	**Department(s)**	LR Operations & LR Maintenance Safety Department
Reviewers/ Inspectors	Noel Takahara Madeline Ocampo	**Persons Contacted**	Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director Stephen McCabe, SR Manager EH&SS Ruby Maciel, Administrative Technician

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, & 175-A
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. MSREHCAP & Form V Submittals

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Safety Data Collection and Analysis -

Interview the specified representatives responsible for safety data collection and analysis, and review the safety data collection and analysis program requirements to determine whether:

1. The data collected includes, at a minimum: information concerning events, employee performance failures, equipment failures, procedural deficiencies, and rules violations.
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 the Hazard Management process, as necessary.
4. The safety data and analyses are made available to all departments for use in planning their safety-related activities and implemented according to the PTASP.
5. Periodic reporting regarding the results of the safety data analysis is provided to Management as appropriate.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed SRTD personnel and noted the following:

1. Data collection is performed by each department, and it is reported at SMS Rail Committee Meetings (RCM). Items reported include efficiency checks and compliance checks, signal violations, trespasser incidents, and near-miss incidents. In Rail Operations, the supervisor does 9 ride checks per month to evaluate train operator performance and rules compliance and verifying that Personal Electronic Devices (PEDs) are stowed. SRTD does three video monitoring compliance checks on all three lines (Blue, Gold, Green) per month. Supervisors monitor compliance in the field with speed checks, time checks, and PED checks. At grade crossings, they observe train operators' compliance with operating rules. If they observe a deficiency, an observation report is submitted which initiates an investigation and corrective action, which may include a retraining component. Train operators can also complete Occurrence Reports for event reporting, which are currently paper based. For Light Rail Operations, they do daily data review of Daily Control Logs (DCL). DCL captures all incident information and provides supervisors with a narrative of revenue

service for that day. The supervisors send the control log to the superintendent, who looks for unusual occurrences, hazards, and train operator violations, and identifies their findings in the control hazard log. The control hazard log is sent to the Light Rail Operations Director who will review it for hazards, security incidents, violations, and equipment issues. After the LR Operations Director's review, SRTD files the log in a database. The control hazard logs are reported to the Safety Department. The Light Rail Operations Director will also coordinate the data collection with Risk Management Department to be sent to the Safety Department for analysis.

In the maintenance departments, compliance checks verify different elements such as on-track safety, electrical safety, monitor for practical drift, and information is reported in accordance with the SMS process. For light rail vehicles there are quarterly rule compliance checks, Lock Out Tag Out (LOTO) checks, weekly inspections, 30K inspections, cleanliness checks, and records are audited. System reliability items such as equipment failures are also tracked.

Overall, every department identifies hazards, and the information is aggregated and sent to Safety Department for SMS tracking. Each department develops their own CAPs, but the Safety Department formats all incoming data in a comprehensive way and ensures that measures identified can reflect whether the corrective action functions as intended. The Safety Department itself is not tasked with making repairs, but rather they facilitate the hazard identification, CAP, and tracking process.

Staff reviewed the 10/12/21 Daily Control Log for the Blue and Green Line, which are currently paper records. Staff also reviewed the "Station Entry Speed Performance Verification" presentation slides, which presents statistical analysis of station entry speed data from August 2019.

2. Every department identifies hazards, and the information is aggregated and reported to inform SMS tracking. The SMSRCM minutes will include safety data such as National Transit Database (NTD) data, system reliability information, worker injuries, lost

days, security-related issues, and trespasser data. Information is centralized but it comes from multiple sources. The plan is for everything to be centralized in the Integrated Risk Identification System (IRIS) database. Until IRIS is fully implemented, all the information is in the SMSRCM minutes. Staff viewed the meeting minutes from the "SMS Rail Committee Meeting" on 9/17/21.

3. The investigation process involves analysis of historical trends. Every time there is an event or incident investigation, historical data is reviewed. SRTD keeps about 15 years of data on liability and outside claims, and similar data on work-related injuries. For rail event collisions or events, SRTD reviews approximately the last five years of data to look for any relevant trends. If they identify a trespasser or Light Rail vs. pedestrian incident, they look at the history of that location, and try to determine whether trends exist, or whether the incident arose from a system-wide issue. If review of data yields no trending, that will not be shared, however it will still be tracked. When identified, trends will be addressed through a CAP. For example, SRTD found a trend of collisions in the downtown area and created a CAP in response, which was provided to relevant departments for their training purposes. Following that, any information about reduction in incidents is shared. For worker injuries, SRTD does trending report every year, including the type of injury, which department, and what mitigation plan is. They work with maintenance groups to reduce injuries, and SRTD compares incident rates with the averages from the bureau of labor statistics (BLS) data for the Standard Industrial Classification (SIC) or North American Industry Classification System (NAICS) code. BLS data is where all OSHA 300 forms get funneled. Staff viewed the "Minor Rail Collisions Corrective Action Plan Review" presentation slides dated March 2021 for the trend of collisions in the downtown area, which notes the corrective actions and reduction in minor rail collisions.
4. SRTD had a corridor with high rate of minor collisions, typically involving the LRV mirrors. A CAP was created to address this, and SRTD worked with the Operations Department and with the city to evaluate how lane width may have been a contributing factor. The

immediate resolution was for SRTD to conduct their own internal training and to continually broadcast a warning to train operators about the corridor via daily bulletins and hourly announcements. The expectation in the daily bulletin is if the train operator (T/O) has compromised clearance, the T/O contact Control and wait for direction. In the long term, the city lane width corrective action is not anticipated to occur until next year. The Manual of Uniform Traffic Code requires a minimum lane width of 10.5′ but a vehicle with a maximum width of 10.5′ lane can potentially strike the LRV. SRTD plans to partner with the city to increase lane width adjacent to their track to a minimum of 11′. Current data shows a 42% reduction of minor rail collisions in 2020. That data was shared with the Light Rail Departments, who distributed it internally so personnel could see the effectiveness. Similar data haring occurred with the trend of ramp injuries. SRTD identified an increase in injuries in employees when deploying the ramps on the LRVs. The data was shared with Light Rail Operations, and they shared it with their personnel, to increase target areas of enforcement. Finally, SRTD uses statistical process control and GPS data for monitoring entry speed in stations, which is available to the train operators who can use the information to self-correct or check their own speed. If the train operator ignores it, they are subject to disciplinary action(s) if Operations Department identifies speeding in a particular location. Staff viewed the document titled "Environmental, Health, and Safety Investigation: SacRT Light Rail Operator Injuries Using LRV Ramps," which describes the analysis of and implementation recommendations for repeated employee injuries related to the elderly and handicap (E&H) ramp on LRVs in 2017.

5. SMSRCM participants include the Vice President of each department, directors, senior managers, representatives from Light Rail Operations, Maintenance Departments, Engineering Department, Risk Management Department, and occasionally Labor Relations and IT staff. The VP of Safety, Security, & Customer Satisfaction (Chief Safety Officer) reports to the other Executive Management Team members (EMTs) in weekly meetings

and the Chief Safety Officer meets with Accountable Executive at least every other week to bring up any issues.

Findings:
None.

Comments:

1. Staff viewed the 10/12/21 Daily Control Log for the Blue and Green Line, which were paper based. Per PTASP Section 2.1.1.3, the Rail Control Log was planned to be converted to electronic reporting in IRIS by August 2021. Staff was also informed that the train operators can complete Occurrence Reports, which are currently paper based. Per PTASP Section 2.1.1.1 and 2.1.1.3, operator event reporting was planned to be converted to electronic reporting in IRIS by August 2021.
   SRTD explained that the implementation of IRIS has slowed down in part due to the IT department shifting priorities during COVID-19 to improve telecommuting capabilities. However, the transition to the IRIS electronic reporting system is in progress. SRTD should revise PTASP Section 2.1.1 "Integrated Risk Identification System (IRIS)" as needed with the updated schedule, including some flexibility in the timeline, for the roll out of IRIS electronic reporting.

Recommendations:
None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**10**	**Element**	**Event Investigations**
Date of Review	October 28, 2021 15:30-16:30	**Department(s)**	LR Operations & LR Maintenance Safety Department
Reviewers/ Inspectors	Jimmy Xia Arun Mehta Steve Espinal	**Persons Contacted**	Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director Jan Mauricio, Safety Specialist II Stephen McCabe, SR Manager EH&SS Chris Hix, Superintendent of Operations

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, & 175-A
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. SA-SOP-00-006 - Rail Accident Investigation Plan (AIP), Revision # 073114-C
7. LR-SOP-86-011T LRT Accident Investigation Procedures
8. LR-SOP-86-017 Derailment Investigation

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Accident/Incident Investigations -

Interview the specified representatives responsible, and randomly select any

CPUC-reportable accidents and/or incidents involving an injury or fatality to determine whether:

1. Accident Investigation Procedures were submitted to and approved by Staff, and are in compliance with General Order (GO) 164-E.
2. All accidents and incidents were reported within two hours of occurrence, as required by GO 164-D/E, Sections 7.1 and 7.2.
3. All immediately reportable accident or incident notifications to CPUC contained all the information required by GO 164-D/E, Section 7.3.
4. All accidents and incidents were investigated in compliance with the requirements of GO 164-D/E, Section 8, and applicable reference criteria.
5. SRTD made Staff aware of investigation activities for Staff's participation in compliance with the requirements of GO 164 D/E, Section 8.3.
6. Video recordings from inward-facing in-cab cameras are reviewed under the required conditions listed in GO 172, Section 4.3.
7. A final report was submitted for each accident or incident according to the requirements in GO 164-D/E.
8. Each final report includes identification of:
    a. All evidence processed during the investigation.
    b. Findings of the most probable cause(s).
    c. Findings of contributory cause(s).
    d. Corrective Action Plans (CAPs) to address the identified causes with the goal of minimizing the probability of recurrence.
    e. A schedule for implementing CAPs (if any), including completion date or plan for monitoring progress on an on-going basis.

FINDINGS AND RECOMMENDATIONS

<u>Activities:</u>

Staff reviewed SRTD's Event Investigations Program and related SOPs and interviewed SRTD representatives present at the audit.

SRTD has not provided a GO 164-E compliant signed official Accident/Event Investigation Procedure (AIP or EIP) to CPUC to date but did provide a draft version which CPUC staff provided comments. SRTD stated they will provide the Final signed version to CPUC by 12/15/2021.

Staff selected at random the following five accidents from years 2018 – 2021 for review:

1. INCT 2018120025: Date of Incident 12/31/2018. This was a train vs pedestrian collision injury accident at a grade crossing. The SRTD investigation and Final Report met all the eight criteria mentioned above, except the Final Report was submitted about 3 weeks late to the CPUC beyond the 60 days limit criteria. SRTD mentioned that a heavy backlog of 60+ incomplete accidents carryover from the previous Safety Management was the likely reason for the delay.
2. INCT 2019080023: Date of Incident 08/22/2019. This was a train vs train collision involving multiple (20+) injuries. The Final Report was submitted about 9+ months late. SRTD blamed (1) heavy backlog of prior incomplete accidents plus (2) waiting for NTSB Investigation to complete, as the reasons for the delay. Staff emphasized the need for completion of the SRTD Investigation and Reporting within the 60-day period per GO 164 E Section 7 and SRTD staff agreed. SRTD did, however, complete Corrective Actions in a timely and diligent manner. The Final Report did satisfy all eight criteria mentioned above in the audit elements.
3. INCT 2019090042: Date of Incident 09/23/2019. This was a LRV vs. Auto collision. The investigation satisfied all the eight elements mentioned above, however, the Final Report was submitted two weeks late.
4. INCT 2020120020: Date of Incident 12/25/2020. This was an LRV vs Trespasser collision resulting in a fatality. The report was submitted on 2/25/21 within the 60-day period and the investigation met all eight elements mentioned above.
5. INCT 2021030003: Date of incident 03/06/2021. This was a LRV vs pedestrian on scooter collision. The report was submitted on 04/12/2021 within the 60-day period and met all eight criteria described above.

<u>Findings:</u>

None.

<u>Comments:</u>

1. SRTD had a heavy backlog of 60+ open/incomplete accidents following the finding during the last Triennial Audit and entering 2018 and beyond. SRTD was late by 2-3 weeks beyond the 60 days deadline in submitting the Final Reports, however, they have made significant improvements since the last triennial and since their Safety Management reshuffle and are currently submitting reports in a timely manner. This is evident in all the accident investigations beyond February 2021, and it is Staff's sincere hope that SRTD will keep up the good work going ahead.
2. The accident investigation reports for INCT Nos. 2020120020 and 2021030003 do not identify date of report completion/submission. A date on the front pages of every final report makes it easier for CPUC to determine whether a report is submitted within the 60 days deadline at a quick glance.

<u>Recommendations:</u>

None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**11**	**Element**	**Emergency Management Program**
Date of Review	October 21, 2021 11:00-12:00	**Department(s)**	LR Operations & LR Maintenance Safety & Security Department
Reviewers/ Inspectors	Rupa Shitole Joey Bigornia Michael Warren	**Persons Contacted**	Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Mark Sakauye, Regional Transit Police Services-Contractor Tino Bamberger, Regional Transit Police Services-Contractor

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, & 175-A
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Security and Emergency Preparedness Program Plan, Version 19-2, Dated 03/20/2019 - SSI
5. Rail Rule Book – Revised: 7/29/2016
6. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
7. SA-SOP-00-006 - Rail Accident Investigation Plan (AIP), Revision # 073114-C
8. LR-SOP-86-011T LRT Accident Investigation Procedures
9. LR-SOP-86-017 Derailment Investigation

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Emergency Management Program

Conduct the necessary interviews regarding emergency planning, training, and drill/exercise program and review appropriate records prepared during the last three years to:

1. Solicit an overview of the process for the emergency planning, training, and drill/exercise program and specific examples of coordination with emergency response agencies on emergency planning and drill/exercises.
2. Verify a drill/exercise schedule has been created and followed and verify emergency responders and other outside agencies participation in emergency planning.
3. Determine when the last drill/exercise was performed and if a post-drill after action report was developed. Was the post-drill action report used to revise SRTD's Emergency Plan and/or procedures? If so, have these corrective actions been implemented with SRTD personnel and emergency responders?
4. Determine if SRTD conducts periodic meetings with sheriff and fire departments in applicable jurisdictions, and that emergency response agency familiarization activities have occurred as scheduled and corrective actions have been implemented.
5. 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.
   c. Randomly select five (5) employees from safety sensitive job classifications and review their emergency response training records to verify who has been trained and that training has been properly documented.

FINDINGS AND RECOMMENDATIONS

<u>Activities:</u>

Staff interviewed SRTD personnel and noted the following:

1. SRTD stated that they have been performing emergency planning, training, exercises/drills for the last three years. This year SRTD enacted a tabletop

exercise, involving three simultaneous scenarios, with leftover FEMA grant funding. Currently, the SRTD Emergency Operations Center (EOC) is being built for future use. SRTD stated that they have recently been the winners of the APTA Security Light Rail Award for 2021.

SRTD works with various cities and local responders to train them on SRTD equipment and facilities in case of emergency response. SRTD is also a part of the Emergency Management in California that has 58 operational areas in reference to Office of Emergency Services (OES).

Staff reviewed SRTD's Continuity of Operations Plan (COOP) dated March 27, 2020. The plan covers both planned and unplanned emergencies: activation, execution, communication, notification, additional resources, and restart of service after disruption.

SRTD also has an Emergency Response and Disaster Recovery for Facilities Program dated 2008 (Procedures to be followed during a Major Earthquake) that was shared with Staff via Drop Box. SRTD shared a list of emergency exercises performed for CYs 2017, 2018, 2019, 2020, and 2021.

2. A list of emergency exercises described below was provided via Drop Box, and reviewed with the following comments:
    - October 5, 2019, Armed Terrorist on Bus and Light Rail, Improvised Explosive Device (IED) on Light Rail Metro Heavy Rail Facility. Staff reviewed the After-Action Report (AAR) and noted that the exercise had seven (7) recommendations for SRTD issued for follow-up. These were tracked in a matrix documented as "Security Recommendations Committee Tracking". Four (4) of the recommendations were rejected and two (2) of them were accepted while one (1) of them was missing on the matrix. The report also included a list of participants present: RT Light Rail, RT Bus, RT Facilities, RT Safety, RT IT, RT SOC, RT Police Services, and FBI Sacramento office.
    - November 1, 2020, Terrorist Attack Exercise (Evacuation of Rio Consumnes Correctional Center) – Staff reviewed the Functional Exercise Plan and the After-Action Report (AAR). Staff noted the AAR included a section for Exercise Feedback including Comments, Lessons Learned, and Recommendations. The report also included a

- list of participants present: RT Light Rail, RT Bus, RT Facilities, RT Safety, RT IT, RT SOC, RT Police Services, Sacramento Police, Sacramento, Sheriff, and RT PIO.
- August 21, 2021, Three Tabletop Exercises at RT Main – Shelter, Care Home Residents, Active Shooter, and Evacuate Iron Man Contestants. The After-Action Report(s) is still in progress.

3. As stated above in 2., the latest drill/exercise was the Ironman Event IED exercise dated August 21, 2021. The After-Action Report is currently being drafted, and not all recommendations are implemented due to funding restrictions or not required for the SRTD system.

   The November 1, 2020, exercise and AAR had multiple recommendations noted. SRTD's tracking matrix shows that only one item for this exercise has been closed, and the other items are not on the tracking matrix.
4. SRTD conducts weekly meetings with Sacramento Police Department and Sergeants, and works with them, the Sacramento Fire Departments, and with external agencies as needed. SRTD has an assigned unit of Sheriff and Police for security and response on their system. There are no formal meeting minutes drafted for meetings between Sacramento Police or Sacramento Fire due to liability reasons. SRTD is working on getting the Police Department and the Fire Department an old LRV to have at their training facility.

   SRTD holds at least annually a Hazard Resolution Fire Life Safety Committee (HRFLSC) meeting to review and coordinate with emergency services, utility companies, and public works to offer On-Track Safety training, system/facility changes, familiarization with accessing and safely working around the SacRT system. SRTD's HRFLSC meeting was not conducted due to Covid-19 restrictions in 2020 & 2021 and all outside agencies participating had their own challenges, such as staff working from home, and in-person attendance limitations. SRTD states the first meeting is scheduled in Spring/Summer 2022 permitting pandemic. HRFLSC meeting minutes dated August 2018, January 2019, and June 2019 were reviewed with no exceptions noted.
5. SRTD provided a few training documents via Drop Box. The training documents consisted of New Employee Orientation and SRTD Police Services for new employees. The following was noted during review:

- March 16, 2020 - New Employee Orientation (NEO) Roaster is missing signature in signature column. Staff received a copy of the NEO roaster via email on 12/9/2021 that still had a few signatures missing.
- February 17, 2020 – New Employee Orientation (NEO) Roaster is missing two (2) signatures in signature column. As per SRTD's email dated November 23, 2021, the missing persons have completed their training as required by SRTD.
- February 18, 2020 - New Employee Orientation (NEO) Roaster is missing a signature in signature column. As per SRTD's email dated November 23, 2021, the missing person has completed their training as required by SRTD.
- RT Police Services NEO and ICS/NIMS/SEMS training Power Point syllabus was reviewed.
- Training records for Safety IIPP Emergency Evacuation Training and Security SEPPP Emergency Response Training for the following employees were reviewed:

Date of Trainings	Employee ID	Title
1/17/2018	4108	Light Rail Vehicle Maintenance Technician
3/2/2018	4135	Light Rail Transportation Supervisor
1/17/2019	4578	Light Rail Vehicle Maintenance Technician
4/2/2021	4923	Light Rail Transportation Supervisor
5/17/2021	4964	Light Rail Vehicle Maintenance Technician

Some training records have been uploaded to SRTD's database, and some are still in hardcopy and soon to be uploaded.

<u>Findings:</u>

1. As noted above during this review, SRTD's exercise dated November 1, 2020, After-Action Report identified multiple recommendations that were not tracked in SRTD's "Security Recommendations Committee Tracking" matrix. (Refer #2 above).

2. The After-Action Report for October 5, 2019, noted that the exercise had seven (7) recommendations for SRTD to follow up. These were tracked in a matrix documented as “Security Recommendations Committee Tracking”. Four (4) of the recommendations were rejected and two (2) of them were accepted while one (1) of them was missing on the matrix. (Refer # 3 above).
3. SRTD HRFLSC meetings for Year 2021 were not conducted due to Covid-19 restrictions. All agencies participating had their own challenges and limitations in attending. The requirement for the HRFLSC meeting was adopted with the PTASP in November 2020.

Comments:

1. Staff noted that the After-Action Report for November 1, 2020, had important emergency response and coordination items that may require updating the SRTD Emergency Response Plan or other plans. Staff also noted repetitive recommendations for some AARs.
2. Per SRTD, the COVID-19 meeting restrictions prevented HRFLSC meetings from beginning in 2021. All agencies that would have participated were already dominated by managing the challenges of maintaining essential services, limiting training, and meeting size.
3. SRTD should make sure all NEO sign-in rosters are complete and signed off. If an employee is not available to take the NEO training, then that should be noted on the sign-in roster. OR a strike through those individuals should be made showing their absence. Refer #5 above.

Recommendations:

1. SRTD must document, track, and follow up on all issued recommendations in an After-Action Report regardless of whether the item is acceptable or not.
2. SRTD must track each recommendation individually to show that each item has been discussed by the committee members and followed upon before closure with supporting documentation.
3. SRTD must conduct meetings (with virtual meetings as an option) in accordance with SRTD PTASP Section 4.10. SRTD is planning to conduct HRFLSC meetings going forward.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**12**	**Element**	**Internal Safety Audits**
Date of Review	October 21, 2021 15:00-16:00	**Department(s)**	LR Operations & LR Maintenance Safety & Security Department
Reviewers/ Inspectors	Jimmy Xia Arun Mehta Steve Espinal	**Persons Contacted**	Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Stephen McCabe, SR Manager EH&SS Jan Mauricio, Safety Specialist II

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, 175-A, & 95
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. SA-SOP-00-006 - Rail Accident Investigation Plan (AIP), Revision # 073114-C

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Internal Safety Audits (ISA)

Interview specified representatives involved in ISAs, 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 were evaluated within a three-year period.

3. Verify CPUC was notified 30 days in advance of the scheduled audit via a letter and/or an email and checklist(s) were provided prior to the audit.
4. Verify each audit identifies the appropriate departments, personnel, the safety/security related activities addressed, and the reference criteria.
5. Verify audits have been properly documented, included references for documents, activities reviewed, criteria for evaluation, and notes to support findings and recommendations.
6. Verify Annual Reports for 2017-2020 are accompanied by a formal letter of certification signed by the Accountable Executive indicating the compliance status with its PTASP/SSPP, and if not in compliance, identifies the activities conducted to achieve compliance.
7. Verify Corrective Actions from the internal safety and security audits were scheduled, tracked, and implemented.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed SRTD representatives involved in ISAs and reviewed records including the following:

- SRTD Internal Annual Rail System Safety Audit Report for the Year 2018
- SRTD Internal Annual Rail System Safety Audit Report for the Year 2019
- SRTD Internal Annual Rail System Safety Audit Report for the Year 2020

Staff determined the following:

1. Every year on or before February 15th, SRTD submits their annual audit report to the CPUC, which includes the schedule for the respective three-year ISA cycle as required per GO 164.
    - SRTD Internal Annual Audit Report for the Year 2018, Appendix C, has the three-year ISA schedule for 2017 – 2019. This report was submitted to the CPUC on 2/15/19.

- SRTD Internal Annual Audit Report for the Year 2019, Appendix C, has the three-year ISA schedule for 2020 – 2022. This report was submitted to the CPUC on 2/15/20.

2. Staff verified that SRTD is conducting ISAs to evaluate all 21 SSPP elements within the three-year cycle.
   However, there were no ISAs performed in 2017; the elements from 2017 were shifted into the 2018 and 2019 ISAs. SRTD completed twelve audit checklists covering 12 elements all conducted in December 2018. In 2019, they completed nine audit checklists covering the remaining 9 elements of the 2017-2019 cycle, conducted in January and February 2020. In 2020, due to the COVID-19 pandemic, SRTD managed to complete seven audit checklists remotely, which covered 5 elements. These seven audits were conducted in December 2020 and January 2021.
   Staff's opinion is SRTD rushed audits conducted within the past four years. Therefore, staff highly recommend that SRTD should plan the ISAs properly and schedule the audits more evenly throughout each year instead of during the early or later part of the year in a timely manner.
3. Staff verified that SRTD notifies CPUC 30 days in advance of every scheduled audit and provide the associated checklist(s) to CPUC prior to the audit.
4. Staff verified that each audit identifies the appropriate departments, personnel, the safety/security related activities addressed, and the reference criteria as documented on each audit checklist.
5. Staff verified that audits have been properly documented in the three annual ISA reports that staff reviewed, which included references for documents, activities reviewed, criteria for evaluation, and notes to support findings and recommendations.
6. The 2017 ISA was not conducted; therefore the 2017 ISA report was not submitted with a signed cover letter by SRTD GM/CEO. The annual ISA reports for Year 2018-2020, are accompanied by a formal certification letter signed by SRTD GM/CEO indicating the compliance status with its SSPP/PTASP.
7. SRTD utilizes the SMS committee for light rail, which tracks all SRTD's corrective actions, including those that resulted from ISAs. All their

corrective actions are sorted by the source. Corrective action plans that resulted from event investigations, triennial audits, and ISAs are maintained separately. The final ISA reports for Years 2018-2020 with approved recommendations and action plans have been provided to all concerned departments for implementation.

Findings:

1. In the past, there were some deficiencies in following the three-year Internal Safety Audit (ISA) schedules, and the 2017 ISA was not conducted, with no report submitted to CPUC.

Comments:

1. SRTD should plan and conduct annual internal safety audits evenly throughout the year, rather than squeezing all the audits in during a 1–2-week period of the year. CPUC recommends that SRTD should attempt to evenly distribute and conduct all ISA elements over three years. The goal should be to conduct ISAs by the most effective method.

Recommendations:

1. SRTD must conduct ISAs in full compliance with the requirements specified in CPUC GO 164 series and SRTD SSPP/PTASP including adherence to the three-year internal audit schedule for each audit cycle. SRTD has been conducting ISAs since 2018.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**13-A**	**Element**	**Rules & Procedures Compliance: Observation and Enforcement**
Date of Review	October 21, 2021 13:30-15:00	**Department(s)**	LR Operations & LR Maintenance
Reviewers/ Inspectors	Michael Rose Richard Fernandez	**Persons Contacted**	Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Edna Stanley, VP of Light Rail Operations Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director Jason Coveau, LR Wayside Superintendent Stephen McCabe, SR Manager EH&SS

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, & 172
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. FM-SOP-04-008 – Injury and Illness Prevention Program
7. LR-SOP-12-201 – Revision # 052318-B – LR Operator Efficiency Testing & Video Based Enforcement & Monitoring Program
8. LR-SOP-16-304 Rules and Procedures Compliance Inspections
9. On Track Safety Program – Version # 2016031401, 2018091801, 5-7-19, & 6-17-20

10. LR-SOP-18-430 Secondary Personal Alert Device
11. LR-SOP-20-101 Authorization to Exceed Yard Speed on the Yard Lead Track
12. LR-SOP-19-001 - Extra Car Consist on the Mainline
13. LR-SOP-19-002 Metro LR Supervisor Coverage and On-Duty Documentation Procedure
14. LR-SOP-14-101 In-Cab Camera Recording Review
15. LR-SOP-99-030 LR Vehicle Operator Training

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules & Procedures Compliance: Observation and Enforcement

Interview the specified representatives who perform field observation and review appropriate records to:

1. Verify that Transportation Superintendents and Supervisors perform and record rules compliance tests and formal observations of Operators, as specified in the PTASP and/or referenced supporting procedures.
2. Verify that Operations and Maintenance Personnel are checked for compliance with rules and procedures, as specified in the PTASP and/or referenced supporting procedures.
3. Verify that Supervisory Personnel evaluations are conducted as specified in the PTASP.
4. Determine if corrective actions identified for accidents caused by failures to comply with rules and procedures were implemented.
5. Determine how Light Rail Personnel perform rules checks, efficiency testing, and evaluations of Operations and Maintenance Personnel and verify corrective actions were identified and implemented for rules and procedures violations.
6. Verify if the Safety Department and the SMS Committee receive reports from LR Operations and Maintenance Departments regarding the performance of rules checks, efficiency testing, and evaluations.
7. Determine if hazards and safety concerns identified during rules checks, efficiency testing, and evaluations of Operations and Maintenance Personnel are reported to the Safety Department and

the SMS Committee and are incorporated into the hazard management process.

FINDINGS AND RECOMMENDATIONS

Activities:

1. SRTD Transportation Superintendents and Supervisors perform, and record rules compliance tests and formal observations of Operators monthly, and consistently meet their target goals. Operations Supervisors are required to conduct a total of 12 rule compliance checks and 3 video compliance checks per month.
   CPUC Staff reviewed the Operator Efficiency Testing and Video Monitoring Sheet for October, the Supervisor Operating Evaluation Sheet dated October 4, 2021, and the LR Supervisor's Daily Field Report dated October 19, 2021. SRTD's Operations Director ensures that all shifts are covered in the observations and all compliance testing and observation quotas are met for each month in accordance with LR-SOP-12-201.
2. As stated above, the SRTD Operations utilizes Operator Efficiency Testing and Video Monitoring, Supervisor Operating Evaluations, and the LR Supervisor's Daily Field Report for compliance recording. SRTD Wayside uses an audit evaluation card for each of its supervisors requiring four (4) per quarter to utilize compliance in the field for On Track Safety SRTD's roadway worker protection (RWP) program. SRTD LRV Maintenance uses compliance checks in the yard and shops for its employees.
3. The SRTD Director reviews Daily Controller Logs, Daily Field Reports, Operator Efficiency Testing and Video Monitoring, Supervisor Operating Evaluations, and discussions with Supervisors. This ensures that the targeted training for deficiencies in supervision meets the standards outlined in the PTASP.
   SRTD Maintenance has no evaluation form or testing requirements for supervision.
4. SRTD Operations and Maintenance explained to CPUC Staff how a Corrective Action Plan from each group applied to an accident in each department. Operations discussed a street running issue of a narrowed

city street causing collisions between LRV's and vehicular mirrors. The Operations group worked with System Safety to have Operators stop and call for a supervisor for direction and the City of Sacramento to have the street widened to the Regulated 11½ feet.

SRTD Maintenance discussed the corrective action plan resulting from the LRV vs LRV mainline collision of 2019. SRTD instituted a directive that there shall be no mainline LRV testing while revenue LRV's occupy the mainline.

5. For Operations CPUC Staff reviewed:

   Operator Efficiency Testing and Video Monitoring Sheet for October 2021, Supervisor Operating Evaluation Sheet October 4, 2021, and LR Supervisor's Daily Field Report for October 19,2021. Operation Supervision has met their Efficiency Goals every month and have exceeded the expectation requirements throughout the year.

   For Maintenance Wayside, CPUC Staff reviewed:

   Staff reviewed On Track Safety Audit Forms for years 2018-2021 for Wayside. Wayside conducts 12 audits (Efficiency Testing of Wayside Employees), per year with four Supervisors equaling one per quarter. Wayside conducts a minimal degree of auditing and does not do more than one audit per Supervisor per quarter. Wayside Audits have only yielded a PPE violation to which, the CAP was a coaching for the employee in the field.

   For LRV Maintenance, CPUC Staff reviewed 2019 Efficiency testing for employees. LRV Maintenance achieved their testing goals and had findings that were mitigated through the CAP process or by coaching the individual for a minor infraction. CPUC Staff noted that an efficiency test conducted showed no rule infractions, but the CAP was filled out on the form for the safety chain protecting the pits to be put back in their place. Not rehanging the pit chains would be a rule infraction. CPUC also notated that specific rules were not identified on efficiency testing sheets where it specifically asks for what rule is being tested. CPUC Staff reviewed video of LRV Maintenance workers aboard an LRV on the mainline in 2019, where a video was flagged for possible violation. Upon review, no rule infractions were identified and there was a communication error on how the video review process was originally written. It has since been corrected.

6. CPUC Staff reviewed the SMS Rail Committee Meeting minutes from September 2021. The minutes verified that the Committee receives reports on the performance of rules checks, efficiency testing and evaluations from the LR Operations and Maintenance Departments. The Safety Department is also represented on the SMS Rail Committee.
7. In the Monthly SMS Rail Committee Meeting minutes from September 2021, SRTD utilizes the SMS Hazard Management Process with graphs and charts showing all safety concerns and levels of severity to prioritize the highest safety risk for mitigation. SRTD has created a phone and computer application, Alert SacRT, that allows all employees to report a hazard directly to safety. Employees have the option of leaving their employee ID number or remaining anonymous, while still following the mitigation process.

Findings and Recommendations for Wayside rules checks, efficiency testing, and evaluations are included in Checklist 23.

Findings:

1. LRV Maintenance Compliance Checklist for 9/29/2021 sited no specific rule or procedure on the checklist where it's called for. SRTD Supervision also checked the box for PASS when a corrective action was issued for re-hooking the pit chains for the employee.

Comments:

1. SRTD is effective in enacting the SMS Hazard Management Process by including all departments (Operations, Maintenance, Safety and Outside Agencies) in a committee approach to mitigate risks.

Recommendations:

1. LRV Maintenance must notate the rule or procedure on the Compliance Checklist that they are testing for, and mark the failure box, Yes' when the corrective action field is filled out.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**13-B**	**Element**	**Rules Compliance: Operations Safety Compliance**
Date of Review	October 22, 2021 11:00-12:00	**Department(s)**	LR Operations & LR Maintenance
Reviewers/ Inspectors	Michael Rose Richard Fernandez	**Persons Contacted**	Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Edna Stanley, VP of Light Rail Operations Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director Jason Coveau, LR Wayside Superintendent George Kirbyson, LRV Maintenance Superintendent

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, & 175-A
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. FM-SOP-04-008 – Injury and Illness Prevention Program
7. LR-SOP-12-201 – Revision # 052318-B – LR Operator Efficiency Testing & Video Based Enforcement & Monitoring Program
8. LR-SOP-86-400 RT Storage Yards and Shop Power Red Tag Procedures
9. LR-SOP-86-401 Mainline Substation Red Tag Procedure

10. LR-SOP-01-425 Lineworker Safety Certification
11. LR-SOP-01-426 Rail Maintenance Worker Safety Certification
12. LR-SOP-14-302 Blue Flag Procedure
13. LR-SOP-18-311 Vehicle Maint. Shop Power, Lock Out, and Red Tag Procedures
14. LR-SOP-19-314 Procedure to Stage & Lock Stored LRVs at Remote Storage Locations
15. LR-SOP-19-316 Fall Protection
16. On Track Safety Program – Version # 2016031401, 2018091801, 5-7-19, & 6-17-20
17. LR-SOP-18-430 Secondary Personal Alert Device
18. LR-SOP-20-101 Authorization to Exceed Yard Speed on the Yard Lead Track
19. LR-SOP-19-01 - Extra Car Consist on the Mainline
20. LR-SOP-19-002 Metro LR Supervisor Coverage and On-Duty Documentation Procedure
21. LR-SOP-14-101 In-Cab Camera Recording Review
22. LR-SOP-86-014 Track Warrant
23. LR-SOP-86-015 Switch Operation
24. LR-SOP-86-018 Protection of MOW
25. LR-SOP-89-022 Operation of Tail Track
26. LR-SOP-86-009 Dispatch-Control
27. LR-SOP-86-012 Manual Block System
28. LR-SOP-86-013 Signal By-Pass

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance: Operations Safety Compliance

Interview the specified representatives, review appropriate records, perform field observations of a random sample of LR Operations and Maintenance Personnel, and review documentation as necessary to determine whether:

1. LRV Maintenance Personnel -
   a. Know and understand applicable LRV Maintenance safety rules.
   b. Know and understand the rules and procedures for LRV operations.
   c. Comply with the Personal Electronic Devices (PED) Rules and Roadway Worker Protection (RWP) rules when performing any duties on or near the track zone.
2. LR Wayside Personnel -

a. Know and understand applicable Wayside safety rules.
b. Know and understand the rules and procedures for mainline access.
c. Comply with the PED and RWP rules when performing any duties on or near the track zone.

3. LR Operators -
   a. Know and understand applicable Operations safety rules.
   b. Know and understand the rules and procedures for mainline operation.
   c. Perform duties in accordance with applicable SOPs, Rail Rule Book, and Notices
   d. Comply with the PED Rules.
   e. Conduct reporting of and response to events and emergency response situations in accordance with applicable SOPs, Rail Rule Book, and Notices, and coordinate with Metro Control and other Personnel during an incident.
4. LR Controllers & Dispatchers (Transportation Supervisors) -
   a. Know and understand applicable Operations safety rules.
   b. Prepare, maintain, and file applicable reports, logs, and records.
   c. Perform duties in accordance with applicable SOPs, Rail Rule Book, and Notices.
   d. Coordinate, control, and report events and emergency response situations in accordance with applicable SOPs, Rail Rule Book, and Notices; and communicate effectively with other Personnel during an incident.

FINDINGS AND RECOMMENDATIONS

Activities:

1. On 10/23/2021, CPUC Staff interviewed three employees in the LRV Maintenance facility. All employees were knowledgeable about their job duties and how the rules apply to them. Those interviewed understand the rules governing LRV movement in the yard and shop. PED rules are observed and understood throughout SRTD's LRV Maintenance.

2. On 10/19/2021, Staff interviewed the RWP Flagman, at Marconi Station. The Employee gave Staff a quick job briefing on tasks that were taking place, was knowledgeable of RWP (OTS), and PED rules governing Wayside Protection. On 10/28/2021 Staff observed Wayside job briefings on the Blue-line and Gold- line performed by Wayside SR. Rail Maintenance employee Wayside 90. The job briefing was very thorough and detailed all RWP (OTS) requirements.
3. On 10/21/2021, Staff observed LRV Operator #3748 working on train 08, LRV 233, departing 13th Street Station at 1037 and arriving at Consumnes River College Station at 1108. The Operator was interviewed at Consumnes River College Station and was knowledgeable of the rules and procedure relevant to their duties.
   On 10/21/2021, Staff observed LRV Operator #3861 working on train 01, LRV 210, departing Consumnes River College Station at 1141 and arriving at 13th Street Station at 1212. The Operator was interviewed at 13th Street Station and was knowledgeable of the rules and procedure relevant to their duties.
   On 10/21/2021, CPUC Staff observed five Trains as they entered 13th Street Station. LRV Speed was measured by radar as they entered the station. All LRV's observed were below the maximum speed of 10mph. Staff spoke with many other Operators during the Triennial Audit throughout the system. Each one understood the correct procedures to follow if an incident occurred and knew what do when a new bulletin was issued from Metro Control. All Operators complied with the SRTD PED Policy and General Order 172 by having their PED off and stowed while on an LRV.
4. On 10/20/2021 and 10/26/21 Staff interviewed four SRTD Controllers and two Dispatchers. All six employees understood the rules that apply to their job duties. The dispatchers explained how their job is to speak to each Operator that goes on duty and ensure they receive the Light Rail Operating Bulletin for the day, and they appear to be performing these tasks effectively.
   The Controllers described to Staff on how they contact LRV Operators to issue new bulletins and how they properly fill out the Controllers Log Sheet including what information goes into it. The Controllers also explained why it is important for SRTD to have live feed cameras

throughout the system and every station, because they do not have a SCADA System that tracks LRV movement in real time. SRTD does have a GPS System that tracks LRV movement but is unreliable and not operational most of the time according to the four Controllers CPUC Staff spoke with during the Triennial Audit Period.

On 10/24/2021 Staff conducted field observations at Sunrise Station. Staff observed an A-Frame Barricade chained to a support pole within two feet of the tactile strip. Patrons had to step around it, creating a tripping hazard when people were boarding and offloading LRV's at the Station. CPUC Staff spoke with SRTD Supervisor #654, who arrived at the station to assist with the bus bridge. Supervisor #654 moved the A-Frame to a secure location behind the station and out of the walkway.

Findings:

1. SRTD must ensure tools, and/or apparatuses are not left in walkways or where they could cause injury.

Comments:

1. CPUC Staff notes the professionalism of SRTD Employees in all departments and the display of rules compliance observed during the Triennial Audit Period.

Recommendations:

1. Staff verified the finding is closed and was swiftly remedied by SRTD Operations Supervisor #654. The Supervisor also made a note to discuss with facilities where to properly stow the A-Frame Barricade at the Stations.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**13-C**	**Element**	**Rules Compliance: Hours of Service - Safety Sensitive Employees**
Date of Review	October 22, 2021 9:00 -11:00	**Department(s)**	LR Operations & LR Maintenance
Reviewers/ Inspectors	Michael Rose Richard Fernandez	**Persons Contacted**	Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director Jason Coveau, LR Wayside Superintendent George Kirbyson, LRV Maintenance Superintendent Jan Mauricio, Safety Specialist II

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance: Hours of Service – Safety Sensitive Employees

Select at least 10% of the LR Safety Sensitive Employees at random from each of the following employee classifications:

- LR Operations: Transportation Supervisors, Operators

- LR Maintenance: Signal Maintenance, LRV Maintenance Personnel

Review the employees' timecards for a three-month period during the past 3 years to determine whether:

1. The employee remained on duty for more than 12 consecutive hours, or more than an aggregate of 12 hours in any 16-hour period.
2. Each initial on-duty status begins at a point following eight consecutive hours of off-duty status.

FINDINGS AND RECOMMENDATIONS

Activities:

CPUC Staff reviewed Hours of Service logs for SRTD Operations and Maintenance for months of July 2020, October 2020, and December 2020. Staff randomly selected the following employee IDs for review:
Operations: 2308, 3735, 3899, 3900, 3962, 4042, 4079, 4596.
Operation Transportation Supervisor Employee ID's: 2389, 3575, 3807.
CPUC Staff found no discrepancies with Hours-of-Service records for Operations.

For LRV Maintenance Staff randomly selected the following ID's: 2147, 2634, 2867, 2994, 3398, 3399, 3583, 4288, 4306 for review.
Signal Maintenance Employee ID's: 2636, 3792, 3902
CPUC Staff discovered that Signal Maintenance Employees were not completely filling out their timesheets by leaving Total Hours Worked blank. This was found with at least one of the employees every month audited.

CPUC Staff also reviewed Hours-of-Service documentation, and two of the three employees audited used document correction fluid, with one on multiple days. This is not in compliance with SRTD Department Notice LR-18-011 Documentation Guidelines.

Findings:

1. Signal Maintenance Employee 3792 did not fully complete their timesheets and left On Duty, Off Duty and Total Hours Worked lines blank for every month audited.

2. SRTD Signal Maintenance Employees 3902 and 2636 used document correction fluid to correct mistakes on their timesheets for 2 of the months that were audited. Staff did note this trend on several other Hours of Service documents within the small sample that was audited. Use of document correction fluid is a violation of SRTD Department Notice LR-18-011M Documentation Guidelines.

Comments:
None.

Recommendations:
1. SRTD Signal Management must verify that Employees are completely filling out their timesheets to ensure document control and accuracy of the employee timecards. SRTD addressed the issue with the employee and has determined that there is not a systemic problem.
2. SRTD Management must ensure that Document Correction Fluid is not used on any documents as outlined in SRTD Department Notice LR-18-011M Documentation Guidelines.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**13-D**	**Element**	**Rules Compliance: Contractor Safety Program**
Date of Review	October 22, 2021 13:30-15:00	**Department(s)**	Engineering & Construction LR Maintenance
Reviewers/ Inspectors	Michael Rose Richard Fernandez	**Persons Contacted**	Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director Craig Norman, Acting Director, Engineering & Construction Stephen McCabe, SR Manager EH&SS

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, & 175-A
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. General Construction Management Contract
7. On Track Safety Program – Version # 2016031401, 2018091801, 5-7-19, & 6-17-20

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance: Contractor Safety Program

Interview the specified representatives responsible for the Contractor Safety Program and review documentation to determine whether:

1. The Contractor Safety Program establishes responsibilities and requirements for training, certification, rules, regulations, and procedures applicable to all employees/contractors.
2. SOPs establish the range of activities for monitoring Contractors and their employees and enforcing compliance with safety requirements through regular unscheduled and unannounced compliance checks and scheduled periodic audits and inspections of construction sites to monitor compliance with its safety requirements.
3. Monitoring and enforcement activities are properly recorded, distributed, and filed.

FINDINGS AND RECOMMENDATIONS

Activities:

1. CPUC Staff interviewed SRTD Personnel and reviewed SOPs, On Track Safety Policy, Contractor Safety Reports and Morrison Creek Daily Inspection Records. All contractor training is completed through the On Track Safety Program by SRTD Wayside. The program has transitioned from in-person to online training. SRTD keeps a course completion record in the SRTD SharePoint Data System.
2. CPUC Staff were sent documents from SRTD Personnel that showed audits being performed for missing punch-list items: dead trees, unpainted areas, lighting poles that need installation, and other non-safety related items. SRTD Personnel does not conduct any Safety Compliance Checks or Safety Audits through their RWP Program, nor through the Safety Department on Contractors. CPUC Staff also determined that SRTD does not conduct any type of follow up to verify contractors who are working along the right of way, have completed the RWP On Track Safety Program. SRTD does not issue any type of RWP training compliance identification, such as RWP hard hat stickers, or RWP cards to carry on their person. The stickers and RWP cards would provide proof that contractors and employees have successfully completed the On Track Safety Program to anyone auditing or spot-checking for RWP OTS compliance. This is an Industry Standard throughout the majority of Transit Agencies throughout California.

3. SRTD has not completed any type of safety monitoring and enforcement activities. Therefore, no documents were recorded, distributed, or filed for CPUC staff to review.

Findings:

1. SRTD failed to conduct any type of monitoring and/or enforcement of SRTD safety rules, policies, or procedures on contractors performing work on their system. Compliance activities were not completed, properly recorded, distributed, nor filed for this or any other contractor work on SRTD Property. This is a violation of General Order 164- E, Section 3.2 r. (i & ii), and General Order 143-B, Section 13.04. SRTD could not produce any documentation or verification showing compliance oversight for the Morrison Creek Station Project that Staff selected for review. This is a violation of General Order 164-E, Section r. (i & ii), and General Order 143-B, Section 13.04. Similar issues were found during the 2017 Triennial Audit.

Comments:

1. CPUC Staff learned that the SRTD Safety Department does not conduct safety oversight compliance activities or project site safety inspections of contractors.

Recommendations:

1. SRTD must follow General Order 164-E, Section r. (i & ii), and General Order 143-B, Section 13.04, and ensure SRTD Rules, Policies, and Procedures are being followed by all Contractors performing work on SRTD property. SRTD must complete site inspections and unannounced audits of all contracting work being performed on their property as outlined in General Order 164-E, Section r. (i & ii), and SOPs. SRTD provided 2017 Triennial CAP implementation substantiation in September 2021 and CPUC Staff accepted the information and closed the CAP. The Construction Project Management Manual was updated to include the need for routine and periodic safety inspections.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**13-E**	**Element**	**Rules Compliance: LR Rules, SOPs, Bulletins, & Notices**
Date of Review	October 19, 2021 9:00-10:30	**Department(s)**	LR Operations & LR Maintenance
Reviewers/ Inspectors	Michael Rose Richard Fernandez	**Persons Contacted**	Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director George Kirbyson, LRV Maintenance Superintendent Nicholas Ramirez, LRV Maintenance Superintendent Jan Mauricio, Safety Specialist II

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, & 172
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. GM-SOP-86-001 – Procedure Development for Standard & Emergency Procedures
7. GM-SOP-001-2020 - SOP Development Process

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance: Rules, SOPs, & Manuals

Interview representatives responsible for LR rules and procedures, and review necessary documentation to determine whether:

1. The Rail Rule Book, SOPs, Bulletins, and Notices are reviewed, revised systematically, and distributed to relevant personnel.
2. Rail Rule Book, SOPs, Bulletins, and Notices were approved by the appropriate personnel and other applicable departments, signed, dated, and issued in a timely manner.
3. SOPs, Bulletins, and Notices are posted in specified locations, are issued, and provided to affected Personnel as necessary; and inactive Bulletins and Notices are removed in a timely manner.
4. All updated or new Rail Rules, SOPs, and Notices were distributed to CPUC Staff during the past 12 months, and the distribution process has been tracked.
5. The process to develop, review, analyze safety risk, approve, and distribute Rail Rules, SOPs, and Notices involved the Safety Department and the SMS Committee and HRFLSC.
6. The Rail Rule Book and SOPs are reviewed and updated as required; and Notices are incorporated into the Rail Rule Book and/or SOPs as necessary.
7. Submitted unusual occurrence reports are reviewed and managed by the appropriate Personnel and addressed by applicable departments.
8. Discrepancies identified in unusual occurrence reports were mitigated in a timely manner with corrective action plans and tracked until completion.

FINDINGS AND RECOMMENDATIONS

Activities:

1. The SRTD Rule Book is overseen by a committee and the review process was just recently completed. The new edition Rule Book is planned to be released on November 1, 2021. There will be a sign-for sheet to track which employees have received the new rule book, training on the new rules, and a test. SRTD makes a written record whenever an employee received a copy of the rule book to ensure that each employee has the most current version. SRTD Department Notices are reviewed annually

and revised with a new notice number every three years. For 2021, the relevant notices will be incorporated into the new rule book. The notices that transition over to the rule book will be removed from an active document and will be archived. SRTD's SOPs undergo a more stringent review process before being incorporated. This process includes CPUC notification, System Safety, and related Department signoff for approval. SRTD Maintenance conducts a job briefing at the beginning of the shift when a new Department Notice or SOP is issued, and every employee must sign-off on a sheet that they have read and understood materials issued. In the Operations Department, the Operator is responsible for looking up Notices or SOPs as required by SRTD Rules.

2. CPUC Staff reviewed: Light Rail Department Notice for Maintenance LR-14-001 M, Light Rail Department Notice LR-21-034 T, and Light Rail Operating Bulletin for 10/19/2021. All documents reviewed were approved, signed, dated, and issued in a timely manner.
3. CPUC Staff visited the SRTD Metro Control and Maintenance Shop on Academy Way. CPUC Staff interviewed four SRTD Operators who showed Staff the Light Rail Department Notices and SOPs posted at the on-duty location and the computer to which Operators can view and print Notices and SOPs as needed. In the Maintenance Shop, there are two computers where Maintenance Personnel can view and print their Department Notices and SOP's.
4. Over the past four years, SRTD Personnel has been continually working on and improving relations with CPUC Staff by distributing Rules, SOP's, and Notices to Staff in a timely manner. SRTD uses a Monthly SMS Rail Committee Meeting that provides an opportunity for SRTD Departments, CPUC Staff and other outside agencies to discuss, document, update and provide hazard resolution through SMS.
5. CPUC Staff interviewed the SRTD HRFLSC and discussed process to implement SOPs from inception to completion. The process takes anywhere from weeks to months depending on the subject matter and department participation. The HRFLSC and SRTD System Safety is a part of the SMS Rail Committee Meeting where all departments, System Safety, and outside agencies provide valuable input for safety risk analysis through the SMS process.

6. CPUC Staff were shown how Department Notices and SOPs were transferred into the new upcoming Rule Book described in Parts 1 and 2, above.
7. CPUC Staff were shown SRTD's Unusual Occurrence Log Sheet. Operators notify the Controllers, who then document the occurrence on the Control Log Sheet. Supervisors reviews and then transfers the Control Log Sheet Occurrences to the Occurrence Log Sheet nightly. The Occurrence Log Sheet is maintained digitally by supervisors and is shared with System Safety per event, depending on its severity. SRTD Maintenance Unusual Occurrences are reported though Maintenance Supervision. This includes LRV operation in the SRTD yard and shop. Both Maintenance and Operations share all Unusual Occurrences at the monthly SMS Rail Committee Meeting to Safety and all other departments.
8. SRTD enacts Monthly SMS Rail Committee Meetings to develop, review, analyze all safety risks from the moment they are discovered through the Hazard Mitigation Process.

<u>Findings:</u>
None.

<u>Comments:</u>
1. Staff notes a drastic improvement in rules compliance over the past four years since the 2017 Triennial Audit.

<u>Recommendations:</u>
None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**14-A**	**Element**	**Facilities & Equipment Inspections: Non-Revenue Facilities**
Date of Review	October 25, 2021 9:00-10:30	**Department(s)**	Facilities Maintenance LR Operations & LR Maintenance
Reviewers/ Inspectors	Shane Roberson Eric Madero Laura Espinoza Nicholas Denny	**Persons Contacted**	Jeffrey Anderson, Director, Facilities Maintenance Michael Cormiae, LR Maintenance Director Stephen McCabe, SR Manager EH&SS Jan Mauricio, Safety Specialist II

REFERENCE CRITERIA

1. General Orders 164-D/E, & 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. Facilities Maintenance Plan
7. Facilities Maintenance Notices
8. PE-SOP-002-2020 – Facilities and Equipment Safety Inspection Program

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Facilities & Equipment Inspections: Non-Revenue Facilities

Interview the specified representatives, perform field observations of Personnel inspecting Non-Revenue Facilities and equipment, and review appropriate records for the past 3 years to determine whether:

1. Required inspections for maintenance conditions and unsafe or unhealthy conditions were performed per supporting references.
2. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
3. Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.

FINDINGS AND RECOMMENDATIONS

Activities:
Staff interviewed the Director of Facilities and Senior Manager of EH and SS, and reviewed records of SRTD's non-revenue facilities inspections. Staff inspected the shops at 2700, 2750, and 2760 Academy Way.

1. Staff reviewed maintenance records for the portable lifts, emergency generators, cranes and hoists, and monthly safety inspections performed by maintenance and by safety personnel.
    a. According to SRTD's work orders, the portable lifts should be inspected every 90 days. Staff reviewed inspection records for the LRV lifts.
    b. PE-SOP-002-2020 states that the emergency generators should be inspected every 30 days. Staff inspected the generators and reviewed maintenance records.
    c. Cranes and hoists inspections are completed annually by a contractor.
    d. Safety inspections of the facilities are to be completed monthly (LR-SOP-19-313, IIPP). Staff reviewed monthly inspection records completed by Safety, Wayside, and LRV Maintenance personnel. Staff inspected the shop facilities.
2. Staff reviewed maintenance and inspection records for proper documentation and discrepancies corrected in a timely manner (RSSPP, LR-018-011 M).
3. Staff reviewed maintenance and monthly safety inspection records. Staff requested documentation to show that hazards and safety concerns are being tracked through resolution.

Findings:

1. Portable Lift and Emergency Generator inspections were not completed every 90 and 30 days, respectively.
2. Document correction fluid was used on multiple inspection forms. Weekly Hazardous Waste Storage Inspection forms were not being completed per instructions on the form.
3. Safety concerns on monthly inspection forms are not being tracked through resolution. There are multiple forms with housekeeping related items that were noted as having no corrective action.

Comments:

1. The Manager Plus software used by Facilities for preventive maintenance of facilities and equipment is not reliable. The maintenance history and scheduling features are not always available to Facilities personnel. According to SRTD personnel, some maintenance records have been lost. SRTD needs a reliable maintenance management software database.
2. Facilities personnel are not able to test portable lifts after an inspection because an LRV is either not available or one is in the way. Facilities and LRV Maintenance should coordinate the lift inspection schedule so the lifts can be fully tested after each inspection.
3. Overall, it appears that SRTD needs to improve their attention to housekeeping and safety in shops and potentially other non-revenue facilities. Staff's observations include items that had been or should have been noted on monthly safety inspections:
   - Two instances of LOTO incorrectly applied in MHRF shop – keys left in padlock used to lock out power
   - Fire extinguishers and eye wash stations blocked, multiple locations
   - Compressed gas cylinders not secured
   - Shop rags not in proper containers, multiple locations
   - High voltage sign missing from upstairs chain on MHRF catwalk
   - Safety chain broken on MHRF catwalk
   - Faded No Smoking sign at propane tank storage area, Metro
   - Danger/warning decal on above ground waste oil tank needs to be replaced, MHRF
   - Fire hydrant blocked by vegetation
   - Fire extinguisher expired, HazMat storage area
   - Eye wash station expired, HazMat storage area
   - Excessive sand on ground by sand silo

- Fire extinguisher location decal faded, Wayside (exterior)
- Fire extinguisher location decal missing, Metro (exterior)

Recommendations:

1. SRTD must maintain LRV lifts and emergency generators according to procedures.
2. SRTD must follow applicable directions and procedures when completing all forms. SRTD must stop the use of document correction fluid or corrective tape. SRTD has issued corrective actions during the triennial review cycle and improvement has been noted.
3. SRTD must ensure that all discrepancies noted on monthly inspection forms are addressed and identified hazards are tracked through resolution.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**14-B**	**Element**	**Facilities and Equipment Inspections: Stations and Emergency Equipment**
Date of Review	October 25, 2021 10:30-12:00	**Department(s)**	Facilities Maintenance LR Operations & LR Maintenance
Reviewers/ Inspectors	Shane Roberson Eric Madero Laura Espinoza Nicholas Denny	**Persons Contacted**	Jeffrey Anderson, Director, Facilities Maintenance Craig Norman, Acting Director, Engineering & Construction Stephen McCabe, SR Manager EH&SS

REFERENCE CRITERIA

1. General Orders 164-D/E, & 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. Facilities Maintenance Plan
7. Facilities Maintenance Notices
8. F-002-19 Quality of Work at LR Stations
9. F-014-20 Quarterly LR station (LRS) Inspections
10. F-014-21 Supervisor LR Station (LRS) Inspection PM's
11. LR-SOP-86-007 Emergency Equipment Testing
12. PE-SOP-002-2020 – Facilities and Equipment Safety Inspection Program

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Facilities and Equipment Inspections: Stations and Emergency Equipment
Interview the appropriate representatives, perform field observations of Personnel inspecting LR Stations and Emergency Equipment, and review appropriate records for the past 3 years to determine whether:

1. Required inspections for maintenance conditions and unsafe or unhealthy conditions were performed per supporting references.
2. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
3. Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.

FINDINGS AND RECOMMENDATIONS

Activities:
Staff interviewed the Director of Facilities and reviewed records of SRTD's revenue facilities inspections. Staff interviewed a supervisor and grounds worker, observed personnel performing light rail station maintenance, and inspected Gold Line and Blue Line stations.

1. Per F-014-20, light rail station inspections are assigned quarterly and are to be completed within two weeks of the date assigned.
2. Per F-014-20, all follow-up work orders are to be completed within a month of the finding.
3. Hazards and safety concerns are to be tracked through resolution and corrected in a timely manner (RSSPP).

Findings:

1. Hazards and safety concerns are not corrected in a timely manner. Parking lot lights not working and damaged detectable warning tile identified by SRTD personnel over multiple years have not been repaired.

Comments:

1. The Manager Plus software used by Facilities for preventive maintenance of facilities and equipment is not reliable. When it is not working, the maintenance history and scheduling is not available to

Facilities personnel. According to SRTD personnel, maintenance records have been lost. SRTD needs a reliable maintenance management software.

2. The landscaping at all stations inspected by Staff were generally well kept and clean. The station areas were clean, benches in good shape, and trash cans were not overflowing.
3. Multiple stations have faded, missing, or damaged signs that need to be replaced. An assessment is recommended, and signs replaced or added as necessary.

<u>Recommendations:</u>

1. SRTD must correct hazards and safety concerns in a timely manner. Lighting must be maintained to provide required lumen levels, and damaged detectable warning tiles should be replaced or repaired as needed, in a timely manner.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**14-C**	**Element**	**Facilities and Equipment Inspections: Bridges and Aerial Structures**
Date of Review	October 20, 2021 13:30-15:00	**Department(s)**	Engineering & Construction LR Maintenance
Reviewers/ Inspectors	Jamie Lau Matthew Ames	**Persons Contacted**	Michael Cormiae, LR Maintenance Director Jenny Niello, Principal Engineer Civil Jason Coveau, LR Wayside Superintendent Stephen McCabe, SR Manager EH&SS

REFERENCE CRITERIA

1. General Orders 164-D/E, & 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. CT-SOP-19-001 – Bridge/Structure – Inspections and Reports
7. Bridge Inspection Maintenance Tracking Reports
8. LR-SOP-88-420 – Bridges/Structures – Inspections & Reports
9. PE-SOP-001-2021 – Bridge Inspections
10. APTA RT-FS-S-001-02 Rev 1 - RTFS Inspection & Maintenance Standards
11. 2019 Final Bridge Inspection Report and Corrective Action List 2019
12. 2021 Bridge Inspection Individual Site Reports and Corrective Action List 2021

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Facilities and Equipment Inspections: Bridges and Aerial Structures
Interview the appropriate representatives, perform field observations of Bridges and Aerial Structures, and review appropriate records for the past 3 years to determine whether:

1. Required inspections for maintenance conditions, defects, and unsafe or unhealthy conditions were performed per supporting references.
2. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
3. Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.

FINDINGS AND RECOMMENDATIONS

Activities:
Staff interviewed Engineering Personnel, Light Rail Management and Personnel, and Safety department representatives. Staff conducted field observations on October 28, 2021. Staff reviewed inspection records and noted condition tracking information for the past four years.

1. According to SRTD's procedures, bridges and structures are inspected biennially (once every two years). Since 2017, SRTD has performed bridge inspections in 2019 and 2021 with findings and recommended repair work. Procedures require inspections to be performed by a Registered Structural or Civil Engineer. The inspections were done by Mark Thomas, a contracted consultant firm. of inspectors who are all registered civil engineers with structural inspection experience.
2. Each inspection is recorded on a checklist listing any defects found, which are then organized in a corrective action list. Each defect is assigned a priority level, described in part 3 below, and corrected as necessary. Staff noted that some of the repair works assigned in 2019 were not completed at the time of audit. SRTD indicated the remaining open works are to be completed as soon as possible.
3. The Principal Engineer maintains a corrective action list resulting from the biennial inspections. Each action identifies the location of the repair,

with priority levels from 90 days to 12 months, or to monitor. The priority levels and associated repair duration are defined on the corrective action list. The Principal Engineer revisits the list every 6 months and updates work the order's status accordingly. Corrected items are marked as "complete" on the form with a verification date. SRTD shares some of the bridge structures with Caltrans or Sacramento County. Defects found on structures shared with these agencies are reported to the responsible parties. The Principal Engineer also tracks work assigned to third parties on the list.

Overall Inspection Program:
The audit of this checklist was done in two parts: a virtual meeting on October 20th, and a field visit to selected locations on October 28th.

Prior to the October 20 virtual meeting, Staff has reviewed the following documents:
- PE-SOP-001-2021 (SOP)
-2019 Final Bridge Inspection Report
- Corrective Action List 2019
-2021 Bridge Inspection Individual Site Reports
-Corrective Action List 2021

According to inspection reports, majority of SRTD's bridges are of cast-in-place or precast post-tensioned concrete box girder type, built between 1970 and 2014. The oldest bridge was built in 1942 and of reinforced concrete T-beam type. There is one culvert structure at Buffalo Creek. SRTD's system does not have any tunnels. Some of the bridges have cathodic protection (CP) systems installed to protect steel elements from corrosion. SRTD is not aware of any fracture critical elements in their bridges.
Per review of the provided documents, Staff opinion is that SRTD's bridge inspection program generally meets APTA RT-FS-S-001-02 Rev 1 (APTA), Rail Transit Fixed Structures Inspection and Maintenance Standards. The 2021 inspection report rated structural elements by using National Bridge Inventory rating scale, with recommended repair work for defects. Staff has the following findings related to the SOP and inspection report format:

- Rating grade for repair priority between 2019 and 2021 corrective action lists are different. For instance, in 2019, rating grade scale is "1. Out of Service; 2. Speed Restriction; 3. Plan Repair within 24 Months; 4. Monitor; 5. No Defects Noted". For 2021, rating grade scale is "1. Within 90 days; 2. Within 6 Months; 3. Within 12 Months; 4. Monitor".
- Structural element condition rating scale used in 2021 inspection was not defined in the report.
- Buffalo Creek Culverts, a series of county owned culverts passing under SRTD system, was not on the inspection list of Attachment 2 and 3 of SOP. It was inspected in 2021 but was not in 2019. SRTD wasn't sure if the culverts should be inclusive of inspection list moving forward. Per Staff's understanding of APTA Standards, culverts are part of fixed facility structures supporting rail transit system loads, therefore should be included on the inspection list.

Cathodic Protection:
SRTD has cathodic protection (CP) systems for some of the bridges with steel elements. SRTD started the CP inspection program in 2019. Inspection baseline and criteria were being developed at the time. CP inspection is performed separately from the structural inspection, as it requires different equipment and skills. SRTD has not yet completed an inspection of all CP systems at the time of the 2021 review, and therefore has not yet produced a report for review. The subject can be revisited in the next triennial audit.

In the meantime, Staff recommends that SRTD add a dedicated CP section to the SOP, at a minimum, covering the following topics:
- List of CP inspected locations
- Format of CP inspection report
- Test methods and pass/fail criteria (including required potential range)
- Inspection frequency
- Maintenance procedure

Repair Work Records:
Staff reviewed 2019 and 2021 corrective action lists and found some of the 2019 assigned repair works were not yet complete. Staff understands some of the works are delayed due to various reasons: preparing for contract bids;

permitting process; pandemic. The following is a list of repair work assigned in 2019 but still open at the time of audit:

- Bee Bridge Inbound – “(d) Install drainage near Hinge 3 to eliminate ponding water due to sag in structure.”
- Alder Creek Bridge – “(b) Erosion gully exists between roadway culvert wingwall and historic foundation, along toe of slope at Abutment 3. Place rock in gully to prevent further erosion.”
- Alder Creek Bridge – “(c) Significant drift buildup at column base. Remove to prevent scour.”
- Arcade Creek Bridge – “(c) Monitor slope. Replace rock slope protection (RSP).”
- Florin Grade Separation – “Recommend to conduct a corrosion inspection for the MSE walls.”
- Grand Ave Bridge – “(d) Trim trees which encroach on bridge deck.”
- Morrison Creek OH – “(a) Repair the damaged masonry block sound wall; (b) Clean expansion joints; (c) Remove beehive.”

Staff randomly selected five completed repair work items in 2021 Corrective Action List and requested SRTD to provide associated work orders:

- Bee Bridge Outbound – “(a) Clean and protect against corrosion the anchor bolts at the base of the OCS poles.”
- Bee Bridge Outbound – “(b) Anchors at steel plate for gap between IB & OB decks are loose; need to be fastened.”
- Brighton Inbound – “(c) Clean deck expansion joints.”
- Brighton Outbound – “(c) Significant shear cracking at side of Abutment 1. Inject epoxy.”
- Alder Creek Bridge – “(a) Soffit access opening lid is removed near Abutment 3. Access opening lid must be reinstalled.”

Out of the five requested items, SRTD was only able to provide repair work order records for one. Two of the requested items have a known completion date but no paper records; two others have no records at all. Additionally, SRTD provided a sample record from Grand Ave Bridge, which is not among the five requested locations. Staff thought that the sample records show sufficient detail for a repair work order, including description of work done, dates and crew.

Field Visit:
On October 28, Staff visited five selected locations. The visit was to verify completed repair work orders, and structural conditions are as described in the June 2021 inspection reports. Staff were accompanied by SRTD staff and structural engineers from the consultant firm Mark Thomas. Weather was clear at about 65 degrees. Observations were done outside of the right-of-way and at ground level; therefore, deck areas were not accessed.

Staff visited the following five locations:

- Willow Creek Bridge – noted vegetation encroaching right-of-way on the south side of deck, and drift build-up at a column base. Although both conditions were not documented on the inspection report, Staff believe those were recently developed from vegetation growth and storm, therefore not present in the June 2021 inspection. Otherwise, conditions were as described in the inspection report as verified by Staff.
- Alder Creek Bridge – verified soffit access lid was reinstalled. Existing structural conditions were as described in the inspection report.
- Watt Ave Grade Separation – noted an unlocked cathodic protection (CP) box with a broken latch. The condition was likely not documented in the inspection report because CP inspection is done separately from bridge inspection; therefore, the CP box was not checked. Otherwise, existing structural conditions were as described in inspection report from what Staff could see.
- SMUD Undercrossing – verified Epoxy was injected into longitudinal cracks along closure pour at the deck level; observation was done from outside of right-of-way fence. Existing structural conditions were as described in inspection report.
- Bee Bridge (Outbound) – verified the replacement of a bearing pad at an abutment. Existing structural conditions were as described in inspection report.

<u>Findings:</u>

1. Rating grade for repair priority between 2019 and 2021 corrective action lists are inconsistent.

2. Structural element condition numeric rating scale used in 2021 inspection was undefined in the report or SOP.
3. Buffalo Creek Culverts is not on Attachment 2 and 3 of SOP as a structure to be inspected.
4. Cathodic Protection inspection and maintenance procedure is not in the SOP.
5. Repair work orders assigned in 2019 remain open at the time of review.
6. Not all repair work order records were available for Staff's review upon request. SRTD was not able to provide Staff with some of the work order records of completed repair.

Comments:

1. For future inspection reports, Staff suggests associating findings with specific photo numbers capturing the condition, as in the 2019 inspection report. The 2021 report was not done similarly.
2. Consider removing Watt/I-80 Bridge from Attachment 3 of SOP if the structure is not supporting rail transit system loads. However, the structure should be kept on Attachment 2's structure watchlist because it crosses over the rail transit system.
3. The spalling column at Watt/I-80 Bridge staircase, although considered as a bus station facility, should be repaired as soon as possible by the appropriate department. Defect was found in 2019.
4. Track-related defects found during bridge inspection and have not yet repaired since 2019 should be repaired soon.
5. The locations on Attachment 2 and 3 of the SOP are not in the same order. Staff recommends sorting the two lists to make the location orders match each other.
6. Suggest differentiating third-party (i.e., Caltrans/County) responsible repair work on future corrective action lists, such as adding a column indicating a third-party work.
7. Some of the bridge superstructures were not inspected under load; suggest inspecting all locations under load in future inspections.
8. Trim vegetation encroaching right-of-way at Willow Creek Bridge.
9. Monitor drift build-up at a column base of Willow Creek Bridge. Consider maintaining original channel profile under bridge.

10. Vegetation and debris should be maintained so as not to create hazards to bridges.
11. Repair cathodic protection box at Watt Ave Separation.
12. Consider tamping existing ballast at the SMUD Undercrossing bridge approaches.
13. For conditions noted during bridge inspections, the Bridge Engineer should provide the interval/frequency for conditions that are monitored and note base dimensions for conditions that are measured.

Recommendations:

1. SRTD must define rating grade for repair priority in SOP section 3.6.
2. SRTD must define structural element numeric condition rating scale in SOP section 3.7. Staff recommends adopting the National Bridge Inventory rating scale.
3. SRTD must add Buffalo Creek Culverts to Attachment 2 and 3 of SOP.
4. SRTD must add a dedicated Cathodic Protection section to their SOP, at minimum, covering the following topics: a list of CP inspection locations; the format of the CP inspection report; test methods and pass/fail criteria (including required potential range); inspection frequency; proper maintenance procedure.
5. SRTD must close the remaining open 2019 repair work orders as soon as possible.
6. SRTD must track work orders related to defect repair on Corrective Action List. Work order records should be available for review.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**14-D**	**Element**	**Facilities and Equipment Inspections: GO 95 Right-of-Way Compliance**
Date of Review	October 25, 2021 13:30-15:00	**Department(s)**	Engineering & Construction Facilities Maintenance LR Maintenance
Reviewers/ Inspectors	Shane Roberson Eric Madero Samuel Herroz Sal Herrera	**Persons Contacted**	Michael Cormiae, LR Maintenance Director Craig Norman, Acting Director, Engineering & Construction Jeffrey Anderson, Director, Facilities Maintenance Jason Coveau, LR Wayside Superintendent Stephen McCabe, SR Manager EH&SS

REFERENCE CRITERIA

1. General Orders 164-D/E, 95, & 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. LR-SOP-86-405 Traction Power Overhead Contact System Inspection
7. LR-SOP-89-421 RT Metro Overhead Catenary Systems (OCS) Disconnect Switch

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

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

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

1. Blue Line
2. Gold Line
3. Green Line

Interview the appropriate representatives, perform field observations of Personnel inspecting the Overhead Catenary System and performing measurements, and review appropriate records for the past three years to determine whether for each track section:

1. The Right-of-Way inspection and maintenance standards and programs are compliant with General Order 95.
2. The required inspections were performed during the past three years per supporting references.
3. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
4. Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.
5. The Right-of-Way components inspected are following the applicable reference criteria, or variances approved by CPUC.

FINDINGS AND RECOMMENDATIONS

Activities:

CPUC reviewed PM records at random from 2018 to the present and field inspected at least four sections of overhead catenary system.

2. CPUC interviewed SRTD personnel and reviewed documentation to ensure the Right-of-Way inspection and maintenance standards and programs are compliant with General Order 95.
3. CPUC interviewed SRTD personnel and reviewed documentation to ensure the required inspections were performed during the past 3 years per supporting references.

4. CPUC interviewed SRTD personnel and reviewed documentation to ensure that inspections were properly documented and annotated, and that discrepancies were corrected in a timely manner.
5. CPUC interviewed SRTD personnel to determine how they follow through with tracking hazards and safety concerns found during inspections.
6. CPUC reviewed documents and interviewed SRTD personnel to ensure that SRTD is following the applicable reference criteria approved by CPUC.

Findings:

1. CPUC noted document correction fluid on an inbound North Line Inspection form dated 6-3-2020.
2. CPUC noted that SRTD does not have a work order system that would allow them to track hazards and safety concerns found during inspections that can't be immediately addressed during normal PMs.

Comments:

1. CPUC recommends that SRTD create a work order system that would allow the maintainers to create a work order ticket and attach it to the PM. This would allow for better tracking of defects noted in the field and give management the means of tracking the defects until they have been closed as well as give management and safety staff the ability to track trends.

Recommendations:

1. SRTD must follow SRTD Notice #LR-19-004W and CPUC RTSB guidance and eliminate the use of document correction fluid from all official forms.
2. SRTD must track all Hazards and Safety Concerns found during inspections to ensure that discrepancies are corrected in a timely manner.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**14-E**	**Element**	**Facilities and Equipment Inspections: Grade Crossing Safety Inspections**
Date of Review	October 26, 2021 9:00-10:30	**Department(s)**	LR Maintenance
Reviewers/ Inspectors	Shane Roberson Eric Madero Samuel Herroz	**Persons Contacted**	Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Michael Cormiae, LR Maintenance Director Jason Coveau, LR Wayside Superintendent

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 72-B, & 75-D
2. PTASP – Revision 0, 10/26/2020
3. MUTCD Standards
4. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
5. Rail Rule Book – Revised: 7/29/2016
6. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
7. LR-SOP-86-408 Grade Crossing Protection Inspection
8. Grade Crossing Repair Lists

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Facilities and Equipment Inspections: Grade Crossing Safety Inspections

Select at least four (4) segments of mainline or yard track at random and four (4) mainline grade crossings or intersections from each of the following areas:

1. Blue Line

2. Gold Line
3. Green Line

Interview the appropriate representatives, perform field observations of Personnel conducting safety inspections Grade Crossings, and review appropriate records for the past 3-10 years to determine whether:

1. Grade Crossing Inspection:
   b. The required inspections were performed during the past 3 years per supporting references.
   c. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
   d. Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.
2. Vital Timing and Relays Preventative Maintenance:
   a. The required inspections were performed during the past 4 years per supporting references.
   b. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
   c. Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.
2. Insulation Resistance Testing:
   a. The required inspections were performed during the past 10 years per supporting references.
   b. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
   c. Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.

FINDINGS AND RECOMMENDATIONS

Activities:
CPUC Staff interviewed SRTD personnel, performed field observations of personnel conducting safety inspections of grade crossings, and reviewed appropriate records for the past 3-10 years. Staff determined the following:

1. Grade Crossing Inspection
    a. The required inspections were performed during the past 3 years per supporting references.
    b. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
    c. Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.
2. Vital Timing and Relays Preventative Maintenance:
    a. The required inspections were performed during the past 4 years per supporting references.
    b. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
    c. Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.
3. Insulation Resistance Testing:
    a. The required inspections were performed during the past 10 years per supporting references.
    b. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
    c. Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.

Findings:

1. CPUC noted that SRTD is not completing the quarterly inspection tests of the cutout circuits throughout the system at grade crossings per LR-SOP-86-408 and 49 CFR 234.

CPUC noted missing annual inspection for:

- 2020 at Watt Ped, 2019 at Jackson.

CPUC noted missing monthly inspections for:

- 26th St. for February 2019.

CPUC noted at:

2. Richardson 83N-1.18 - ground wire is missing at case, broken ground warning light, pedestrian swing gate is missing.
3. 12th 753.480T - plans do not reflect track layout conditions for IJ's. IJ is missing end post.
4. Broadway 833.778C - ground wire is missing at Cantilever LR-SOP-86-408 and 49 CFR 234
5. 21st 833775G - crossing gong rings but is weak at F4 standard #8.

2. CPUC Staff found the Relay Test at Jackson Rd. Crossing (753513D) track relays "E659TR & E658TR" with testing results out of compliance. The test results on 8/8/2020 for the drop away are lower than the specification on the relays. This test is a requirement of 49 CFR 234 and SRTD LR-SOP-86-408.

Comments:

1. CPUC notes that SRTD appears understaffed in terms of certified maintainers to properly maintain the system to regulatory and industry standards. The understaffing is possibly due to injuries and employees retiring.

Recommendations:

1. SRTD must maintain the system per referenced material for all Preventive Maintenance Inspections, and per 49CFR 234 and SRTD LR SOP-86-408 requirements.
2. SRTD must retest Jackson Rd. Crossing track relays "E659TR & E658TR" to verify they are in compliance; if not compliance, the relays need to be replaced per 49CFR 234 and SRTD LR-SOP-86-408.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**14-F**	**Element**	**Facilities and Equipment Inspections: Measurement and Testing Instrumentation**
Date of Review	October 26, 2021 10:30-12:00	**Department(s)**	LR Maintenance
Reviewers/ Inspectors	Shane Roberson Laura Espinoza Michael Borer Eric Madero Nicholas Denny	**Persons Contacted**	Michael Cormiae, LR Maintenance Director George Kirbyson, LRV Maintenance Superintendent Jan Mauricio, Safety Specialist II

REFERENCE CRITERIA

1. General Orders 164-D/E, & 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. LR-SOP-18-309 LRV Wheel Measurement
7. LR-SOP-18-310 LRV Wheel Diameter Pi Tape Measurement
8. LR-SOP-19-315 Tool and Equipment Calibration
9. LR-SOP-89-218 Operation of Deuta XP 10 SI Speedometer Calibrator
10. Tool Calibration Contract

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Facilities and Equipment Inspections: Measurement and Testing Instrumentation

Interview responsible representatives, review appropriate records, and inspect a representative sample of 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 measuring or testing instrument.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed maintenance superintendents and reviewed SRTD's tool calibration records. Staff inspected SRTD owned tools and randomly selected personal tools of SRTD personnel.

1. Staff observed tool storage and use in Metro and MHRF shops. Staff inspected calibration records and tools. Per LR-SOP-19-315 all required tools must be calibrated on an annual schedule and all required tools without a current calibration sticker must be red tagged and removed from service.
2. Staff inspected calibration stickers for due dates on SRTD owned tools and personal tools of SRTD personnel.

Findings:

1. Staff observed tools without a current calibration sticker or red tag.

Comments:

1. Three tools were found without current calibration stickers. One was a gauge that SRTD personnel did not recognize or know it's usage, and it was not listed on any of the calibration records. SRTD personnel removed the unknown tool from the tool bin. The other two tools were gauges used in the brake rebuild shop. Although they did not have current calibration stickers, both tools were listed as recently calibrated and SRTD provided current calibration certificates for them. SRTD removed the gauges from the brake rebuild shop and plans to contact the calibration vendor for replacement stickers.

Recommendations:

1. SRTD must ensure that all required tools are calibrated on an annual schedule and have a current calibration tag. Required tools without current calibration tags shall be red tagged and removed from service.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**15-A**	**Element**	**Maintenance Audits and Inspections: Light Rail Vehicles & Non-Revenue Vehicles**
Date of Review	October 26, 2021 13:30-15:00	**Department(s)**	LR Maintenance
Reviewers/ Inspectors	Michael Borer Laura Espinoza Nicholas Denny	**Persons Contacted**	Edna Stanley, VP of LR Operations Michael Cormiae, LR Maintenance Director George Kirbyson, LRV Maintenance Superintendent Jan Mauricio, Safety Specialist II

REFERENCE CRITERIA

1. General Orders 164-D/E, & 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. LR-SOP-86-407 Hi-Rail Equipment Operation
7. LR-SOP-87-409 Aerial Platform Truck Operation
8. LR-SOP-90-418 Pettibone Operation
9. LR-SOP-91-423 Bucket Truck Operation
10. LR-SOP-00-427 Pandrol Jackson Tamper Operation
11. LR-SOP-06-300 LRV Mileage-Based Inspection Intervals
12. LR-SOP-18-305 LRV Friction Brake Pads (Removal and Installation)
13. LR-SOP-18-306 Daily LRV Pre-Pullout Inspection
14. LR-SOP-18-307 LRV Weekly Inspections

15. LR-SOP-18-308 FVM 30-Day Inspections
16. LR-SOP-18-309 LRV Wheel Measurement
17. LR-SOP-18-310 LRV Wheel Diameter Pi Tape Measurement
18. LR-SOP-18-311 Vehicle Maintenance Shop Power, Lock Out, and Red Tag Procedures
19. LR-SOP-19-313 Monthly Safety Inspection Procedure
20. LR-SOP-20-320 High Potential Resistance Testing
21. LR-SOP-86-301 LRV Gearbox Oil
22. LR-SOP-94-223 Public Address System Adjustment

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Maintenance Audits and Inspections: Light Rail Vehicles (LRV) & Non-Revenue Vehicles

1. Perform field observations of Personnel inspecting LRVs 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
   i. Vital Relays
2. Review a random sample of maintenance records for each LRV model for the past 3 years to verify:
   a. The preventive maintenance (PM) performed was at the required maintenance interval.
   b. The records were properly documented with the necessary review and approval.
   c. Noted defects were corrected in a timely manner.
3. Verify if SRTD has performed their major change-out/overhaul of safety critical systems for LRVs per maintenance procedures.
4. Randomly select a minimum of three non-Revenue maintenance vehicles to review the completed Preventative Maintenance (PM),

daily inspection, and unscheduled maintenance records for the past 3 years to determine whether:

a. The vehicles were inspected during preventative maintenance at the required frequencies as specified in the referenced criteria.
b. The records were properly documented with the necessary review and approval.
c. Noted defects were corrected in a timely manner.
d. Any necessary corrections to vehicles are tracked and monitored for performance and safety.

FINDINGS AND RECOMMENDATIONS

<u>Activities:</u>

Staff interviewed the maintenance superintendents, SRTD maintenance personnel, reviewed records of light rail vehicle (LRV) and non-revenue vehicle inspections. Staff inspected LRV's and non-revenue hi-rail vehicles.

- Staff observed SRTD personnel inspecting LRVs and inspected LRVs in the shop. Staff observed and interviewed SRTD personnel on testing and inspecting passenger doors, tire measurements, track brake adjustments, brake inspection and adjustments.
- Staff reviewed maintenance records including randomly chosen inspection schedules, mileage inspections, weekly inspections, and daily inspections. LR-SOP-06-300 states that mileage-based inspection intervals for LRV's may be performed up to 1500 miles before or 1000 miles after the actual scheduled milage interval. LR-SOP-18-307 states that LRV's are to be inspected weekly. LR-SOP-18-306 states that pre-pullout inspections are to be completed daily.

- Staff inspected major PM inspections for change-out/overhaul records.

- Staff inspected non-revenue vehicles and maintenance records.

- Staff inspected non-revenue vehicles and maintenance records for NRV # 181, 625, and 715. 49 CFR 214.531 states that hi-rail vehicles that do not meet all requirements shall be brought into compliance within seven calendar days.

Findings:

1. SRTD personnel do not consistently follow maintenance procedures (see Comments). Staff identified multiple defects on LRV's:

   LRV 122 –
   - A-end tacho-generator leaking at gearbox
   - C-truck shock leaking
   - B-truck track brake out of adjustment
   - Door B3 Stop Request decal faded
   - Stand Clear of Doors decals missing (A2, A3, A4, B1, B3)

   LRV 107 –
   - A-end taillight burnt out

   LRV 240 –
   - A and B cab Station Entry Speed decal missing from dash
   - Door B1 Stop Request decal faded
   - Door B4 Emergency Exit decal needs to be replaced

   LRV 232 –
   - A-end sandbox empty
   - A cab windshield dirty
   - Door B1 and B2 failed sensitive edge test
   - Door B3 sensitive edge not working

   LRV 211 –
   - A and B cab Station Entry Speed decal missing from dash
   - Door B2 sensitive edge not working
   - Door A1 light barrier not working

   LRV 133 –
   - B-end Protran (Roadway Worker Protection) antenna broken
   - B-truck track brakes out of adjustment
   - B-truck motor bellow torn
   - C-truck brake boot torn
   - A-truck brake "askubal" boot torn
   - B-cab dash fan broken; wires exposed
   - Door B3 missing Stand Clear decal
   - Door B3 sensitive edge not working
   - A-end taillight out
   - A, B, and C truck track brakes out of adjustment

2. Multiple mileage-based inspections completed outside the scheduled interval. Daily pre-pullout inspections are missing. Records are not properly documented. CAF 600k inspections have tasks listed as deferred but the inspection forms are signed off as complete with no notations about the deferred work.

3. Major components are not properly and adequately maintained. There are no planned overhaul projects in place for the deferred 600k work.

4. 360-degree beacon on NRV # 181 was not repaired within seven calendar days. NRV # 715 fire extinguisher missing from 4/9/19 – 6/14/21.

<u>Comments:</u>

1. CPUC staff noted that SRTD personnel interpret the weekly inspections to mean one time per calendar week (Sunday through Saturday) versus one time every seven days. Staff noted some weekly inspections that were completed on two consecutive days (Saturday then Sunday) and other inspections completed thirteen days apart. SRTD's current interpretation of the weekly inspection interval may result in missed opportunities to correct a defect in a timely manner. SRTD should reexamine the weekly inspection intervals and procedure.

2. CPUC staff observed sensitive edge tests on CAF and Siemens LRV's. SRTD's personnel are not consistently testing sensitive edges on passenger doors. Depending on the person testing the sensitive edges, different dimensions of the obstruction tool are used and at different locations along the sensitive edge. None of the testing observed followed the manufacturer's instructions. SRTD personnel should follow the manufacturer's instructions or an approved procedure when testing doors.

3. CPUC staff observed and interviewed SRTD personnel performing preventive maintenance. An SRTD technician stated that he performs pi tape measurements without raising the wheel off the rail. SRTD

personnel should follow LR-SOP-18-310 for accurate wheel measurements.

5. CPUC staff observed and interviewed SRTD personnel performing a 30k inspection on LRV 101. Personnel appeared to be knowledgeable and informed. Blue flags were in place and LOTO was performed per procedure. Staff observed that the brake actuator on LRV 101 had a 2010 rebuild date.

6. The Siemens fleet is approaching 2 million miles per car with no planned overhaul projects in place.

Recommendations:

1. SRTD must maintain LRV equipment in a safe proper working condition and consistently follow maintenance procedures.
2. SRTD must complete all LRV inspections on time as described in the SOPs and must follow the instructions on the PM forms to properly document deferred work.
3. SRTD must complete overhaul projects for deferred 600k maintenance.
4. SRTD must repair hi-rail equipment within 7 calendar days per 49CFR 214.531.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**15-B**	**Element**	**Maintenance Audits and Inspections: Traction Power System**
Date of Review	October 27, 2021 9:00-10:30	**Department(s)**	LR Maintenance
Reviewers/ Inspectors	Shane Roberson Eric Madero	**Persons Contacted**	Michael Cormiae, LR Maintenance Director Craig Norman, Acting Director, Engineering & Construction Jason Coveau, LR Wayside Superintendent Stephen McCabe, SR Manager EH&SS

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, & 95
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. LR-SOP-86-402 Traction Power Substation Level One Inspection
7. LR-SOP-86-403 Traction Power Substation Level Two Inspection
8. LR-SOP-86-404 Traction Power Substation Level Three Inspection
9. LR-SOP-86-405 Traction Power Overhead Contact System Inspection

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Maintenance Audits and Inspections: Traction Power System

Select at least one section of Overhead Catenary System and one substation from the mainline or yard track at random from each of the following areas:

1. Blue Line

2. Gold Line
3. Green Line

1. Interview the appropriate representatives, perform field observations of Personnel conducting inspections of the Overhead Catenary System and substations, and review appropriate records for the past 3 years to determine whether:
   a. The required inspections were performed during the past 3 years per supporting references.
   b. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
   c. Defective conditions, Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.
2. Review SRTD's Stray Current Program and interview Personnel to determine whether:
   a. SRTD is active in mitigating the effects of stray current on its own and surrounding structures.
   b. SRTD has procedures in place to identify and correct hazards caused by stray current.
   c. Any hazards identified are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.

FINDINGS AND RECOMMENDATIONS

<u>Activities:</u>

1. CPUC Interviewed SRTD representatives, and reviewed appropriate records for the past three years to determine whether:
   a. The required inspections were performed during the past three years per supporting references.
   b. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
   c. Defective conditions, hazards and safety concerns found during inspections are immediately reported, documented, corrective

action plans developed, implemented in a timely manner, and tracked through resolution.

2. Review SRTD's Stray Current Program and interview personnel to determine whether:
   a. SRTD is active in mitigating the effects of stray current on its own and surrounding structures.
   b. SRTD has procedures in place to identify and correct hazards caused by stray current.
   c. Any hazards identified are immediately reported, documented, corrective action plans developed, implemented in a timely manner, and tracked through resolution.

Findings:

1. CPUC noted document correction fluid being used on a F2 substation inspection form for September 2021. Reference SRTD Notice # LR-19-004 W.
2. CPUC noted that SRTD has not been routinely conducting level 1 inspections, and level 2 inspections are randomly being missed. These are required per LR-SOP-86-402 and LR-SOP-86-403.

Comments:

1. CPUC notes that SRTD is understaffed with certified maintainers to properly maintain the system to regulatory and industry standards. The understaffing is possibly due to injuries and employees retiring.
2. SRTD shall change the title of the four-year Sub Station Inspection to five years. SRTD currently conducts those inspections every five years.

Recommendations:

1. SRTD must follow SRTD Notice # LR-19-004 W.
2. SRTD must follow LR-SOP-86-402 and LR-SOP-86-403 inspection intervals.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**15-C**	**Element**	**Maintenance Audits and Inspections: Train Control & Signal System Maintenance**
Date of Review	October 27, 2021 10:30-12:00	**Department(s)**	LR Maintenance
Reviewers/ Inspectors	Shane Roberson Eric Madero Sal Herrera	**Persons Contacted**	Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Michael Cormiae, LR Maintenance Director Jason Coveau, LR Wayside Superintendent

REFERENCE CRITERIA

1. General Orders 164-D/E, & 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. LR-SOP-89-406 Power Switch Machine Quarterly Inspection
7. LR-SOP-90-410 Non-crossing Instrument House/Relay Case Quarterly Inspection
8. LR-SOP-86-411 Wayside Signal Inspections
9. LR-SOP-87-412 Wayside Signal Troubleshooting & Repairs
10. LR-SOP-13-414 Out of Service Jumpers
11. LR-SOP-88-419 Electric Lock and Switch Controller Maintenance
12. LR-SOP-91-422 ABS Vital Relay Testing & Interlocking Inspections

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Maintenance Audits and Inspections: Train Control & Signal System Maintenance

Select at least four (4) segments of mainline track, including at least one at-grade section, one semi-exclusive right-of-way section, and one aerial section, at random from each of the following areas:

1. Blue Line
2. Gold Line
3. Green Line

Interview the appropriate representatives, perform field observations of Personnel conducting inspections of the Train Control and Signal System, and review appropriate records for the past 3-10 years to determine whether:

1. The required inspections were performed during the past 3-10 years per supporting references.
2. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
3. Defective conditions, Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.

FINDINGS AND RECOMMENDATIONS

<u>Activities:</u>

CPUC Interviewed the appropriate representatives, performed field observations of Personnel conducting inspections of the Train Control and Signal System, and reviewed appropriate records for the past 3-10 years to determine whether:

1. The required inspections were performed during the past 3-10 years per supporting references.
2. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
3. Defective conditions, hazards and safety concerns found during inspections are immediately reported, documented, corrective action plans developed, implemented in a timely manner, and tracked through resolution.

Findings:

1. For all lines/locations, CPUC noted an improper test maintenance procedure. During quarterly switch inspections SRTD personnel conducted an improper test on the M-23 Switch Power Switch Machine per 49CFR 236.103. On Power Switch 196A, the quarterly passed with the cup gage but when asked by the CPUC to put a ¼" obstruction in the switch point and float the lock rod, the quarterly test failed. Failure indicates the switch didn't meet the ¼' obstruction in the switch points and the point detector rod had to be adjusted.
2. On the Blue Line at S205A & S205B, CPUC Staff found broken bridals of the shunt fouling. Reference LR-SOP-89-406 part c.

Comments:

1. CPUC Staff noted on the Switch inspection form, the Vital Relay Times should have an actual time, not an estimated time or deleted off the inspection form. Every location is different, and they may not have all the same times. One can find the actual time on the relay, prints, or the configuration software.

Recommendations:

1. SRTD must change their LR-SOP-89-406 part e Point Detector Test to comply with 49CFR 236.103 requirements. The cup gage is only meant to test a latch out to verify functionality test. The cup gage does simulate a 1/4" obstruction but it does not test any lost motion in the switch, rods, and rail. Per 49 CFR 236.103, "Test should be made with the obstruction gage placed between the stock rail and the switch point, 6 inches from the end of the switch point, to determine proper adjustment and operation." SRTD must ensure that personnel are properly trained to conduct a proper quarterly switch inspection in accordance with 49CFR 236.103 requirements.
2. SRTD must replace broken fouling wire per LR-SOP-89-406.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**15-D**	**Element**	**Maintenance Audits and Inspections: Tracks & Turnouts**
Date of Review	October 27, 2021 13:30-15:00	**Department(s)**	LR Maintenance
Reviewers/ Inspectors	Samuel Herroz Sal Herrera	**Persons Contacted**	Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Michael Cormiae, LR Maintenance Director Jason Coveau, LR Wayside Superintendent

REFERENCE CRITERIA

1. General Orders 164-D/E, & 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. LR-SOP-89-406 Power Switch Machine Quarterly Inspection
7. LR-SOP-87-413 ROW Track Maintenance and Inspection
8. LR-SOP-91-424 Power Switch Machine Monthly Inspections

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Maintenance Audits and Inspections: Fixed Guideway

Select at least four (4) segments of mainline or yard track, including at least one at-grade section, one semi-exclusive right-of-way section, and one aerial section, at random from each of the following areas:

1. Blue Line

2. Gold Line
3. Green Line

1. Interview the appropriate representatives, perform field observations of Personnel conducting inspections of Tracks and Turnouts, and review appropriate records for the past 3 years to determine whether:
   a. The required inspections were performed during the past 3 years per supporting references.
   b. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
   c. Defective conditions, Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.

2. Review Geometry Car and Internal Rail Defect Detector inspection reports for the past 3 years to determine whether:
   a. The required inspections were performed during the past 3 years per supporting references.
   b. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
   c. Defective conditions, Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.

FINDINGS AND RECOMMENDATIONS

<u>Activities:</u>

CPUC inspected track and switches on the Blue-line, Gold-line, and Green-line:

1. Blue-Line - south line switches S205A, S205B, and North line switches N41, N43A, N43B.
2. Gold-Line - (Mather field X-overs) F199A, F199B, F196A, F196B
3. Green-Line - switches A345, A365, A375 A385

1a. The required inspections were performed during the past 3 years per

supporting references.
2019 switch inspections:

- A315-325-345-236-375-385-406-415A-415B-425A-425B
- No inspections were completed in April.
- Two quarterly inspections are missing in 2020, possibly due to COVID
- The A365 Quarterly inspection was not completed.
- CPUC notes multiple inspections with the A-series switches with bellows damaged noted, but no tracking or repairs were identified.

2021 switches A205-A260:

- Feb and March - A205- A260 switch inspections were over 40-45days on mainline switches.
- April - all monthlies were late
- Y1-Y7 were 7 days late
- Y3-5 were 51 days late.
- Note all mainline switches are 40-60 days late.
- Only South line switches were on time.

1b. SRTD is not making note of defective maintenance, adjustments or repairs made on forms in 2019 and 2020. In 2021, SRTD has improved and shows notes and repairs made.
1c. Defective conditions, hazards and safety concerns found during inspections are immediately reported, and documented, corrective action plans developed, implemented in a timely manner, and tracked through resolution. CPUC found defective conditions on track and switches that are not being noted on their inspection report. SRTD is not taking proper remedial action to repair items identified. CPUC notes that ties throughout the system are in bad conditions. Some are hollow and 'spike killed' where the spikes are not holding rail and components effectively. All switches on the green line have excessive wear on the flange bearing frogs and are starting to wear on the frog points.

CPUC Reviewed Geometry Car and Internal Rail Defect Detector inspection reports for the past three years.
2a. Some of the required inspections were performed during the past three years per supporting references.

- Geometry Car Inspections performed on time for 2019-2021
- SRTD did not provide Ultra- Sonic test records for 2019-2021
- SRTD only submitted cover page for Ultra Sonic testing record for 2019.

2b. Some Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.

- Multiple geometry car red tag defects were identified but not confirmed through resolution.
- SRTD failed to take proper remedial action of defects for the geometry car in a timely manner.
- Staff were unable to determine if corrective action was done in timely manner since no UT records submitted by SRTD.

2c. Defective conditions, hazards and safety concerns found during inspections are immediately reported, documented, corrective action plans developed, implemented in a timely manner, and tracked through resolution.

- Hazards, safety concerns, were not reported immediately for the geometry car.
- Corrective action plans are developed but are not being implemented by SRTD.
- Hazards are not being tracked through resolution for geometry car and ultra-sonic testing and track inspections.

<u>Findings:</u>

1. Defective tie conditions were noted. (49 CFR 213.109).
2. Multiple quarterly inspections were missing. (LR-SOP-87-413, 49 CFR 213.235B). Monthly Switch inspections are late between 44-60 days late in 2021 (LR-SOP-87-413, 49 CFR 213.235a).
3. Track and Switch inspections are not tracking defective or maintenance items on inspection reports (LR-SOP-87-413). CPUC notes SRTD failing to take proper remedial action for defective conditions found. SRTD failed to provide UT inspection records for 2019-2021 (49 CFR 213.237 (A) (C) & GO 164 E (LR-SOP-87-413).
4. SRTD failed to provide internal rail defect detection records to CPUC Staff.

<u>Comments:</u>

1. CPUC found defective tie conditions throughout the system, mainly on the North Blue line and Folsom Gold line.

2. CPUC notes that SRTD is short staffed with Track and Signal personnel which may be a contributing factor for the regulatory and industry standard non-compliance found.

<u>Recommendations:</u>

1. SRTD must replace defective ties throughout the system to be in-compliance with 49 CFR 213.109.
2. SRTD must follow LR-SOPs, CFRs, and GOs and ensure inspections are being performed properly and in a timely interval.
3. SRTD must make all track, geometry, and UT inspection records available for CPUC Staff review. These records should be kept as a hard copy or digital file (49 CFR 213.237(A) (C), G.O. 164 -E, LR-SOP-87-413). SRTD provided available UT inspection records, some records were incomplete. During 2020 the UT Contractor was subject to travel restrictions and insufficient personnel due to COVID-19.
4. SRTD must conduct internal rail defect detection inspections as required by 49 CFR Part 213, and provide CPUC Staff with records, including remedial action records.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**16-A**	**Element**	**Training and Certification Programs: Operators & Transportation Supervisors**
Date of Review	October 28, 2021 13:30-14:30	**Department(s)**	LR Operations & LR Maintenance
Reviewers/ Inspectors	Michael Rose Richard Fernandez	**Persons Contacted**	Edna Stanley, VP of LR Operations Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director Jason Coveau, LR Wayside Superintendent Stephen McCabe, SR Manager EH&SS

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, & 175-A
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Training and Certification Programs: Operators & Transportation Supervisors

Select at least five (5) Employee's training records at random from each of the following areas:

1. Operators

2. Transportation Supervisors

Interview the appropriate representatives and review appropriate records for the past 3 years to determine whether:

1. Roadway Worker Protection, Personal Electronic Device, and other specific job required training was completed.
2. All employees successfully completed initial training programs, and any discrepancies were addressed and resolved.
3. All employees have been recertified at the required frequency and are currently certified to perform their duties.
4. A process for maintaining and accessing employee training records is in place.
5. Categories of safety-related work requiring training and certification have been identified.
6. Employee job classifications requiring initial and refresher training and certification have been identified.
7. A process is in place to assess compliance with its training and certification requirements.
8. Corrective actions taken to discipline employees for failure to follow established procedures after training and certification are established and consistent.

FINDINGS AND RECOMMENDATIONS

Activities:

1. CPUC Staff reviewed five LRV Operator's and five LRV Supervisor's training records and verified that Roadway Worker Protection, Personal Electronic Device, and other specific job required training has been completed.
2. CPUC Staff reviewed five LRV Operator's and five LRV Supervisor's training records. All ten records contained their initial training documentation.
3. CPUC Staff reviewed five LRV Operator's and five LRV Supervisor's training records to verify that their recertifications are current. All ten employee records reflected that they are certified or pending

recertification. All ten employees are currently certified to perform their duties.

4. All training records are currently being maintained by two dedicated Supervisors on special assignment and in charge of training. The Supervisors are currently storing all training records on their SRTD I-Drive, where division Managers have access to their assigned employee's training records.
5. SRTD has identified and outlined each category of safety-related work that requires training and certifications into their PTASP dated October 2020. Before the PTASP, the categories were identified in SA-SOP-06-008 Rail System Program Plan (SSPP).
6. CPUC Staff reviewed LR-SOP-99-030 LR Vehicle Operator Training, which outlines the employee job classifications requiring certification and re-certification pertinent to Checklist 16-A.
7. SRTD training Supervisors have created a spreadsheet containing all employees' upcoming training and re-certification dates. This spreadsheet is utilized to inform Directors and Supervisors when their assigned employees require training, so the employee is recertified before the expiration date. The spreadsheet also enables the training supervisor to schedule training far enough out to ensure employees can receive required training/re-certification in a class size that meets current COVID Pandemic regulations.
8. CPUC Staff reviewed SRTD's corrective action plan process to discipline employees for failure to follow established procedures. When a procedure or rule is violated, SRTD investigates, and then creates a corrective action plan. The employee then receives re-training and or discipline relevant to the corrective action plan. This procedure is consistent within the Light Rail Operations Department.

Findings:

None.

Comments:

1. Of the ten SRTD Employee records reviewed, CPUC Staff found them to be very organized, and found it easy to verify that the required training and certifications were being conducted. This reflects the

degree of professionalism of the Supervisors who are currently maintaining the employee records.

Recommendations:

None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**16-B**	**Element**	**Training and Certification Programs: LR Maintenance & Contractors**
Date of Review	October 28, 2021 14:30-15:30	**Department(s)**	LR Maintenance Engineering & Construction
Reviewers/ Inspectors	Laura Espinoza Nicholas Denny Samuel Herroz	**Persons Contacted**	Michael Cormiae, LR Maintenance Director George Kirbyson, LRV Maintenance Superintendent Jan Mauricio, Safety Specialist II

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 172, & 175-A
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. On Track Safety Program – Version # 2016031401, 2018091801, 5-7-19, & 6-17-20
7. LR-SOP-18-430 Secondary Personal Alert Device
8. LR-SOP-01-425 Lineworker Safety Certification
9. LR-SOP-01-426 Rail Maintenance Worker Safety Certification

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Training and Certification Programs: Operators & Transportation Supervisors

Select at least five (5) Employees or Contractors training records at random from each of the following areas:

1. Track
2. Signal
3. LRV Maintenance
4. Contractors

Interview the appropriate representatives and review appropriate records for the past 3 years to determine whether:

1. Personal Electronic Device and other specific job required training was completed.
2. All employees successfully completed initial training programs, and any discrepancies were addressed and resolved.
3. All employees have been recertified at the required frequency and are currently certified to perform their duties.
4. A process for maintaining and accessing employee training records is in place.
5. Categories of safety-related work requiring training and certification have been identified.
6. Employee and contractor job classifications requiring initial and refresher training and certification have been identified.
7. A process is in place to assess compliance with its training and certification requirements.
8. Corrective actions taken to discipline employees and contractors for failure to follow established procedures after training and certification are established and consistent.
9. Contractor training requirements are specified in contract documents.

FINDINGS AND RECOMMENDATIONS

Activities:

CPUC staff interviewed SRTD staff and appropriate records for the past 3 years, and determined that:

1. PED training, included in the Rule Book, is annual training (SOP). Other job specific training includes technical training and safety related training (SOP).

2. Staff reviewed records for initial training of randomly selected employees.
3. Staff reviewed recertification records for randomly selected employees. Respirator Protection training and fit testing and Bloodborne Pathogens training should occur annually per FM-SOP-07-025.
4. Staff reviewed training record processes and found SOPs are established for initial and refresher training
5. FM-SOP-07-025 defines categories of safety-related work requiring initial and refresher training.
6. FM-SOP-07-025 defines job classifications that require initial and refresher training.
7. Staff reviewed Rules & Procedures checks and PED checks for compliance with LR-SOP-16-304 and LR-14-001 M.
8. Staff reviewed Rules & Compliance checks and PED checks for actions taken on failures.
9. Staff reviewed contract document that includes contractor training requirements.
10. Records reflect that several employees did not receive initial or refresher training from 2017 to 2020.

Findings:

1. Training records for multiple SRTD personnel show they did not receive Respirator, Bloodborne Pathogens, HazCom, or First Aid Training at the frequencies required per FM-SOP-07-025. Records reflect that several employees did not receive initial or refresher training from 2017 to 2020.

Comments:

None.

Recommendations:

1. SRTD must ensure that all training and recertification training is completed according to policies and procedures. SRTD experienced difficulty in providing training as required due to COVID-19 restrictions.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**17**	**Element**	**Configuration Management and Control**
Date of Review	October 21, 2021 10:00-11:00	**Department(s)**	LR Operations & LR Maintenance Engineering & Construction QA/Asset Management IT
Reviewers/ Inspectors	Rupa Shitole Steve Espinal	**Persons Contacted**	Sandy Bobek, AVP, Technology, Innovation & Performance Monitoring Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director Craig Norman, Acting Director, Engineering & Construction Eric Oparko, QA/Asset Management Stephen McCabe, SR Manager EH&SS

REFERENCE CRITERIA

1. General Orders 164-D/E & 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. PC-SOP-96-001 – Configuration Management Procedure Revision # 050110-B
7. PE-SOP-003-2021 – Configuration Management Plan

8. Configuration Change Request Forms
9. Configuration Management Committee (CMC) agendas and minutes
10. Change Review Committee (CRC) agendas and minutes
11. Rail Activation Committee (RAC) agendas and minutes
12. PE-SOP-003-2021 – Configuration Management Plan

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Configuration Management and Control

1. Randomly select two recent changes pertaining to the Light Rail system during the last 3 years to ensure configuration management documentation was properly updated to include at a minimum:
   a. As-built drawings.
   b. As-built specifications.
2. Randomly select a Project Concept Submitted to CRC and verify that:
   a. Modification/Change Request forms were used.
   b. Forms were circulated to the CMC/CRC.
   c. CMC/CRC performed a review, analysis, and approval of forms by completing the Modification/Change Request process for the project.
   d. The change was reviewed and approved by applicable CMC/CRC Members.
   e. Change was circulated to the proper departments for implementation.
   f. All necessary parties within or outside the agency were properly notified about the change.
3. Verify status of 2017 Triennial Review and Internal Safety Audit corrective actions for recommendations and findings.

FINDINGS AND RECOMMENDATIONS

<u>Activities:</u>

1. a. In the previous four years there have been four (4) drawings requiring updating. To date two of the four design plans have been updated. SRTD shared project as-built plans for construction of the Northeast Corridor Fiber project (NEC II Fiber Optic Backbone

Installation). The Configuration Change Request Form (CCRF) CR-042-11 dated August 30, 2011, for NEC II Fiber Optic project was reviewed.
b. As built specifications are discussed in Change Review Committee (CRC) meetings. The changes are reflected in the designs.

2. Modifications requests are included in the monthly CRC meeting minutes. The committee includes managers of engineering, operations, and safety. The Chief Safety Officer's role is to review the safety concerns resulting from any changes and raise any possible issues with the changes. The CRC must vote to approve any changes that are submitted to the committee for review and approval.
    a. Reviewed CCRF (CR 084—18 OP) Bike Share project dated 7/27/2018.The form was reviewed and signed off by required departments.
    b. The CRC meeting minutes are distributed to the managers of the relevant departments. The CRC meeting minutes follow the changes from inception to replacement for any changes. The managers of the relevant sections must approve any changes and the Chief Safety Officer must review changes for any new hazards. The Chief Safety Officer must agree to any system or sub-system changes made.
    c. The CRC change approval must include a "yes" (100% approval) vote from all relevant departments. A "no" vote will require more study and evaluation of the proposed changes.
    d. Changes are circulated to all departments and are stored on a secure server for future access if needed. Staff reviewed CCRF signed documents related to CR 084—18 OP and CR-042-11.
    e. All CRC meeting minutes are distributed to all managers. Staff reviewed random meeting minutes for CY 2019-2021.
    f. There are four (4) projects (CR #082-18 (Systemwide Public Announcement Enhancement); CR #044-11 (Smart Card Installation); CR#052-12 (Rail Infrastructure Hardening, Surveillance and Monitoring); CR# 088-18 (Light Rail Automated Passenger Counts) that did not undergo the CCRF process or the CRC meetings for review and approval as required by SRTD procedures. An internal audit at SRTD noted the deficiency and SRTD followed up. These projects have been

documented on the CRC meeting minutes for follow up under "Changes without Committee Review". Staff questioned SRTD personnel as to what happened and why these projects did not go through the usual CCRF, or review and approval through the CRC meetings. SRTD's response was that there was a change in personnel, and the new staff was not aware of the SRTD CCRF process but was afterwards trained in the SRTD's CCRF review process and approval before making any changes. Currently, all four of these projects are awaiting updated as-builts (Drawing/Plans/Documents) and SRTD has hired contractors and it is work in progress.

3. RSSIMS TCAP 2019030052 is still open. As-builts must be updated and generated as needed dictated by the Change Review Committee. SRTD plans to update a list of As-builts required for updates and develop a schedule to complete. The current proposed implementation date is 12/31/2021.

<u>Findings</u>:

The following finding and recommendation were issued during the 2017 triennial audit.

1. As-builts must be updated and generated as needed, dictated by the Change Review Committee.

<u>Comments:</u>

1. SRTD should prioritize and complete the as-builts as soon as possible for all old projects that have been completed. It is crucial to have updated drawings when ongoing projects are transpiring. It is important to have access to current conditions in the field to make for any future changes.

<u>Recommendations</u>:

1. SRTD As-Builts must be updated and generated as needed, dictated by the Change Review Committee (from 2017 Triennial Audit Recommendation).

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**18**	**Element**	**Local, State, and Federal Requirements**
Date of Review	October 19, 2021 10:30-11:30	**Department(s)**	LR Operations & LR Maintenance
Reviewers/ Inspectors	Noel Takahara Madeline Ocampo	**Persons Contacted**	Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director Jan Mauricio, Safety Specialist II

REFERENCE CRITERIA

1. General Orders 164-D/E & 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. Injury and Illness Prevention Program Manual

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Local, State, and Federal Requirements

Interview appropriate representatives and review appropriate records for the past 3 years to determine whether:

1. A procedure and reporting form are being implemented and is distributed to all employees to effectively report safety hazards in the workplace.
2. The Joint Union/Management Safety Committee responds to employees' complaints regarding safety problems.

3. The SMS Committee/HRFLSC responds to employees' complaints regarding safety problems.
4. A process exists to review and update the IIPP?
5. Appropriate corrective actions regarding employee safety have either been satisfactorily completed or are being actively tracked and documented.
6. The Employee Safety Program training is provided to all employees and records are maintained.
7. Any non-compliance with local, state, or federal requirements were presented to the SMS Committee/HRFLSC for corrective action and are tracked through implementation.
8. Construction projects have specific procedures in place to ensure worker protection and public safety on the job site.

FINDINGS AND RECOMMENDATIONS

<u>Activities:</u>

Staff met with SRTD Staff and determined the following:

1. There is a non-punitive reporting policy for all safety hazards unless it is identified as an exempted action per PTASP Section 1.2. Employee reporting is identified in the Injury and Illness Prevention Program (IIPP). The reporting form is called Safe-1 and it is available to all personnel via the intranet. The Safe-1 form is paper-based, and when employees want to use the form, they print it, complete it, and submit it to their supervisor. Safe-1 forms are also available at the dispatch window where the train operators check out. Safe-1 forms are not received on a regular basis.

   Additionally, Alert SacRT is a phone application-based reporting system for riders and employees to report issues. The Alert SacRT application was implemented in April 2021.

   There is a Light Rail notice reminding train operators and personnel to communicate workplace hazards. The train operators can view the notice daily. The notice was recently issued, and it is a permanent notice that is re-issued every 3 years.

   Staff reviewed the "Light Rail Operations Department Bulletin" dated 3/26/2021, which reminds operators to report all hazardous or unsafe conditions using the Safe-1 form. Staff viewed the “Light Rail Transportation Department Bulletin” dated 6/17/2021, which has information about the schedule for the monthly light rail transportation safety discussions. Staff reviewed a blank version of the latest Safe-1 form, which contains fields for the employee to describe the hazardous condition/work practice, and fields for the supervisor to describe follow-up actions.

2. SRTD has monthly meetings with International Brotherhood of Electrical Workers (IBEW) with representation from the Safety Department, union representatives, and management (from Director level up to Vice President), Facilities, and Maintenance. Any items that are brought up in the meeting are tracked via meeting minutes. SRTD has a quarterly labor management committee meeting attended by the American Federation of State County and Municipal Employees (AFSCME) committee members, Director of Light Rail Operations, Superintendent of Light Rail Operations, Vice President of Light Rail Operations, Senior Manager of Labor Relations, business agent for AFSCME, and Senior Labor Relations Manager administrative assistant. The agenda is created based on information solicited from the labor group about their current issues. The meetings cover general system safety issues which may not rise to the level of an immediate hazard and do not necessitate a Safe-1 form. For instance, meeting participants may discuss supervisor coverage in the field and how that affects ability to respond to events. Safe-1 is for an immediate workplace hazard or a hazardous experience.

   Staff reviewed meeting minutes from the “IBEW-RT Safety Committee Meeting” on 9/9/2021. Staff reviewed the agenda for the “AFSCME & SACRT Labor Management Meeting” on 9/14/21.

3. Before the PTASP implementation, there were HRFLSC meetings at SRTD. With PTASP implementation, it was realized that the HRFLSC meeting primarily performed the function of the SMS committee meeting and, according to the new FTA definition of HRFLSC, HRFLSC meetings involves external agencies. As a result, the original HRFLSC became the monthly SMS rail committee meeting. The HRFLSC also chairs the annual external agencies meeting.

The annual HRFLSC meeting includes external agencies such as the Fire Department, Police Department, and utility companies (e.g., Pacific Gas and Electric) that work on a regular basis around the SRTD system. The Annual meetings review safety topics and concerns, such as complying with on-track safety and on-track safety training, and the meetings help external agencies get familiarized with the SRTD system.

On the other hand, the SMS committee meetings address workplace-related concerns and employee-related safety concerns. The SMS committee meeting is monthly, and attendees include Maintenance, Rail Operations, and CPUC. All activity is tracked in meeting minutes.

Staff viewed the meeting minutes from the "SMS Rail Committee Meeting" on 9/17/21, which lists CAPs by subject (e.g., Safety Certification, Triennial Audit, SSOA Inspection, and Event Investigation Reports), and documents CAP progress until completion. Additionally, under "Safety Assurance and Safety Risk Management" there are fields to enter information about and a next action for findings from Safe-2 forms, Rail Transit (RT) Control Log, Monthly Building Safety Inspections, Right of Way Incident Reports, Maintenance/Failure Reports, and Cal/OSHA. Staff was informed that the HRFLSC annual meeting has not occurred to date since the October 2020 change. COVID-19 limited meeting restrictions were implemented, and participating agencies were occupied with fulfilling their essential services. The first HRFLSC meeting is anticipated Spring/Summer 2022.

4. The IIPP is updated periodically. The last update by Safety Department in 2020 was for PTASP implementation. COVID-19 provisions were not part of the 2020 IIPP update, but they exist in separate documents. The current procedure is to review the IIPP every 3 years, but if there are any changes to a regulation portion, then the IIPP will be updated as needed. The IIPP is reviewed by multiple departments - the Safety Department is responsible for the procedure, but the IIPP is reviewed by multiple others, such as the Safety Department, Operations, Maintenance, Labor Management, Facilities, and Risk Management. Staff viewed the "Routing Form for District-Wide Standard Operating Procedures" for the IIPP (SOP number FM-SOP-04-008), which has signatures from all reviewers

dated in 2020; the IIPP was distributed on 5/18/2020 as a Standard Operating Procedure Distribution Notification Group. Signatures are obtained from the VP of Security, Safety & Customer Satisfaction, VP of Operations, VP of Integrated Services & Strategic Initiatives, VP of Planning & Engineering, and General Manager/CEO.

5. Corrective actions are tracked in SMS committee meetings and IBEW meetings and their respective meeting minutes. The corrective actions are reviewed monthly until CAP completion. There is an established method to define problems, measure them, analyze relevant data, implement CAPs, and revisit the CAPs to check on effectiveness of the corrections implemented. For example, there was a spike in wheelchair ramp injuries which are manually deployed on Light Rail vehicles. SRTD identified an increase in employee injuries when deploying the ramps, so the SMS Committee, evaluated process, procedures, training, mechanics of the ramps, and ergonomics of the ramps to identify a contributing factor and root cause, with the recommendation being retraining for train operators. SRTD incorporated ramp usage into recertification training and return-to-work training. Additionally, the form for the Weekly Ramp Inspection was updated to be a more detailed check. In monthly SMS committee meetings, the CAPs are monitored for effectiveness.
6. Safety training is provided to personnel and the type depends on job classification and duties. The frequency of the safety training depends on the type of training. There are different safety programs depending on the job classification (e.g., mechanics, maintenance, operations). Individual training records are uploaded and maintained on a SharePoint, per Safety Department. They keep track of initial training and recertification training. The retention period is 3-4 years for certain training records, such as for Cal OSHA, blood-borne pathogens, CPR, first aid, which mainly affect maintenance groups. On the other hand, training records for train operators and supervisors are kept for the duration of employment history. Training requirements for different job positions are in the PTASP Section 4.4, and the retention period is discussed in SacRT Record Retention Policy Section 4.6.

7. The SMS committee meeting, which was formerly the HRFLSC meeting prior to PTASP implementation, tracks local, state, and federal findings. Monthly SMS committee meetings track Cal OSHA inspection findings, FRA inspection findings, and CPUC inspection findings. Staff reviewed the meeting minutes from the "SMS Rail Committee Meeting" on 9/17/21 and confirmed that there are fields to input Cal OSHA, FRA, CPUC, and bridge inspection findings.
8. For Light Rail projects, the Safety Department is part of a kick-off meeting, which continues weekly up until project completion. In these meetings, safety issues are brought up for any ongoing construction projects. The Safety Department asks the project contractor about their procedures, such as the IIPP, project safety and security plan, safety data sheets to be used on site, pedestrian travel and traffic control plans, and on-track safety training requirements. The Engineering Department has a construction manual plan that identifies regular inspections done by the Construction Manager or SacRT representative to ensure compliance with on track requirements, if applicable. If it is an external project, such as with Comcast or AT&T, the company must undergo a utility permit process. The closer the contractor's work is to the tracks, the more level of train control they need. There is a separate process to give external agencies access to SRTD property.

<u>Findings</u>:
None.

<u>Comments:</u>
None.

<u>Recommendations</u>:
None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**19**	**Element**	**Hazardous Materials Program**
Date of Review	October 20, 2021 15:00-16:00	**Department(s)**	Facilities Maintenance LR Operations & LR Maintenance
Reviewers/ Inspectors	Jimmy Xia Arun Mehta Steve Espinal	**Persons Contacted**	Juliette Terry, Procurement Department Jan Mauricio, Safety Specialist II Jamie Adelman, VP of Finance & Treasury Colleen Elder, Materials Management Superintendent Thomas Dempsey, Sr. Procurement Analyst

REFERENCE CRITERIA

1. General Orders 164-D/E & 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. Injury and Illness Prevention Program Manual
7. FM-SOP-06-022 Hazardous Materials Management Program
8. Hazardous Materials Business Plan
9. HAZWOPER Program

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Hazardous Materials Program

Interview appropriate representatives to discuss the hazardous materials program and the role of each Light Rail Department in enforcing this program and determine the following:

1. Personnel comply with the procurement process for insecticides, herbicides, chemicals, and solvents.
2. Select, at random, six Personnel responsible for handling hazardous materials and verify that they have received specific training for reporting requirements, product release or spill, and the response and cleanup of spill incidents.
3. Verify that hazardous materials discharge/spill reports for incidents that occurred during the past 3 years have been prepared and filed.
4. Verify all Safety Data Sheets (SDS) are available to all personnel who handle hazardous materials.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed SRTD representatives and reviewed SRTD's Hazardous Materials Program documentation, including the following:

- Education and Training Records for the Hazardous Waste Management refresher training class for six randomly selected SRTD personnel responsible for handling hazardous materials.
- Introduction to Hazardous Waste Management training PowerPoint slides by SRTD's Environmental, Health, and Safety, dated November 2016.

Staff found the following:

1. Staff met with SRTD personnel and inquired about SRTD's procurement process for hazardous materials. SRTD personnel provided the response as follows. Essentially, when SRTD has a request for any kind of chemical or hazardous material, they will see if they have purchased the material before. If they have, they have gone through the procurement process, and they should have the materials for it. If they have not purchased the material before, they would acquire the SDS for the material and provide that to safety for approval. SRTD follows a competitive process for choosing vendors. As an open

process, they may choose any vendor providing the material that offers the lowest price.

Furthermore, SRTD uses Planet Bids (PB), an online e-procurement system where they post their scope of services (whatever they're seeking to procure) and await quotes from vendors. Any vendors registered with PB are notified when requests for their services are posted. This way, SRTD ensures that they broadcast their procurements to as wide a range of potential vendors as possible. PB hosts thousands of vendors across and is an open system that anyone can register with and view/bid on the procurements that are available. SRTD usually gets a high degree of interest and multiple respondents for whatever they post, when it's a small purchase.

SRTD procures separately for their hazardous materials. They have a separate contract that monitors safety. Their hazardous materials are independently bid out and procured.

SRTD has and follows procedures and processes that are handled by their safety staff to ensure all requirements for procurement of hazardous materials are met. As such, staff determined that SRTD personnel comply with the procurement process for insecticides, herbicides, chemicals, and solvents.

2. SRTD has an online database/SharePoint site where they keep all their training documentation. SRTD's Safety Specialist showed her laptop screen of the online site to staff which shows the class name, training date, the department where an individual resides. They also upload their employees' training records on the site. Each individual employee signs his/her own training record, which identifies the class, class objective, which department they are from, their names, and date they complete the training.

   SRTD trains all their facility departments, maintenance departments for both light rail and bus, and wayside. SRTD trains approximately 100 employees on the light rail side who are responsible for handling hazardous materials. Those employees' initial training regarding hazardous materials occurs during new employee orientation, which covers basic information about hazardous materials. SRTD separately enacts specific hazardous waste management training via the Safety

Department. This consist of a two-hour training class that is conducted once every 3 years.

SRTD reacts to spills according to their severity. SRTD employees are only trained to respond to minor / incidental spills. Any spill that is above 55 gallons is considered a major spill which requires contractors to handle.

Staff randomly selected the following six SRTD personnel responsible for handling hazardous materials on SRTD's SharePoint site and reviewed the Education and Training Records for the Hazardous Waste Management refresher training class as summarized below. For this class, the student fills out the bottom portion of the record form including their name, department, and job, and the instructor also signs in the instructor signature field in the bottom of the form. The record identifies objectives for the training including management of hazardous wastes, storage waste limits, health, and environmental effects, and identifying what hazardous waste.

- Employee #1 – received hazardous waste management training on 3/6/19
- Employee #2 – received hazardous waste management training on 3/6/19
- Employee #3 – received hazardous waste management training on 3/6/19
  - The job field in the bottom portion of the record is left blank, their department is wayside, sometimes they just put department
- Employee #4 – received hazardous waste management training on 2/20/19
  - No instructor signature in the field in the bottom portion of the record
- Employee #5 – received hazardous waste management training on 2/20/19
- Employee #6 – received hazardous waste management training on 12/20/17

Due to restrictions caused by the COVID-19 pandemic in 2020, SRTD has not had the ability to hold large classes, so the hazardous waste management training classes were suspended in 2020. SRTD hopes to start initial and refresher training classes the end of 2021or early 2022. However, a scheduled date is not known at this time.

Considering the above, staff verified that the six randomly selected SRTD personnel have received specific training for reporting requirements, product release or spill, and the response and cleanup of spill incidents.

3. During the past four years, SRTD has not had any major hazardous materials spills, so they were not required to prepare and file any spill reports. SRTD reports that only incidental spills have occurred within the last four years.

   If a major spill occurs, they will follow their emergency response procedure, which would be to evacuate the building and call 911 and the Fire Department. They have fire alarm pull down systems in all their buildings that serve as an audible alarm to alert people to evacuate the buildings during such events.

   As far as incidental spills, there are no notifications, and the spills are cleaned up internally in each department. Each department has their spill kits available. In the past four years, SRTD have not conducted emergency drills for hazardous material spills. They have only done emergency (general fire) evacuation drills, but they weren't specific regarding hazardous materials. Staff suggested that SRTD should consider including hazardous material spills in their future emergency drills.

4. As part of SRTD's new employee orientation, there is a section regarding hazard communication, which covers all SDS elements, what each SDS section means, and different SDS components.

   SRTD's SDSs are stored electronically on their website Headways, and available in hard copy binders in maintenance shops. The SDSs are available to all personnel who handle hazardous materials both online and at departments in hard copy if personnel need to look at them.

   There are no revision dates for SDSs. Every time SRTD receives a new chemical, they add it to their SDS log. To SRTD Safety Specialist's knowledge, no SDS changes had been required in the past four years. In the past four years, there was no SRTD employee with exposure to hazardous material which required hospitalization.

5. SRTD's Safety Specialist stated that the comments from the 2017 SRTD Triennial Safety Review, Checklist 19, have been addressed during the monthly facility safety inspections completed by safety specialists.

Findings:

None.

Comments:

1. The Job field in the bottom portion of the Education and Training Record form for Employee #3 is left blank as detailed above.
2. There is no instructor signature in that field in the bottom portion of the Education and Training Record form for Employee #4 as detailed above.

Recommendations:

None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**20**	**Element**	**Drug and Alcohol Program**
Date of Review	October 21, 2021 9:00-10:00	**Department(s)**	LR Operations & LR Maintenance
Reviewers/ Inspectors	Jimmy Xia Arun Mehta Steve Espinal	**Persons Contacted**	Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Steve Booth AVP, HR & LR, Integrated Serv & Strategic Initiatives Lydia Thames, Labor Relations Analyst II Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director Stephen McCabe, SR Manager EH&SS

REFERENCE CRITERIA

1. General Orders 164-D/E & 143-B
2. PTASP – Revision 0, 10/26/2020
3. 49 CFR 655–Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations
4. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
5. Rail Rule Book – Revised: 7/29/2016
6. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
7. Drug & Alcohol Testing and Rehabilitation Program
8. Drug & Alcohol Policy, Revision: 4/14/2014
9. OTC Memorandum

10. IS-SOP-014-2021 – Monitoring Contractor Compliance w/ DOT-FTA D&A Testing Regulations

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Drug and Alcohol Program

Interview appropriate representatives and review appropriate records for the past 3 years to:

1. Verify that SRTD has a policy for managing the use of over-the-counter drugs.
2. Select at least two safety-sensitive employees who tested positive for drugs or alcohol in the past 3 years and 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.
3. Verify that consequences for repeat offenders were carried out as required in the reference material.
4. Determine if SRTD has undergone a federal or state audit of its drug and alcohol program and whether:
   a. There were any recommendations and if so, corrective actions for recommendations have been implemented and tracked through completion.
   b. This information was reported to the FTA with SRTD’s annual submission to the Drug and Alcohol Management Information System (DAMIS).

FINDINGS AND RECOMMENDATIONS

<u>Activities:</u>

Staff interviewed SRTD representatives and reviewed records. Staff found the following:

1. Staff verified that SRTD has a policy for managing the use of over-the-counter drugs. The policy is described briefly in the SRTD Drug and Alcohol Testing and Rehabilitation Policy, and SRTD's memo entitled "Use of Prescription and Over-the-Counter Medications", dated 3/7/17, discusses the policy in detail.
2. Staff selected two safety-sensitive employees from the LR Operations department who tested positive for drugs or alcohol in the past 4 years and reviewed records containing their SAP follow-up test plans. The following is the summary of staff's review.
   a. Employee ID 3749
      i. Follow-up test start date: 10/1/20, end date: 9/30/21
      ii. Scheduled for a total 10 follow-up tests and completed 10 tests on the following dates: Oct-20, Nov-20, Dec-20, Jan-21, Feb-21, Mar-21, Jun-21, Jul-21, Aug-21, and Sept-21
   b. Employee ID 4072
      i. Completed 4 follow-up tests in Jan-21, Apr-21, May-21, and Sept-21 – In Sept-21, the person was tested but the associated documents are pending.
      ii. Scheduled for 14 more tests from Nov-21 to Dec-24

   Based on staff's review of the records as shown above, staff determined that:

   a. The employees were evaluated and released to duty by the SAP.
   b. The employees were administered a return-to-duty test with verified negative results.
   c. Follow-up testing was performed as prescribed by the SAP according to required follow-up testing frequencies in the reference documents after the employees returned to duty.
3. SRTD follows the following procedure when an employee has been tested positive for drug or alcohol the first time:
   a. SRTD has a second chance rehabilitation program that the employee, if eligible, is allowed to go through and once completed in order, the employee is allowed to return to duty. SRTD will put the employee on administrative leave and then SRTD's Labor Relations Analyst II develops a letter to discuss all

the steps he/she needs to take to continue employment with SRTD. At that point, he/she is referred to an SAP and goes through the rehabilitation program per requirement. Then, the Labor Relations Analyst meets with the employee to determine if he/she is qualified to return to duty.

The employee is evaluated by the SAP who prescribes either a medical treatment or an education program that must be completed. Upon completion of the prescribed program the employee is required to take the return-to-duty test. If they pass, they will return to duty. The SAP will also prescribe a series of follow-up tests to ensure the employee remain compliant and substance-free. The SAP decides on a case-to-case basis as to the frequency of the follow-up tests. For a person who has been through the second chance program, if they subsequently get tested positive again for drug or alcohol at any point in their career, they are subject to termination.

In the last 4 years, SRTD had about 7 or 8 repeat offenders. SRTD has a policy of two strikes and an offender is out / terminated. SRTD's Labor Relations Analyst II stated that all such repeat offenders were terminated.

Staff reviewed the records for four repeat offenders in the last 4 years as summarized below:

- Employee #1 tested positive on 6/30/21 and was terminated
- Employee #2 tested positive on 7/14/17 and was terminated
- Employee #3 tested positive on 3/23/18 and was terminated
- Employee #4 tested positive on 10/29/17 and was terminated

Based on the above, staff verified that consequences for repeat offenders were carried out as required in the reference SOP.

4. The FTA/DOT conducts federal audits of SRTD's drug and alcohol program. The CHP conducts state audits of SRTD's drug and alcohol program on an annual basis. For federal audits, there is no requirement for frequency of audits. The FTA decides when they conduct such audits. The last FTA extensive audit for drug and alcohol program was in late January 2014. Staff reviewed FTA Drug and Alcohol Compliance Auditing Program Final Audit Report dated 1/29/14. According to SRTD representatives, SRTD has closed all the findings and corrective

actions from the 2014 FTA audit. The CHP usually audits SRTD around August on a yearly basis. The CHP documented no findings for SRTD's drug and alcohol program from their audits. The CHP audit report dated 9/22/21 shows that SRTD was assigned a compliance rating of "Satisfactory".

Staff reviewed SRTD's annual report submittals to DAMIS for 2019 and 2020. Information was accurately reported.

5. SRTD conducts random drugs and alcohol testing on their employees every year. SRTD randomly tests 50% of covered employees for drugs and 10% for alcohol yearly pursuant to FTA rules, but they usually go a little bit over that to ensure they meet those requirements.

   Staff reviewed comprehensive testing records called MIS reports that cover random testing information for 2019 and 2020 for three employee categories (revenue vehicle operation, revenue vehicle & equipment maintenance, revenue vehicle control/dispatch) as summarized below.

   a. 2019

      Total safety sensitive employees – 803

      Total revenue vehicle operation employees – 530

      Total revenue vehicle & equipment maintenance employees – 180

      Total revenue vehicle control/dispatch employees – 93

      1. Drug testing data:
         a. Conducted a total of 401 random tests (49.94% of 803), 398 verified negative results, 3 verified positive results for one or more drugs
         b. Overall total of 824 tests, 819 verified negative results, 5 verified positive results for one or more drugs
      2. Alcohol testing data:
         a. Conducted a total of 98 random tests (12.2% of 803), 98 screening tests with results below 0.02
         b. Overall total of 139 tests, 138 screening tests with results below 0.02; 1 screening test with results 0.02 or greater

   b. 2020

      Total safety sensitive employees – 846

      Total revenue vehicle operation employees – 590

Total revenue vehicle & equipment maintenance employees – 170

Total revenue vehicle control/dispatch employees – 86

1. Drug testing data:
    a. Conducted a total of 429 random tests (50.7% of 846), 423 verified negative results, 3 verified positive results for one or more drugs
    b. Overall total of 962 tests, 951 verified negative results, 7 verified positive results for one or more drugs
2. Alcohol testing data:
    a. Conducted a total of 98 random tests (11.58% of 846), 98 screening tests with results below 0.02
    b. Overall total of 169 tests, 168 screening tests with results below 0.02; 1 screening test with results 0.02 or greater

Based on the records review, the percentages of employees selected for random drug and alcohol testing during 2019 and 2020 comply with the testing rates established by the FTA on an annual basis.

Findings:

None.

Comments:

None.

Recommendations:

None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**21**	**Element**	**Procurement Process**
Date of Review	October 25, 2021 15:00-16:00	**Department(s)**	Procurement Department LR Operations & LR Maintenance
Reviewers/ Inspectors	Jimmy Xia Arun Mehta Steve Espinal	**Persons Contacted**	Juliette Terry, Procurement Department Michael Cormiae, LR Maintenance Director Jan Mauricio, Safety Specialist II Jamie Adelman, VP of Finance & Treasury Colleen Elder, Materials Management Superintendent

REFERENCE CRITERIA

1. General Orders 164-D/E & 143-B
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. Procurement Policy Manual
7. PO-SOP-14-002 Revision 112219-A
8. FI-SOP-001-2021 – Procurement Procedures
9. Petty Cash Procedure

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Procurement Process

Interview appropriate representatives and review appropriate documentation for the past 3 years to:

1. Verify Personnel are following applicable Procurement Policy and Procedures and ensure safety issues and concerns are addressed in the procurement process.
2. Determine adequate procedures and controls are in place to preclude the introduction of defective or deficient equipment into the Light Rail System:
   a. Are procurements of new equipment and material first reviewed by engineering, operations, safety, and/or maintenance Personnel to verify the new equipment or materials do not present a hazard to the existing system?
   b. Does the procurement process for hazardous materials address all appropriate rules and regulations?
   c. Have unexpected delays or process complications delayed the procurement of goods or services, making them unavailable for usage, or resulted in vendor provided services being acquired and implemented in an untimely manner?

FINDINGS AND RECOMMENDATIONS

Activities:
Staff interviewed SRTD representatives, reviewed appropriate documentation for the past 4 years, and determined the following:

1. There are mainly three procurement procedures: Procurement Ordinance, Procurement Procedures (FI-SOP-001-2021, dated 5/20/2021), and the Procurement Policy Manual. The Procurement Procedures are the most important of these three and is the main SOP SRTD uses for procurement. SRTD procurement personnel follow all these procedures rigorously.

   The SRTD procurement department offers the district-wide Procurement Process Training to all staff involved in the procurement process and individual training with the six procurement department staff members. The Procurement Process Training is provided periodically as necessary. SRTD recently offered the district-wide training in November 2020, December 2020, and January 2021. The recordings of the training and training slides were posted on SRTD intranet. Approximately 80 SRTD personnel were trained during the recent training sessions including personnel from the procurement department and other departments who are involved in the procurement process.

Whenever the procurement department has a solicitation for construction or equipment, they involve the safety department to review the solicitation. The Procurement Department works directly with the Safety Department in creating language that they include in a solicitation. The Safety Department reviews a solicitation and approves it or makes edits. Afterwards, the solicitation gets reviewed by various other departments. SRTD include the Safety Department in kick-off meetings whenever they start a project to discuss safety concerns. The procurement department involves safety from solicitation all the way through the contract being awarded.

SRTD involves all concerned departments in their procurement process in the pre- and post-procurement activities.

Staff reviewed the Procurement Training Schedule and Attendees List for the recent training sessions mentioned above. Staff also reviewed Completion of Morrison Creek Light Rail Station Pre-Construction Meeting Agenda for this kick-off meeting held on 11/23/20, which shows that various concerned departments including safety are included in this meeting.

2.

a. The Procurement Department is responsible for determining that materials and services obtained by SRTD do not degrade the safety of the transit system. This involves inclusion of safety requirements in contracts and obtaining Safety Data Sheets (SDS).

   Whenever major components or brand-new parts come in, SRTD tests or inspects the components to ensure they work. This ensures that products which don’t conform with SRTD’s system are not brought in, and that any prototype of a product that comes in satisfies all their requirements.

For any new equipment that is delivered to SRTD, they test it, and if it doesn’t work or meet their specifications, SRTD returns the product to the vendor for additional repair or to get the right product until all safety requirements are met

If a piece of equipment doesn’t meet specifications or is defective, SRTD won’t allow it to be introduced into the system. SRTD has a material review board, where someone from procurement or someone from the shop may choose to rework a part that came in which doesn’t meet their requirement. SRTD’s most effective policy is to have the vendor rework a part that doesn’t meet their requirement. SRTD has had vendors come on-site to repair equipment. For big projects, SRTD may provide vendors with tooling and access to their parts room, where equipment may be repaired and accepted afterwards.

In the last four years, SRTD have not had any instances where a critically needed piece of equipment was found to be defective upon delivery, was returned, and that caused disruption to the system.

SRTD uses an e-procurement process through Planet Bids (PB) to procure regular items they procure repetitively. For reoccurring purchases, SRTD obtains multi-year contracts or options, where they bid for base quantity and then have additional quantities they may purchase in the future over a certain period (e.g., 1-year, 3-year, 5-year).

SRTD interacts with associations such as the California Association of Public Purchasing Officials (CAPPO) and LR User’s Group, which help to strengthen the skills of public procurement officials as they fulfill their responsibilities to the public they serve.

In the last 4 years, SRTD have had an option with San Diego MTS for 76 new LRVs. For major procurement projects like this, SRTD follows FTA and Caltrans guidelines for procurement.

SRTD is subject to audits by both federal and state agencies. FTA audited SRTD three years ago and Caltrans audited SRTD early 2021. Staff reviewed the FTA report on their Fiscal Year 2018 SRTD Triennial Review. The report stated that no deficiencies

were found with the FTA Procurement requirements.
The procurement department has a folder for procurement, which they post on their intranet and bulletin to notify the rest of the agency of any changes to procurement procedures before formal training. SRTD conducts weekly, bi-weekly, and sometimes monthly meetings with their internal customers to discuss any improvements, efficiencies, and changes to processes with the customers.

b. The procurement department must check with safety and provide an SDS to the Safety Department for review before they make the purchase for a hazardous material in accordance with SRTD's hazardous materials procedures.

c. SRTD's Materials Management Superintendent described an instance where the UTDC cars SRTD bought a decade ago from SCVTA were put out of service due to a failed component in these cars. The purchase of these vehicles was split between SRTD and Salt Lake City. SRTD bought 21 vehicles out of a fleet of 48; Salt Lake City bought the rest. At the time SRTD was scheduled to perform an overhaul/refurbishment of the UTDC cars for revenue service, this component (bushing for traction motor) was not identified for replacement in the specification. Furthermore, the part was not changed in this overhaul, and SRTD did not ask the vendor to replace it; therefore, the component started to fail in service. The LRV Maintenance Department didn't allow the UTDC cars in revenue service. Despite the situation mentioned above, SRTD have met all their service requirements as vehicle usage was generally low during the COVID-19 pandemic. The resilient bushings for traction motors are in. They are replacing them and slowly putting those vehicles back in service now.

Staff reviewed a spreadsheet showing the status of the action plans that SRTD are carrying out to resolve the UTDC bushing failures. It shows that the manufacturing and installations of these parts are currently in process.

<u>Findings</u>:

None.

Comments:
None.

Recommendations:
None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**22**	**Element**	**General Order 172 – Personal Electronic Device Prohibitions/In-cab Cameras**
Date of Review	October 26, 2021 15:00-16:00	**Department(s)**	LR Operations & LR Maintenance
Reviewers/ Inspectors	Richard Fernandez Michael Rose	**Persons Contacted**	Lisa Hinz, VP of Safety, Security, & Customer Satisfaction Edna Stanley, VP of LR Operations Ronald Forrest, LR Operations Director Michael Cormiae, LR Maintenance Director George Kirbyson, LRV Maintenance Superintendent Chris Hix, Superintendent of Operations

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, & 172
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. LR-SOP-14-101 In-Cab Camera Recording Review
7. LR-SOP-12-201 – Revision # 052318-B – LR Operator Efficiency Testing & Video Based Enforcement & Monitoring Program
8. On Track Safety Program – Version # 2016031401, 2018091801, 5-7-19, & 6-17-20

9. LR-SOP-18-430 Secondary Personal Alert Device

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

General Order (GO) - 172 Personal Electronic Device (PED) Prohibitions/In-cab Cameras Compliance

Interview appropriate representatives and review documentation to determine the following:

1. SRTD has developed and implemented a PED zero-tolerance policy and program usage, as required by GO 172, Section 5.
2. The zero-tolerance policy is being enforced.
3. What is the failure rate of in-cab cameras and how many cameras failed in the last three years? Verify the recording retention complies with GO 172.
4. Verify SRTD has conducted random evaluations for PED usage as required by GO 172, Sections 4.3.e, 4.5, and 6.2.
5. Does the PED procedure comply with GO 172?
6. Verify if Personnel comply with PED rules (Field Activity - See Checklist 13-B).

FINDINGS AND RECOMMENDATIONS

<u>Activities:</u>

1. CPUC Staff reviewed SS-SOP-003-2021 Dated 08/26/2021, SacRT Zero Tolerance Governing the Use of Personal Electronic Devices. This Standard Operating Procedure (SOP) outlines SRTD requirements as written in CPUC GO 172. The SOP contains the progressive discipline policy that requires discipline up to and including termination. CPUC Staff verified with the training Department that a review and refresher course has been given to all SRTD Employees.
2. CPUC Staff were presented with documentation of an incident on 09/20/2021 where an employee was observed via cab video using their cellphone while operating an SRTD LRV. The employee received a 5-day suspension without pay which is in accordance with SacRT SS-SOP-003-2021 Dated 08/26/2021.

3. SRTD currently has a fleet of 97 LRV’s. According to the SRTD LRV Maintenance Superintendent, there have only been 3 failures of inward-facing in-board cameras in the last 3 years. CPUC Staff received and reviewed the Repair Orders showing that the cameras were repaired and working properly. An LRV was randomly chosen to show video 7 days prior to the date of 10/19/2021. The video recorder showed the onboard video system on 10/12/2021 recorded approximately 15 days before the hard drive began over writing the video. The video verified that the minimum of 8 days of video retention was available as required by CPUC General Order 172.
4. SRTD Light Rail Operations Supervision conducts random PED evaluations utilizing inward facing cameras by watching live video from operational revenue LRV’s. SRTD conducts at minimum, 3 random PED evaluations per month which meets or exceeds their requirement per quarter. The evaluations include video-based enforcement and field spot checks. Light Rail Maintenance Supervision conducts random PED evaluations utilizing their PED Compliance Inspection Checklist which includes, live video evaluations, and field spot checks, including the yard.
5. CPUC Staff reviewed SRTD Policies and Procedures regarding PED’s and found them to be in compliance with CPUC GO 172.
6. During the week of 10/18/2021, CPUC Staff rode SRTD Blue and Gold Lines, conducting multiple interviews and observations with Light Rail Operators and Supervisors and verified no PEDs were found in use that violated CPUC GO 172. CPUC Staff also conducted site visits within the Light Rail Maintenance facilities and have not found any instances of PED use in sensitive areas.

<u>Findings</u>:
None.

<u>Comments:</u>
1. SRTD meets or exceeds all CPUC General Order 172 requirements for their PED Policy. This is also seen in their compliance checks that are performed on a regular basis.

Recommendations:

None.

2021 CPUC SAFETY REVIEW CHECKLIST FOR SACRAMENTO REGIONAL TRANSIT DISTRICT (SRTD)

Checklist No.	**23**	**Element**	**General Order 175-A – Rules and Regulations Governing Roadway Worker Protection Provided by Rail Transit Agencies and Fixed Guideway Systems**
Date of Review	October 27, 2021 15:00-16:00	**Department(s)**	LR Maintenance Engineering & Construction
Reviewers/ Inspectors	Michael Rose Richard Fernandez Samuel Herroz Sal Herrera	**Persons Contacted**	Michael Cormiae, LR Maintenance Director Craig Norman, Acting Director, Engineering & Construction Jan Mauricio, Safety Specialist II Stephen McCabe, SR Manager EH&SS

REFERENCE CRITERIA

1. General Orders 164-D/E, 143-B, 175-A
2. PTASP – Revision 0, 10/26/2020
3. SA-SOP-06-008 – Rail System Safety Program Plan (RSSPP), Revision # 022916-F & 091018-G
4. Rail Rule Book – Revised: 7/29/2016
5. Operating Bulletins, Light Rail Department Notices, & Light Rail SOPs
6. On Track Safety Program – Version # 2016031401, 2018091801, 5-7-19, & 6-17-20
7. LR-SOP-18-430 Secondary Personal Alert Device
8. LR-SOP-86-018 Protection of MOW

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

General Order (GO) 175-A - Rules and Regulations Governing Roadway Worker Protection Provided by Rail Transit Agencies and Fixed Guideway Systems

Interview appropriate representatives and review documentation to determine whether:

1. SRTD is following their procedure and adhering to GO 175-A.
2. RWP training records and compliance testing (Sections 9.3 and 9.4) has been performed and:
   a. No employees are required to perform work without training, at maximum intervals of 24 months.
   b. Training/re-training sessions sign-in sheets with different job classifications and training certificates for the past 3-years are on-file.
3. SRTD maintains a record of near miss program documents, unsafe acts, right to challenge history and training including 24-month retraining.
4. RWP complies with yard and end-of-line storage track requirements.
5. A field witnessed job safety briefing meets the requirements of GO 175-A (Field Activity - See Checklist 15-A, B, C, D).
6. Roadway workers have a roadway worker rule book (Field Activity - See Checklist 15-A, B, C, D).

FINDINGS AND RECOMMENDATIONS

Activities:

1. CPUC Staff interviewed SRTD Personnel and learned that SRTD's RWP program is called On Track Safety and outlines procedures, job briefing, RWP job site set up, and other requirements from GO 175.
2. SRTD Wayside Employees are certified through the RWP process annually in a classroom group setting. CPUC Staff viewed RWP Test Sign-off sheets for all Wayside Employees for 2019, 2020 and 2021. The Wayside trainer also conducts the Contractor portion of the RWP training as well. As for compliance testing, Wayside Supervisors conduct a total of four audits/compliance checks on Wayside Employees each quarter, which equals sixteen total per year.

3. SRTD has a near miss program which was overseen by Wayside until 2021 when System Safety took over it. SRTD had a near miss incident on February 2, 2021, that was investigated, and no rule violations were found. SRTD Employees have had zero unsafe acts, right to challenge, or training issue requirements within this Triennial Review.
4. SRTD's RWP Program complies with yard and end-of-line storage track requirements
in Section 10 of their On Track Safety Program and in SOP LR-SOP-13-103.
5. Staff observed Wayside job briefings on the blue-line and gold-line performed by wayside SR. Rail Maintenance employee Wayside 90. The job briefing was conducted thoroughly and covered the General Order requirements, ensuring all employees were aware of hazards, and conditions of the job site. The EIC ensured all train approach distances and areas to clear the track were designated. Proper On Track Safety was set up for working with two separate crews in same area.
6. Wayside Employees had their OnTrack Safety Program (RWP Booklet) with them or located in the work vehicle at the job site.

Findings:
None.

Comments:
1. SRTD should issue RWP (On Track Safety) Cards or Hard Hat Stickers that have Name, Employee ID or Contractor, and Expiration Dates.

Recommendations:
None.