2022
TRIENNIAL SAFETY REVIEW OF
SANTA CLARA VALLEY TRANSPORTATION AUTHORITY
(VTA)

RAIL TRANSIT SAFETY BRANCH
RAIL SAFETY DIVISION
CALIFORNIA PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102

February 7, 2024
Final Report

Daren Gilbert, Program Manager
Rail Transit Safety Branch
Rail Safety Division

2022 TRIENNIAL SAFETY REVIEW
SANTA CLARA VALLEY TRANSPORTATION AUTHORITY

ACKNOWLEDGEMENT

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

Daren Gilbert – Program Manager
Michael Borer – Supervisor, Rail Transit Operations Safety Section
James Matus – Supervisor, Rail Transit Operations Safety Section
Stephen Artus – Program and Project Supervisor
Steven Espinal – Senior Utilities Engineer Supervisor
Ainsley Kung – Senior Utilities Engineer Supervisor
Noel Takahara – Senior Utilities Engineer Specialist
Jimmy Xia – Utilities Engineer
Arun Mehta – Utilities Engineer
Matthew Ames – Utilities Engineer
Rupa Shitole – Utilities Engineer
Jamie Lau – Utilities Engineer
Michael Warren – Utilities Engineer
Joey Bigornia – Utilities Engineer
Madeline Ocampo – Utilities Engineer
Yan Solopov – Public Utilities Regulatory Analyst
Patrick Donnelly – Associate Governmental Program Analyst
Sal Herrera – Senior Transportation Operations Supervisor
Samuel Herroz – Associate Railroad Track Inspector
Laura Espinoza – Associate Mechanical Equipment Inspector
Nicholas Denny – Associate Mechanical Equipment Inspector
Richard Fernandez – Associate Operating Practices Inspector
Michael Rose – Associate Operating Practices Inspector
Shane Roberson – Associate Signal and Train Control Inspector
Eric Madero – Associate Signal and Train Control Inspector

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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 Santa Clara Valley Transportation Authority (VTA) from April 18th through April 29th, 2022. 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 VTA's compliance with State and Federal rules and regulations, and Industry Standards. This report reflects Staff's triennial safety review of VTA, detailing Staff's investigatory actions, findings, and recommendations. The review revealed areas of non-compliance, as discussed below.

On Monday, April 18, 2022, VTA personnel and Staff met for an opening conference, which preceded the on-site review activities. The review continued through April 29, 2022. A post-review conference meeting occurred on Wednesday, July 20, 2022, with Staff providing VTA personnel with a summary of all findings, recommendations, and comments. Staff identified 54 findings of non-compliance from this review and issued 38 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 VTA'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 54 findings of non-compliance and 38 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 38 review checklists with summaries of all review activities, and the original comments, findings, and recommendations. This report reflects Staff's triennial safety review of VTA. The VTA on-site triennial security review report is brought before the Commission for approval by Resolution. [1]

[1] Staff's security review and report, "2022 Triennial Security Review of Santa Clara Valley Transportation Authority," is being brought before the Commission concurrently in Resolution ST-253.

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 agencies PTASP/SSPP, and to assess their level of compliance with GO 164-E and other Commission and regulatory safety requirements.

Staff conducted the previous VTA on-site safety review in November 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 March 18, 2022, staff emailed a letter to VTA's Accountable Executive, advising that the Commission's safety review had been scheduled to begin April 18, 2022. The letter included 38 checklists that served as the basis for verification of the effective implementation of VTA's PTASP/SSPP.

Staff conducted an opening conference on April 18, 2022, with members of VTA's executive management team, directors, and superintendents. Staff performed the on-site triennial safety review at various VTA system locations. At the conclusion of each review activity, staff provided VTA personnel with a verbal summary of the preliminary findings and discussed preliminary recommendations regarding corrective actions.

On July 20, 2022, Staff conducted a post-review exit meeting with VTA's management team. Staff provided attendees with a summary of the review and the findings of non-compliance derived from the 38 checklists used to guide the review and discussed the need for corrective actions where applicable.

3. BACKGROUND

The Santa Clara Valley Transportation Authority (VTA) is an independent special transit district that provides transit services to the region, including rail transit service. VTA provides bus, light rail, and paratransit services, as well as participates as a funding partner in regional rail service including Caltrain, Capitol Corridor, and the Altamont Corridor Express. As the county's congestion management agency, VTA is responsible for countywide transportation planning, including congestion management, design and construction of specific highway, pedestrian, and bicycle improvement projects, as well as promotion of transit-oriented development.

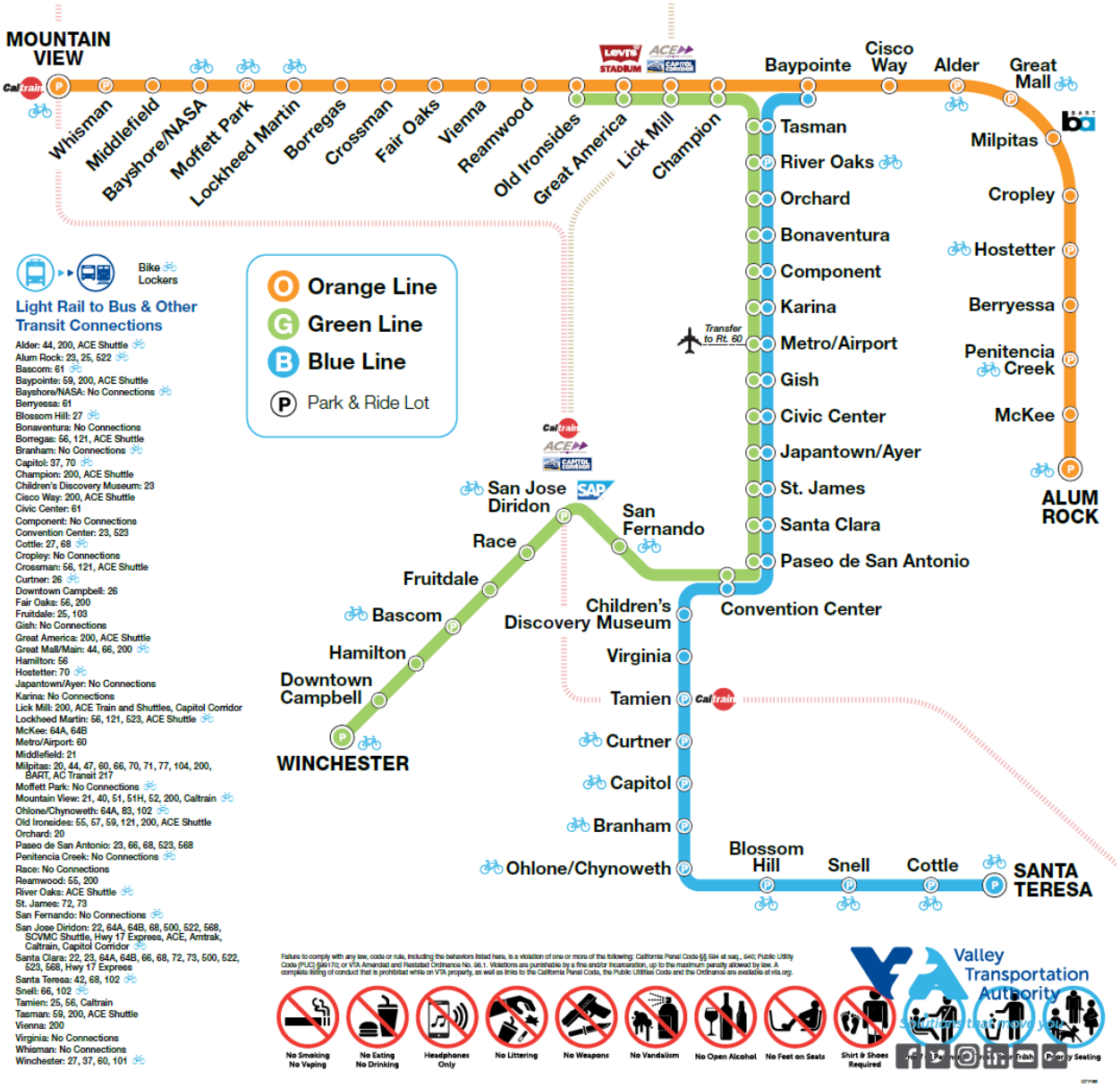
The Board of Directors has 18 members, including six ex-officio members, all of whom are elected officials appointed to serve on the Board by the jurisdictions they represent. Fifteen Directors are city council members and three are county Supervisors. Twelve Directors serve as voting members and six Directors who serve as alternates. The ex-officio members are non-voting members with three representing Santa Clara County on the Metropolitan Transit Commission (MTC).

VTA currently operates an urban transit service with a fleet of diesel, hybrid diesel-electric buses and light rail vehicles within Santa Clara County. VTA's service coverage is 346 square miles, serving 15 cities in Santa Clara County with a population of nearly 2 million. Historic trolley service is also provided in the downtown San Jose Transit Mall on a seasonal basis.

VTA Rail System

The VTA rail system consists of the Blue, Green and Orange Lines (See VTA Light Rail System Map) with two other proposed extensions. The total operating system is about 42.2 miles with 59 Light Rail Stations. The average weekday ridership of the light rail system was approximately 7,232 passengers per day in Fiscal Year 2021. The restructuring of light rail lines and the Blue, Green and Orange Line designations began in late 2019.

VTA LIGHT RAIL SYSTEM MAP (October 2022)



<u>Blue Line</u>

The 16.7-mile Blue Light Rail Line operates north-south from south San Jose, into downtown and continues to employment centers of north San Jose. The Downtown Transit Mall in San Jose serves as a hub for rail/bus connections. Light Rail and Caltrain service connect at the Tamien Station in San Jose. The Blue Line has 26 light rail stations.

Green Line

The 13.9-mile Green Light Rail Line operates north-south from Campbell to San Jose and Santa Clara. It overlaps the Blue Line between downtown San Jose and north San Jose. The Downtown Transit Mall in San Jose serves as a hub for rail/bus connections. Light rail and Caltrain service connect at the Diridon Station in San Jose. Levi's Stadium is located near the Great America Light Rail Station. The Green Line has 26 light rail stations.

Orange Line

The 17.7-mile Orange Light Rail Line operates east-west from Mountain View to Alum Rock, with a major transfer point at Baypointe to the Blue Line. Light rail and BART service connects at the Milpitas Station, while the Caltrain connection is at Mountain View. Levi's Stadium is located near the Great America Light Rail Station. The Orange Line has 26 light rail stations.

Vasona Corridor (Part of Green Line)

The Vasona Corridor is a 5.3-mile light rail extension to the existing VTA Light Rail system and operates primarily on the existing Union Pacific Railroad right-of-way. Revenue service began in 2005. The Vasona Line has 8 light rail stations and links Caltrain, ACE, and Capitol Corridor at Diridon Station. This is an FRA shared corridor starting just beyond Diridon Station to Winchester. Union Pacific and VTA do not share cross tracks in this corridor. A five (5) years extension waiver is in place dated October 6, 2020 (Docket Number FRA 1999-6254).

VTA's BART Silicon Valley Extension -Phase I

The BART Silicon Valley Extension Project is a 16-mile extension of the BART system to Santa Clara County that is being funded and constructed to BART standards by VTA. VTA will continue to own the assets it funds and constructs, however BART will independently operate the extension of its system. Phase I, the Berryessa Extension, is a 10-mile extension, including two BART stations. This extension begins in Fremont, south of the Warm Springs/South Fremont BART Station, and proceeds along the former Union Pacific Railroad Company right-of-way through Milpitas, the location of the first station, to the Berryessa area of North San Jose, the location of the second station. The Berryessa Extension (Phase I) is now in revenue service, having begun starting June 13, 2020.

Current Extensions in planning/construction

Eastridge to BART Regional Connector Project

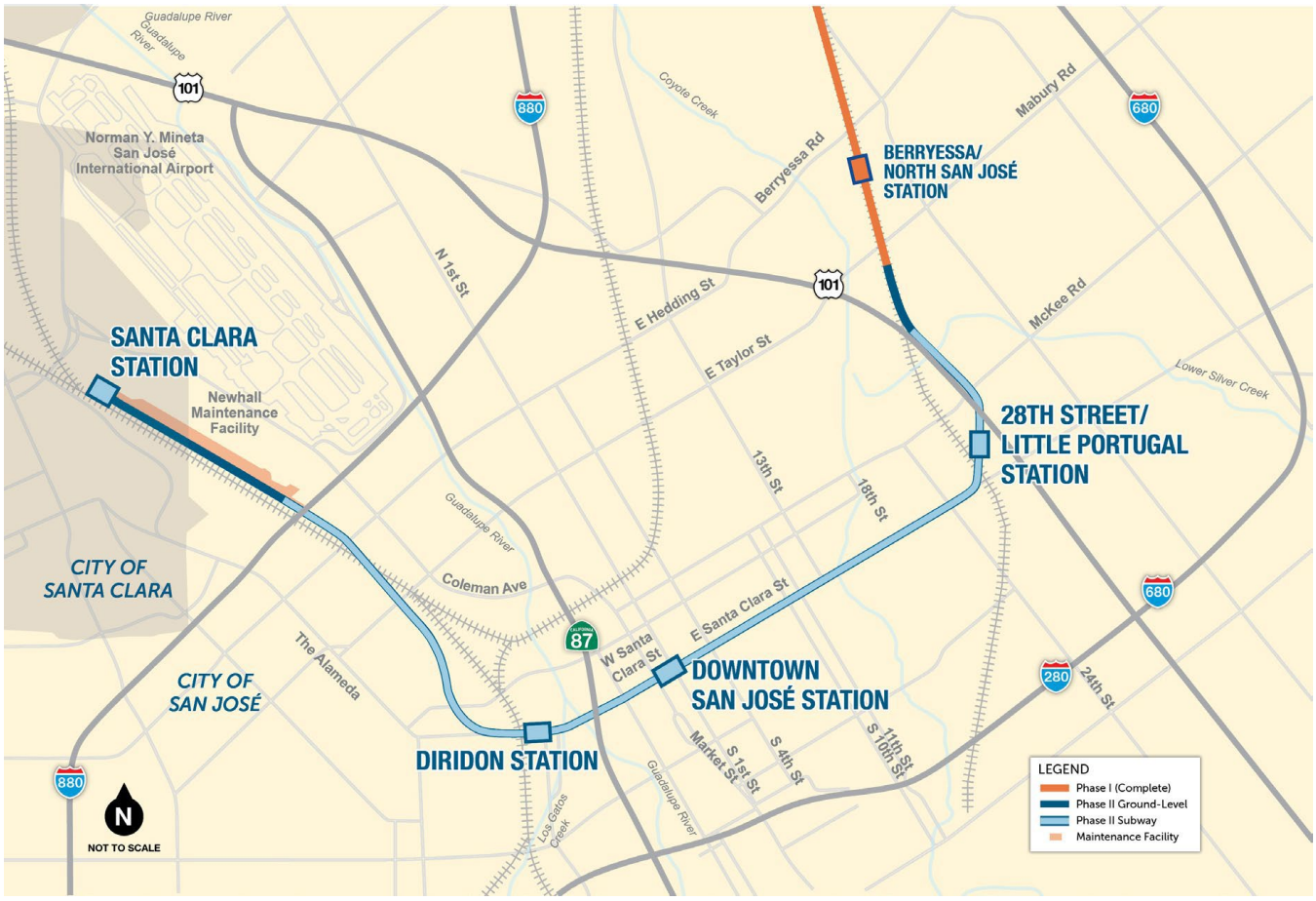
The Eastridge to BART Regional Corridor Project is a 2.6-mile extension from the existing Alum Rock Station to Eastridge Transit Center. The alignment will be primarily grade-separated at all intersections. The Project is being implemented in phases. Phase I was completed in the Spring of 2015, and included the installation of sidewalk, landscape and street lighting on Capital Expressway from Capital Avenue to Tully Road and the reconfiguration of the Eastridge Transit Center. Phase 2 will extend light rail from the existing Alum Rock Light Rail Station to the Eastridge Transit Center. Light rail will operate primarily in the center of Capitol Expressway in an elevated track structure from Capitol Avenue to Tully Road. The Eastridge extension will include two stations: Story and Eastridge. Final engineering design has been completed. Pending funding availability, construction advertisement can begin by mid-2024 with construction completion in 2029. The SSCP was approved by the CPUC in Resolution ST-88 (5/24/2007), however, VTA provided an updated revision of the SSCP in early 2020 and CPUC reviewed and approved the revision in July 2020.

Vasona Junction Light Rail Extension

Plans include a 1.5-mile extension from Winchester Station into Los Gatos. A Federal environmental document for the Vasona Light Rail Extension was completed and approved by the Federal Transit Administration (FTA). The schedule for engineering work will resume once funding is available.

VTA's BART Silicon Valley Extension Project – Phase II

VTA is completing design and engineering for Phase II (6 miles) of the BART Silicon Valley Extension, which includes a subway tunnel below downtown San Jose as well as four stations and a Newhall Yard Maintenance Facility in Santa Clara. Construction of the second phase is expected to begin in 2023 with passenger service targeted for 2036. The SSCP for this project was submitted by BART and was approved by the CPUC by Resolution ST-83 (2/15/2007). On June 16, 2021, Staff received the project SSCP for phase II, and CPUC approval was sent on August 17, 2021.



VTA's BART SILICON VALLEY EXTENSION PROJECT Phase II

Status of the 2017 VTA Triennial Review

Staff last conducted VTA's triennial on-site safety review in November 2017. Staff made 26 recommendations for corrective actions out of the 39 checklists. Commission Resolution ST-210 granted approval of Staff's final report and its recommendations, ordering VTA to develop appropriate corrective action plans and implementation schedule to respond to the issued recommendations. Resolution ST-210 also ordered VTA to submit monthly status reports tracking the implementation of these corrective actions through full completion.

VTA developed and submitted a corrective action plan matrix and an implementation schedule to fulfill each of the 26 recommendations in compliance with Commission Resolution ST- 210. All the Corrective Action Plans (CAP's) related to the 2017 Triennial Audit have been corrected by VTA, verified by staff and closed.

4. SAFETY REVIEW PROCEDURE

Staff conducted the 2022 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 38 checklists to cover various aspects of safety responsibilities, based on Commission and FTA requirements, VTA's PTASP/SSPP, safety related VTA documents and the prior knowledge Staff has of VTA's operations. A list of the 38 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, VTA 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 VTA's PTASP/SSPP, its procedures, or CPUC regulations. The methods used to perform the review included:

- Discussions and interviews with VTA'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 54 findings of non-compliance and made 38 recommendations to VTA regarding its safety program and its implementation. The review results are derived from documents reviewed and issues discussed with VTA personnel.

Following are the findings and recommendations for each checklist:

1. **Policy Statement and Authority for System Safety Program Plan /Public Transportation Agency Safety Plan Management Involvement and Commitment to Safety**

   No findings of non-compliance; no recommendations.

2. **System Safety Program Plan/ Public Transportation Agency Safety Plan: Goals and Objectives**

   No findings of non-compliance; no recommendations.

3. **Overview of Management Structure**

   No findings of non-compliance; no recommendations.

4. **System Safety Program Plan/ Public Transportation Agency Safety Plan: Control and Update Procedure**

   No findings of non-compliance; no recommendations.

5. **System Safety Program Plan/ Public Transportation Agency Safety Plan: Implementation Activities and Responsibilities**

   No findings of non-compliance; no recommendations.

6. **Hazard Management Process**

   No findings of non-compliance; no recommendations.

7. **System Modification**

No findings of non-compliance; no recommendations.

8. **Safety and Security Certification**

Findings of non-compliance:
1. The Eastridge to BART Regional Connector (EBRC) PHA lacks the methodology for assessing the lowered risk levels after mitigation; therefore, the matrix lacks the lowered risk levels.

Recommendation:
1. VTA's Eastridge to BART Regional Connector (EBRC) PHA must add a methodology for assessing the lowered risk levels after mitigation and identify the lowered risk levels in the PHA hazard resolution matrix per VTA PTASP Safety Risk Assessment process.

9. **Safety Data Collection and Analysis**

No findings of non-compliance; no recommendations.

10. **Event Investigations**

No findings of non-compliance; no recommendations.

11. **Emergency Management Program**

No findings of non-compliance; no recommendations.

12. **Internal Safety Audits/Reviews**

No findings of non-compliance; no recommendations.

13-A. **Rules Compliance: Observation and Enforcement**

No findings of non-compliance; no recommendations.

13-B. **Rules Compliance: Operations Safety Compliance**

Findings of non-compliance:

1. EIC of the RWP crew did not perform a complete job briefing before starting work by allowing the crew to work at the location with expired RWP cards and one crew

member without a RWP card. All are violations of VTA RWP rules outlined in their RWP Program.

2. Watchman was conversing with RWP crew and then positioned himself away from the rest of the crew leaving them exposed without protection. EIC should have corrected this issue and/or replaced the Watchman.
3. Three out of five VTA Operators at Diridon and San Fernando Stations did not sound an audible warning at the pedestrian crossings while Staff conducted a 30-minute observation period.

Recommendation:

1.VTA must ensure EIC's understand all RWP requirements and are conducting safe and thorough job briefings.

2.VTA must ensure the RWP Crews are performing their job as outlined in VTA's RWP Program/Advanced Program and CPUC General Order 175.

3.VTA Operations Supervision must ensure that all Operators are sounding an audible warning at crossings as outlined in CPUC General Order 143-B, Section 7.09 and VTA SOP 3.5.

13-C. <u>Rules Compliance: Operator, Controller, and Maintenance Personnel Hours of Service</u>

No findings of non-compliance; no recommendations.

13-D. <u>Rules Compliance: Contractor Safety Program</u>

No findings of non-compliance; no recommendations.

13-E. <u>Rules Compliance: Operating Rules and Maintenance Procedures Manual and Operations Bulletin Revisions</u>

No findings of non-compliance; no recommendations.

13-F. <u>Rules Compliance: Operations Central Control & SCADA</u>

No findings of non-compliance; no recommendations.

14-A. <u>Facilities and Equipment Inspections: Non-Revenue Facilities and Wayside</u>

Findings of non-compliance:

1. Compressed gas cylinders were not properly secured at the LRV Maintenance Facility and in the trolley barn. Refer comment 1 on checklist 14-A.
2. Self-closing oily waste can in the daily inspection area missing lid. Refer comment 2 on checklist 14-A.
3. Emergency exit and fire alarm pull access blocked in trolley barn. Refer comment 3 on checklist 14-A.
4. Fire extinguisher blocked in trolley barn. Refer comment 4 on checklist 14-A.

Recommendation:
1. VTA must ensure all compressed gas cylinders are secured properly per California Code of Regulations Title 8, Section 4650.
2. VTA must ensure self-closing oily waist drums are in good working order per California Code of Regulations Title 8, Section 5551.
3. VTA must ensure emergency exits and fire alarm pulls are not blocked per the CA Fire Code (24 C.C.R.) Section 903.2.1.6 (24 C.C.R. §).
4. VTA must ensure access to fire extinguishers per CA Fire Code Section 905.7.

14-B. <u>Facilities and Equipment Inspections: Stations and Emergency Equipment</u>

Findings of non-compliance:

1. CPUC noted at Santa Terresa Light Rail Station, the information board cover is missing. (MTN-PR-6301)
2. CPUC noted at Cottle Light Rail Station, station dusk to dawn lights are staying on during daylight hours. (MTN-PR-6301)

Recommendation:
1. VTA must replace the information board cover as per MTN-PR-6301.
2. VTA must replace dusk to dawn sensors as per MTN-PR-6301.

14-C. <u>Facilities and Equipment Inspections: Tunnels, Bridges, and Aerial Structures</u>

Findings of non-compliance:

1. Staff found that in VTA's BMP procedure, a Bridge Structures Program Manager (BSPM) is not required to be a Registered Civil Engineer (RCE). For light rail structures, responsibilities outlined for the BSPM role are not being conducted by an RCE.
2. Staff found that structure inspection reports do not note when structures are observed during the passage of trains and the effects of vibration and deflection.
3. Staff found that VTA does not inspect, monitor, and maintain structure Cathodic Protection (CP) systems.

4. #63 Los Gatos Creek Bridge deck level has a lamp pole base cover plate missing and exposed electrical cables. Condition likely occurred after the 2020 inspection.
5. Bridge handrail conditions noted during inspections but not addressed immediately. Handrails are commonly used as fall prevention/protection.

Recommendation:

1. VTA must revise the BMP procedure to specify a responsible person for tasks outlined in the BSPM role. The responsible person must be a registered professional Civil Engineer.

2. Structures' inspection reports must note when structures are observed during the passage of trains and the effects of vibration and deflection.
3. VTA must assess existing structure Cathodic Protection (CP) systems for corrosion control, and develop a CP systems inspection, monitoring, and maintenance program.
4. VTA must make the appropriate corrections to #63 Los Gatos Creek Bridge deck level has a lamp pole base cover plate missing and exposed electrical cables. VTA should report the condition to the appropriate department for mitigation of the electrical safety hazard.
5. VTA must repair the bridge handrail conditions noted during inspections.

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

Findings of non-compliance:

1. CPUC noted OCS inspection forms on South line in 2019 were missing signatures. Refer comments section - Due to a recent change in management, VTA has already noted and corrected the defects. No further CAP is needed at this time.
2. CPUC noted during their field inspections, vegetation encroaching on the OCS at the following locations:
   a. Green line at Race and Parkmore Crossing
   b. Orange line at Whisman station
   c. Orange line at Middle field crossing
   d. Blue line at Switch 1046
   e. At Lincoln crossing

Recommendation:

1. VTA must maintain 18" of vegetation clearance from OCS per GO 95 requirements.

14-E. <u>Facilities and Equipment Inspections: Signal Communication, Train Control, Grade Crossing</u>

Findings of non-compliance:

Insulation Resistance Testing

1. On the Vasona line all insulation resistance testing was not verified by the supervisor. (MTN-PR-6207)
2. On the Mountain View line, test forms were signed by a supervisor two years post inspection. (MTN-PR-6207)
3. 5th Street crossing insulation resistance test failures noted on test forms with no follow through or retest in 2012. (MTN-PR-6207)
4. Evelyn location failure in 2012 with no follow through till 2015 and 2015 tests did not have supervisor signature. (MTN-PR-6207)

Relay Testing

1. Tasman Line location four-year relay test with most current in 2015. (MTN-PR-6205)

Grade Crossing Inspections

1. Race Street Crossing (750157A)
   a. Inconsistent gate striping. (CAMUTCD)
   b. Outdated and redlines in plans. (MTN-PR-6205)
   c. G gate tip light is out. (MTN-PR-6205)
   d. ENS is missing at E ped crossing. (MTN-PR-6205)
   e. Flasher jbox at I gate is missing cover. (MTN-PR-6205)
   f. G gate labels are incorrect and need updating. (MTN-PR-6205)

2. Lincoln Crossing (750155L)
   a. Gate stripes are inconsistent. (CAMUTCD)
   b. Gate lights need to be turned toward vehicular traffic. (MTN-PR-6205)

3. Whisman Station Crossing (926828M)
   a. Vegetation touching gate B. (MTN-PR-6205)

4. Middlefield Crossing (755024A)
   a. Vegetation touching gate D. (MTN-PR-6205)

5. Baypointe Crossing (MTN-PR-6205)
   a. Baypointe Ped crossing is missing the Emergency Notification Sign (ENS).

Recommendations:

Insulation Resistance Testing (findings 1-4):

1. VTA must ensure all Insulation Resistance Test forms are reviewed, signed, and filled prior to inspection due date. (MTN-PR-6207)

Relay Testing:

2. VTA must perform relay tests at Tasman Line per MTN-PR-6205.

Grade Crossings Inspections (findings 1-5):
3. VTA must ensure all gates system wide are consistently striped with either vertical or horizontal striping on the same gate per CAMUTCD 8C.04. VTA must ensure all plans are up to date, all flashers are facing toward oncoming traffic, all vegetation is cleared around all signal equipment, all circuits are properly labeled, all equipment is properly covered and secured, and a ENS is installed at Baypointe per MTN-PR-6205.

14-F. <u>Facilities and Equipment Inspections: Measurement and Testing Instrumentation</u>

No findings of non-compliance; no recommendations.

15-A. <u>Maintenance Audits and Inspections: Rail Vehicles (Revenue and Non-revenue)</u>

Findings of non-compliance:

1. Multiple LRV PM records were missing the Foreman's signature on various pages throughout the PM packets.
2. LRV PMs performed outside the required inspection frequency interval. (Refer comment section on checklist 15-A).
3. Pre-operational inspections were not completed before use of on-track or hi-rail vehicles. (Refer comment section on checklist 15-A).
4. Hi-rail vehicle had an expired fire extinguisher. (Refer to comment section on checklist 15-A).

Recommendation:

1. VTA must properly document all records with the necessary review and approvals.

2. VTA must perform LRV PM inspections at the required maintenance frequency intervals.

3. VTA must perform hi-rail and on-track vehicle pre-operational checklists and properly document per MTN-PR-8503.

4. VTA must ensure current certification on all vehicle fire extinguishers per MTN-PR-8503.

15-B. <u>Maintenance Audits and Inspections: Traction Power System</u>

Findings of non-compliance:

1. CPUC noted, due to VTA's recent challenges and being short staffed, VTA is not currently conducting any semi-annual and annual substation inspections per MTN-PR-6151.
2. CPUC noted substation eye wash stations are well past expiration dates.

Recommendation:

1. VTA must conduct semi-annual and annual substation inspections per MTN-PR-6151.
2. VTA must verify and replace as needed eye wash stations per MTN-PR-6151.

15-C. <u>Maintenance Audits and Inspections: Train Control and Signal Systems Maintenance</u>

Findings of non-compliance:

1. Baypointe interlocking and Pedestrian crossing house has unsealed pipes entering the house. (MTN-PR-6205)
2. Children's Discovery Museum interlocking house has construction set of plans with red and yellow markings. (49CFR 236.1)

Recommendation:

1. VTA must seal all pipes entering into a crossing house per MTN-PR-6205.

2. VTA must update construction plans at crossing houses system wide per 49CFR 236.1.

15-D. <u>Maintenance Audits and Inspections: Tracks and Turnouts</u>

Findings of non-compliance:

1. **Orange Line:** East Tasman, Cross-Over Switches **T1054/T1056** noted screw spikes loose through the switch point area at T1056 also screw spikes loose from the heel block through the closer rail at T1054.
2. **Blue Line:** Baypointe, Vegetation in walkway from Switch **T1048** to Zanker Rd. Track Three.
3. **Blue Line:** Baypointe, Cross-Over Switches **T1048/T1049** Three**,** twenty-three-foot switch ties, screw spikes not holding, and ties condemnable.
4. **Green line:** Children's Discovery Museum, Switch **T2020** Reverse Points showing excessive wear.
5. **Green Line**: Children's Discovery Museum**,** Switch **T2023/T2022** Reverse Points showing excessive wear**.**
6. **Green Line:** Children's Discovery Museum, Switch 2022 was noted out of service with no point clamp, lock, spike, or tag, to protect the condition. The clamp was installed before the next train.

7. **Orange Line, Blue Line, Green Line:** System-wide, Insulated Joints at turnouts missing fasteners.
8. **Geometry Car Reports 2020:** Geometry Car Report indicates that four defects were found from Guadalupe south. Train orders do not show that remedial action was taken within the proper time. In addition, no work orders were found showing the defects were repaired and tracked through resolution.
9. CPUC staff noted that current track conditions do not reflect current track inspection records.

Recommendation:

1. VTA personnel must record defects on VTA's track/turnout form to reflect current real-time track conditions, in accordance with state, federal, and VTA rules and regulations.

2. VTA personnel must keep repair records of geometry car defects, with remedial action, and repair through resolution.

3. VTA must record all maintenance/defective conditions on inspection forms. Including items repaired or addressed in the field during inspections and track corrective action through resolution.

15-E. <u>Maintenance Audits and Inspections: WP&S Quarterly Audit Program</u>

Findings of non-compliance:

1. CPUC noted in 2019 no audits were conducted due to staffing issues. No CAP needed.
2. CPUC noted no dates are included with CAP's addressing defects found during internal audits. (MTN-PR-6801)
3. CPUC noted in 2021 no audits were conducted due to the May 26, 2021, mass shooting security incident, and temporary cessation of service. No CAP needed.
4. CPUC noted in the 2020 audit that the first aid kits were expired. However, when CPUC conducted field inspections, it was noted that the expired first aid kits were still on site. (MTN-PR-6801)
5. CPUC noted in the 2020 audit, VTA had identified missing supervisor signatures and the corrections were made at the time of the audit. The supervisors back dated the forms. (PU 99152)

Recommendation:

1. VTA must comply and abide by its existing SOP MTN-PR-6801 WPS Semi-Annual Audits and conduct the audits at prescribed intervals.

2. VTA must date all CAPs generated to ensure they were identified and implemented within the allotted time allowed per MTN-PR-6801.

3. VTA must conduct follow up inspections to ensure CAPs are being implemented per MTN-PR-6801.

4. VTA must sign forms in real time instead of backdating them per PU Code 99152.

16-A. <u>Training and Certification Programs: Operators, Controllers, and Foremen</u>

No findings of non-compliance; no recommendations.

16-B. <u>Training and Certification Programs: Maintenance Employees and Contractors</u>

Findings of non-compliance:

1. Track workers did not receive FRA training at the required interval per 49CFR Part 213.7. (Refer comment section on checklist 16-B)

Recommendation:

1. VTA must provide FRA training to Track Worker per 49CFR Part 213.7.

17. <u>Configuration Management and Control</u>

Findings of non-compliance:

1. The SCADA Configuration Management Procedure does not define what changes are considered as a safety certification project requiring RSSRB approval, and minor configuration changes that don't require RSSRB approval.

Recommendation:

1. The SCADA Configuration Management Procedure must be updated to define what changes are considered as a safety certification project requiring RSSRB approval, and minor configuration changes that don't require RSSRB approval. VTA personnel who are involved in SCADA configuration management must be trained for the updated procedure.

18. <u>Local, State, and Federal Requirements: Employee Safety Program</u>

No findings of non-compliance; no recommendations.

19. <u>Hazardous Materials Program</u>

Findings of non-compliance:

1. VTA had missed a few weekly inspections of hazardous waste containers at the Guadalupe Division during the past four years as required by its SSS-SAF-IIPP-0701, Section 4.1.2, as mentioned in the Activities section, element 1d.
2. VTA did not perform a number of daily inspections of hazardous waste storage tanks at the Guadalupe Division during the past four years as required by its SSS-SAF-IIPP-0701, Section 4.1.1, as mentioned in the Activities section, element 1d.

Recommendation:

1. VTA must comply with its document SSS-SAF-IIPP-0701, Sections 4.1.1 and 4.1.2 to conduct and document inspections accordingly.

20. <u>Drug and Alcohol Program</u>

No findings of non-compliance; no recommendations.

21. <u>Procurement Process</u>

No findings of non-compliance; no recommendations.

22. <u>GO 172 PED Compliance</u>

No findings of non-compliance; no recommendations.

23. <u>GO 175 RWP Compliance</u>

Findings of non-compliance:

1. CPUC noted VTA is conducting compliance checks on contractors and vendors but is not routinely conducting compliance testing of VTA MOW employees. (GO175)

Recommendation:

1. VTA must conduct compliance checks on VTA employees and contractors as required by GO 175.

APPENDICES

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APPENDIX A

ABBREVIATION and ACRONYM 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
RSD	Rail Safety Division
CPUC	California Public Utilities Commission
FTA	Federal Transit Administration
GO	General Order
HOS	Hours of Service
IIPP	Injury and Illness Prevention Program
ISSA	Internal Safety and Security Audit
OCC	Operations Control Center
PHA	Preliminary Hazard Analysis
PM	Preventive Maintenance
RTSB	Rail Transit Safety Branch
RTOSS	Rail Transit Operations Safety Section
SCP	Safety Certification Plan
SCVR	Safety Certification Verification Report
SEPP	Security and Emergency Preparedness Program
SSPP	System Safety Program Plan
Staff	Rail Safety Division personnel (CPUC)
PTASP	Public Transportation Agency Safety Plan
SMS	Safety Management System
SCVTA/VTA	Santa Clara Valley Transportation Authority

APPENDIX B
2022 VTA TRIENNIAL SAFETY REVIEW CHECKLIST 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
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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
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13-F	Rules Compliance: Operations Central Control & SCADA
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
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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
15-E	Maintenance Audits and Inspections: WP&S Semi-Annual Audit Program
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

2022 VTA TRIENNIAL SAFETY REVIEW RECOMMENDATIONS LIST

No.	Recommendation	Checklist No.
1	VTA's Eastridge to BART Regional Connector (EBRC) PHA must add a methodology for assessing the lowered risk levels after mitigation and identify the lowered risk levels in the PHA hazard resolution matrix per VTA PTASP Safety Risk Assessment process.	8
2	VTA must ensure EIC's understand all RWP requirements and are conducting safe and thorough job briefings.	13-B
3	VTA must ensure the RWP Crews are performing their job as outlined in VTA's RWP Program/Advanced Program and CPUC General Order 175.	13-B
4	VTA Operations Supervision must ensure that all Operators are sounding an audible warning at crossings as outlined in CPUC General Order 143-B, Section 7.09 and VTA SOP 3.5.	13-B
5	VTA must ensure all compressed gas cylinders are secured properly per California Code of Regulations Title 8, Section 4650.	14-A
6	VTA must ensure self-closing oily waist drums are in good working order per California Code of Regulations Title 8, Section 5551.	14-A
7	VTA must ensure emergency exits and fire alarm pulls are not blocked per CA Fire Code Section 901.	14-A
8	VTA must ensure access to fire extinguishers per the CA Fire Code (24 C.C.R.) Section 903.2.1.6.	14-A
9	VTA must replace the information cover board as per MTN-PR-6301.	14-B
10	VTA must replace dusk to dawn sensors as per MTN-PR-6301.	14-B
11	VTA must revise the BMP procedure to specify a responsible person for tasks outlined in the BSPM role. The responsible person must be a registered professional Civil Engineer.	14-C
12	Structures' inspection reports must note when structures are observed during the passage of trains and the effects of vibration and deflection.	14-C

No.	Recommendation	Checklist No.
13	VTA must assess existing structure Cathodic Protection (CP) systems for corrosion control, and develop a CP systems inspection, monitoring, and maintenance program.	14-C
14	VTA must make the appropriate corrections to #63 Los Gatos Creek Bridge deck level has a lamp pole base cover plate missing and exposed electrical cables. VTA should report the condition to the appropriate department for mitigation of the electrical safety hazard.	14-C
15	VTA must repair the bridge handrail conditions noted during inspections.	14-C
16	VTA must maintain 18" of vegetation clearance from OCS per GO 95 requirements.	14-D
17	VTA must ensure all Insulation Resistance Test forms are reviewed, signed, and filled prior to inspection due date. (MTN-PR-6207)	14-E
18	VTA must perform relay tests at Tasman Line per MTN-PR-6205.	14-E
19	VTA must ensure all gates system wide are consistently striped with either vertical or horizontal striping on the same gate per CAMUTCD 8C.04. VTA must ensure all plans are up to date, all flashers are facing toward oncoming traffic, all vegetation is cleared around all signal equipment, all circuits are properly labeled, all equipment is properly covered and secured, and a ENS is installed at Baypointe per MTN-PR-6205.	14-E
20	VTA must properly document all records with the necessary review and approvals.	15-A
21	VTA must perform LRV PM inspections at the required maintenance frequency intervals.	15-A
22	VTA must perform hi-rail and on-track vehicle pre-operational checklists and properly document per MTN-PR-8503.	15-A
23	VTA must ensure current certification on all vehicle fire extinguishers per MTN-PR-8503.	15-A
24	VTA must conduct semi-annual and annual substation inspections per MTN-PR-6151.	15-B
25	VTA must verify and replace as need all eye wash stations per MTN-PR-6151.	15-B

No.	Recommendation	Checklist No.
26	VTA must seal all pipes entering into a crossing house per MTN-PR-6205.	15-C
27	VTA must update construction plans at crossing houses system wide per 49CFR 236.1.	15-C
28	VTA personnel must record defects on VTA's track/turnout form to reflect current real-time track conditions, in accordance with state, federal, and VTA rules and regulations.	15-D
29	VTA personnel must keep repair records of geometry car defects, with remedial action, and repair through resolution.	15-D
30	VTA must record all maintenance/defective conditions should be noted on inspection forms of items repaired or addressed in the field during inspections and track corrective action through resolution.	15-D
31	VTA must comply and abide by its existing SOP MTN-PR-6801 WPS Semi-Annual Audits and conduct the audits at prescribed intervals.	15-E
32	VTA must date all CAPs generated to ensure they were identified and implemented within the allotted time allowed per MTN-PR-6801.	15-E
33	VTA must conduct follow up inspections to ensure CAPs are being implemented per MTN-PR-6801.	15-E
34	VTA must sign forms in real time instead of backdating them per PU Code 99152.	15-E
35	VTA must provide FRA training to Track Worker per 49CFR Part 213.7.	16-B
36	The SCADA Configuration Management Procedure must be updated to define what changes are considered as a safety certification project requiring RSSRB approval, and minor configuration changes that don't require RSSRB approval. VTA personnel who are involved in SCADA configuration management must be trained for the updated procedure.	17
37	VTA must comply with its document SSS-SAF-IIPP-0701, Sections 4.1.1 and 4.1.2 to conduct and document inspections accordingly.	19

No.	Recommendation	Checklist No.
38	VTA must conduct compliance checks on VTA employees and contractors as required by GO 175.	23

APPENDIX D

2022 VTA TRIENNIAL SAFETY REVIEW CHECKLISTS

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**1**	**Element**	**Policy Statement and Authority for System Safety Program Plan/ Public Transportation Agency Safety Plan: Management Involvement and Commitment to Safety**
Date of Audit	April 26, 2022	**Department(s)**	Executive Management
Auditor/Inspector	Daren Gilbert Stephen Artus Ainsley Kung Steven Espinal Michael Borer James Matus Rupa Shitole	**Persons Contacted**	Carolyn Gonot, General Manager/CEO Brandi Childress, Chief of Staff David Hill, Chief Operating Officer Naunihal Singh, Deputy Director of Rail Susan Lucero, Deputy Director of System Safety and Compliance Antonio Tovar, System Safety Supervisor

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659/674
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Policy Statement and Authority for System Safety Program Plan and Public Transportation Agency Safety Plan: Executive Management Involvement and Commitment to Safety

Interview RTA's Executive Management to discuss:

1. Source, frequency and depth of safety information provided to Executive Management, whether safety is included as a regular topic at VTA Board Meetings, and how safety information is communicated.

2. Methods and incentives included in the management performance system to facilitate a system safety culture within the organization.
3. Types of formal meetings held and attended by Executive Management to discuss safety performance, such as ongoing evaluation of goals and targets.)
4. The Executive Management's awareness of high priority safety issues related to operations and capital projects.
5. The Executive Management's awareness of the status of corrective action plans generated by the safety department through Internal Safety and Security Audits, the hazard management process, accident/incident investigations, inspections, triennial audits, or other sources.
6. What is the level of interaction between the safety department and Executive and Senior management, and how extensively is Executive and Senior management involved in safety activities?
7. Which individuals and departments are involved in making safety decisions and to what degree executive and senior management is involved?
8. Scope of executive and senior management involvement, coordination, and communication in developing SSPP and PTASP revisions.

FINDINGS AND RECOMMENDATIONS

Activities:

Mr. Daren Gilbert, CPUC RTSB Program Manager, and Ms. Carolyn Gonot, VTA GM/CEO, gave opening remarks:

VTA Management and labor unions are currently at odds. All four labor contracts are in place. For the last couple of years, the relationship was not well communicated. VTA Chiefs are working with union leadership to solve the existing issues. VTA Board and the unions are meeting more often after the security event in May 2021.

After the security incident, VTA Management meets twice a month with the VTA Board. The media spotlighted VTA's negatives and overshadowed the progress.

VTA's plan of action for performing Preventative Maintenances (PMs) moving forward was briefly discussed including hiring qualified employees for various positions, and an apprentice program for the Power and Overhead Catenary System (OCS) personnel. VTA agreed to keep CPUC Staff informed of its progress.

A union is proposing to hire consultants/contractors to perform inspections. This is very concerning for CPUC RTSB. VTA Management needs to work with CPUC Staff on this proposal. Currently, semi-annual and annual PMs are not being performed due to VTA losing their most experienced inspectors in the security event. VTA Management was not aware that they had lost their experienced inspectors until this audit.

Historically a single subject matter expert led the Wayside Power team that performed all inspection duties with the assistance from other VTA staff. Many of the subject matter experts were killed in the security incident. As a result, moving forward VTA has revised their training program to ensure all inspection team members are knowledgeable with the PM inspections. VTA's consultant hired to train current employees was a former employee. VTA will provide progress updates to CPUC Staff on a quarterly basis.

VTA Safety Monthly meetings with the GM are conducted. VTA work related statistics are sent to the Board and reviewed periodically.
VTA's Safety, Security, Transit Planning and Operations (SSTPNO) Committee includes a few existing board members that review safety issues. Performance targets are occasionally shared with the SSTPNO Committee.

Hazards are discussed in the Rail System Safety Review Board (RSSRB) meetings. VTA executive management meet every week with the GM to discuss major topics. Management meetings will be held quarterly moving forward in an attempt to break down work silos. Policy review committee is also in place.

Union Committee meetings are held with different unions across VTA.
Safety data matrices (Performance Targets) as per PTASP are not currently shared with the VTA Board members. The last couple of years have been a challenge due to COVID and the shooting at VTA.VTA GM report is given to the Board monthly. Highlights are provided as needed.

COVID-19 Update: 279 VTA employees haven't reported their vaccination status. VTA Management does expect all of the staff to be vaccinated. Each employee received a letter from VTA Human Resource Department regarding vaccination status and will have due process hearing in May 2022. ATU has advised their members NOT to report to VTA regarding their vaccination status because ATU said VTA will not fire them. Seventy employees have gone through the exemption process, mainly claiming religious exemption.

Staff interviewed VTA Executive Management and noted the following:

1. VTA GM/CEO meets monthly with System Safety Department. A safety statistical report is prepared, and a part of the package is sent to the VTA Board. There are four (4) committee members from the Board who meet seven (7) months a year, roughly every other month at the Safety, Security, Transit Planning and Operation (SSTPNO) Committee.

   The VTA GM/CEO has established meetings: Executive management will meet weekly, and senior management meet monthly. VTA GM/CEO also plan on

establishing a quarterly management meeting which includes supervisors. Meetings which were not in place, are established to break down the "silos" between each Department and have all the Managers meet regularly and discuss any issue. Increased inter-departmental communication is now occurring.
Agenda items include Hazards, Corrective Actions Plans (CAP's), Safety Certification items, etc.
VTA Board meets monthly. A standing Safety Report isn't sent to the Board; currently it's just the SSTPNO Committee which consists of four board members. RTSB (PM) encourages VTA management to provide a standing Safety Report to the VTA Board.

2. VTA Employees are given incentives as they progress towards the goal of achieving safety. Employee Advice Committee reviews employees' records to appreciate employees with awards and incentives. Performance Appraisals have a safety section that is assessed and managers must rate the employees. VTA offers various incentives for one year of safe driving and every year thereafter. The department also rewards employees with individual certificates.

   Agency wide employee recognition program is also in place however not specifically for safety. When PTASP was implemented, VTA System Safety team provided flyers and SMS cards to each employee. Each pillar of SMS was discussed with the employees every month to help them understand the PTASP goals and its implementation. Fire Life Safety Committee (FLSC) discusses safety issues by department.

3. Refer 1 above. Executive Management Committee meetings, RSSRB, FLSC, Joint Safety Committee meetings with Unions (SEIU, ATU) are a few of these meetings where Executive Management attend.

   FLSC meetings discuss emergency exercises and fire life safety issues, facility issues, and OSHA discussions. Environmental, Health and Safety (EH&S) Supervisor position has been vacant for the last few years that deal with permits. ATU meets monthly and SEIU meets every other month. One on one meetings are conducted with Safety and Operations by the GM.

4. Individual communications with the Safety Department and monthly safety meetings are conducted. Individual communications with Security Department and security status are provided at monthly meetings. Deputy Director of System Safety and Compliance meets with the GM and provides daily reports. Text messages are also provided if an urgent matter occurs. Executive text messages are sent to the group, and emails also are sent to executive members. If any issue is considered serious, the Board members are notified by the GM.

The head of Planning and Development is notified of all capital projects during periodic meetings. Safety issues on capital projects will be shared with Management. There is a Crisis Communication Plan and if a Contractor does a stand-down, VTA GM is briefed. VTA GM meets with Silicon Valley Phase II staff on a weekly basis.

5. For higher priority CAPs, the GM holds one-on-one monthly meetings with Deputy Director of Safety and Compliance. The Deputy Director of Safety and Compliance sends an agenda to the GM before their meeting. The agenda contains higher level discussions however topics can get a bit more detailed.

   The GM holds one-on-one monthly meetings with the Chief Operations Officer (COO) to discuss operation items. Individual calls are also made to discuss action plans as needed. COO has meetings with Deputy Director of Safety and Compliance to discuss open issues as well.

6. See above. Also, RSSRB committee meetings are attended by executives to monitor ongoing status updates and issues.

7. Refer items 5 and 6 above.

8. PTASP development involvement has been from each individual departments and department heads. System Safety compiles and presents the changes to management. The senior management then reviews and approves the information relevant to their departments. The department chiefs require their staff to meet with Safety to review their department information. The PTASP was presented at the SSTPNO Committee. The Board members reviewed the PTASP and asked questions. Safety provided a presentation and answered Board members' questions.

<u>Findings:</u>
None.

<u>Comments:</u>
None.

<u>Recommendations:</u>
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**2**	**Element**	**System Safety Program Plan/ Public Transportation Agency Safety Plan: Goals and Objectives**
Date of Audit	April 26, 2022	**Department(s)**	Executive Management
Auditor/Inspector	Daren Gilbert Stephen Artus Ainsley Kung Steven Espinal Michael Borer James Matus	**Persons Contacted**	Carolyn Gonot, General Manager/CEO Brandi Childress, Chief of Staff David Hill, Chief Operating Officer Naunihal Singh, Deputy Director of Rail Susan Lucero, Deputy Director of System Safety and Compliance

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659/674
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

System Safety Program Plan/ Public Transportation Agency Safety Plan: Goals and Objectives

Interview Executive Management and review appropriate records to:

1. Determine how SSPP/PTASP goals and objectives are established, evaluated, and documented, and whether they were met (i.e., via a reduction in accidents, hazards, rule violations, or improved safety metrics).
2. Determine how safety performance, relative to the goals and objectives established for the SSPP/PTASP, is reported to the GM and other executive management (i.e., how do they continuously monitor goals and objectives, are key safety metrics being tracked and reported to the Executive Management?).

3. Does the Executive Management know the progress of the RTA's status of its SSPP to PTASP transition? Do they receive regular updates from their staff?

FINDINGS AND RECOMMENDATIONS

Activities:

1. VTA's PTASP development was conducted with the help of a consultant that established initial performance targets. Safety Performance Targets have been evaluated for 2020 and 2021. NTD and Rail related events are captured monthly including operations and other statistics.

   The 2021 excel report showed a few items failed related to safety events and injuries. The 2020 excel report showed a few items fell short of the goals related to fatalities and monthly miles vs. major mechanical failures. Data from NTD reporting, CPUC reportables, Operating Statistics, Rail Safety Events, Rail System Reliability are collected by VTA. The performance targets include the following items:
   1. Total Safety Events
   2. Fatalities
   3. Injuries
   4. System Reliability
   5. Monthly miles vs. Major mechanical failures

2. A spreadsheet maintained by Safety and Compliance Department is used as a means of monitoring VTA Safety Performance Targets and these are updated quarterly. VTA did not change the targets and it has been the same since 2020. VTA shared the spreadsheet for CYs 2020 and 2021. VTA has a Homeless Response Team to act upon homeless issues near VTA system. Deputy Director of Safety & Compliance and the Transit System Safety Supervisor discuss the data, but it's not shared with the Management Team to date.

3. SMS pouches were provided as informational to all employees when VTA transitioned from SSPP to PTASP. A promotional period of five months was in place to educate employees about SMS and PTASP requirements.

Findings:

None.

Comments:

VTA Safety should share the Safety Performance Target spreadsheets on a quarterly basis with the GM and management. The tracking spreadsheets should be shared with the heads of the departments in order to gauge department performance.

Recommendations:

None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**3**	**Element**	**Overview of Management Structure**
Date of Audit	April 26, 2022	**Department(s)**	Executive Management
Auditor/Inspector	Daren Gilbert Stephen Artus Ainsley Kung Steven Espinal Michael Borer James Matus	**Persons Contacted**	Carolyn Gonot, General Manager/CEO Brandi Childress, Chief of Staff David Hill, Chief Operating Officer Naunihal Singh, Deputy Director of Rail Susan Lucero, Deputy Director of System Safety and Compliance

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659/674
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Overview of Senior Management Structure

Interview Executive and Senior Management and review appropriate records to:

1. Determine how RTA's process for integrating safety into operations and maintenance activities is accomplished.
2. Identify if any safety program deficiencies are a result of inadequate personnel or resources, such as difficulties in maintaining schedules for SSPP/PTASP updates, completing Internal Safety and Security Audits, implementing corrective action plans, or performing accident/incident investigations.
3. If the RTA makes significant changes to its org chart, does the RTA analyze the impacts on safety before and after implementing the changes?
4. Are resources keeping up with system growth (if any)? Does RTA track data on personnel hours spent on projects/activities?

5. Does the RTA or RTSB have concern in the turnover in key positions (including but not limited to Executive and Senior Management)? If there is a concern, how is the RTA addressing it?
6. Are operating and maintenance departments adequately staffed? What effect has the pandemic, active-shooting tragedy and current labor shortages had on VTA staffing? What data supports the responses?
7. Determine whether the safety department has personnel resources allocated to support interdepartmental coordination on safety issues and concerns.

FINDINGS AND RECOMMENDATIONS

Activities:

1. Posters and informational pouch stuffers were created for VTA operations and safety. For example, in operations there was a mainline signal that Train Operators were having recurring violations, and the disciplinary actions were not successful. VTA Creative Services did work on creating safety adjustments, safety-gram, safety posters, etc. which were provided to employees to promote safe operating practices.

   Safety and Operations work at different meetings to resolve current issues. Joint Safety meetings (VTA and Union) are conducted and have various levels of members involved. VTA Safety and Operations work together to resolve any issues/concerns and participate in each other's hiring panels. Team meetings enhance communication between Operations and Safety. E.g., Hazard Management Plan

2. VTA Safety Department hired a new safety officer for a total of three safety officers on the team. The Environmental Health and Safety (EHS) Department has two members and one of them will be retiring soon. EHS has always had two specialists since 2017 and have added an extra EHS member that is being contracted to service Bart extension facilities. Currently, VTA does not think there is a shortage of staffing since responsibilities are being handled and shared. VTA needs to evaluate the EHS department however, and the Deputy Director of Safety and Compliance will cover some duties. The EHS Supervisor position was eliminated.

3. VTA is performing an ongoing evaluation of the organization chart. Leadership is a key component, and Safety is the first key component. VTA had a high turnover rate, and they are reorganizing their structure to provide more leadership and training overall. VTA states that they do evaluate any changes to the organization chart as per PTASP.

4. VTA doesn't have resource issues on their existing system. VTA had different minor projects and events that have been worked on by VTA employees. Resources for the BART extension are provided and VTA has dedicated person(s) working on the extension and financial aspects of it. There is already an Operations and Maintenance agreement in place between BART and VTA. VTA maintains areas outside the stations.

5. CPUC is aware of VTA's staffing issues and they are trying to address it. CPUC has already discussed their concerns about different departments (see Checklist 1). VTA is facing challenges to hire people due to the high cost of living in the region. Deputy Director of Safety and Compliance absorbed the predecessor's responsibilities after previous staff departed from VTA. RTSB PM is comforted by the fact that Deputy Director of Safety and Compliance took over predecessor's position.

6. Chief Operating Officer (COO) will send a vacancy number depending on the positions still vacant and to be filled by the agency. COO has a tracking list from all the department heads regarding open positions and the hiring status.
   VTA is focusing on making sure their employees are in the right mental state and concentrating on the psychological safety of their staff. Mental health professionals are on campus (site) and are available 24/7 for VTA employees if needed. The Resiliency Center is opening today.

7. See above. Yes, Safety Department has personnel allocated to support interdepartmental coordination on safety issues.

<u>Findings:</u>
None.

<u>Comments:</u>
None.

<u>Recommendations:</u>
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**4**	**Element**	**System Safety Program Plan/ Public Transportation Agency Safety Plan: Control and Update Procedure**
Date of Audit	April 26, 2022	**Department(s)**	System Safety and Compliance
Auditor/Inspector	Daren Gilbert Stephen Artus Ainsley Kung Steven Espinal Michael Borer James Matus	**Persons Contacted**	Susan Lucero, Deputy Director of System Safety and Compliance Antonio Tovar, System Safety Supervisor Erica Casillas, Acting Power Supervisor

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

System Safety Program Plan/ Public Transportation Agency Safety Plan: Control and Update Procedure

Interview System Safety and Compliance department and review appropriate records to:

1. Verify the required annual SSPP/PTASP compliance letter by the General Manager has been sent to the CPUC for the past 3-years per SSPP/PTASP.
2. Verify SSPP/PTASP reviews and changes are comprehensive in scope, within required timeframes, and are approved by the designated staff.
3. Verify the SSPP/PTASP has a change log, version number and date. How does the RTA assure distribution to appropriate personnel?
4. Verify that SOPs and other plans and procedures relevant to the SSPP/PTASP are managed and updated as needed; and were provided to Staff for the 2022 Triennial Review.

FINDINGS AND RECOMMENDATIONS

<u>Activities:</u>

1. VTA PTASP version 1 was approved on July 7, 2020. There was no update in 2021 and VTA letter dated February 16, 2021, identified as much. VTA submitted a revision 2 in February 2022 for CPUC review and CPUC approved it on May 6, 2022.
2. VTA departments were part of the initial PTASP process. All comments were compiled by VTA System Safety and documented into a final draft document for review and approval by RSSRB Committee. Afterwards, the PTASP was presented to the SSTPNO committee to give some of the Board members an opportunity to review and provide comments.
   VTA is working on the Bipartisan Law to include union members on safety committees by July 2022. Throughout the PTASP drafting and review, all the union members, board members, safety moments, campaigns for employees were initiated to keep employees informed about this new document. Pouch stuffers were created to share with employees and others involved with the PTASP.
3. PTASP version 2 dated January 10, 2022, page 5 identifies changes made.
   Informational packets, Internal hub, Article on the hub, QR code on cards, distributed cards for employees, hard copies, etc. were available to employees.
4. RSSRB committee distributes SOPs and other plans as approved.
   All SOPs were provided to CPUC and VTA via Teams Meeting. All policies and procedures were uploaded to individual checklists by VTA.

<u>Findings:</u>
None.

<u>Comments:</u>
None.

<u>Recommendations:</u>
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**5**	**Element**	**System Safety Program Plan/ Public Transportation Agency Safety Plan: Implementation Activities and Responsibilities**
Date of Audit	April 26, 2022	**Department(s)**	Operations System Safety and Compliance
Auditor/Inspector	Daren Gilbert Stephen Artus Ainsley Kung Steven Espinal Michael Borer James Matus	**Persons Contacted**	Susan Lucero, Deputy Director of System Safety and Compliance Naunihal Singh, Deputy Director of Rail Antonio Tovar, System Safety Supervisor

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

System Safety Program Plan/ Public Transportation Agency Safety Plan: Implementation Activities and Responsibilities

Interview operations and safety department and review appropriate records to:

1. Determine how each manager, department, and contractor charged with responsibility and accountability for SSPP/PTASP implementation, enforcement, and effectiveness within their area of purview?
2. Identify any challenges each manager, department, and contractor has had in complying with the SSPP/PTASP or general safety tasks (i.e., timely accident reports, CAPs, inspections, and maintenance).
3. Verify how management is held accountable for the performance of safety-related activities or if serious/potential deficiencies are found?

FINDINGS AND RECOMMENDATIONS
Activities: 1. PTASP accountability: regarding rule violation, CPUC inspections, rules compliance monitoring, rail controllers' checks, etc. occur VTA will conduct root cause analysis to reveal cause to address. Recently, there was a supervisor that did not fill out the paperwork as required. The supervisor was advised of the proper procedure, and all other supervisors were advised as well. Each group manager is responsible for their group enforcement and effectiveness. Operations and Safety have been working together to resolve ongoing issues. 2. Timelines for addressing CAPs for accidents, inspections, etc. are completed in a timely manner by Safety Department. Safety Department has engaged with Way Power & Signal and LRV Maintenance employees to respond to each CAP in an acceptable manner. 3. Refer to 1. Safety of each group is the responsibility of each group manager. Performance Appraisal. Management is responsible for discipline including enforcing PTASP/SOPs. This may be documented in an employee's performance appraisal. Findings: None. Comments: None. Recommendations: None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**6**	**Element**	**Hazard Management Process**
Date of Audit	April 25, 2022	**Department(s)**	System Safety and Compliance
Auditor/Inspector	Claudia Lam Rupa Shitole Sally Nguyen	**Persons Contacted**	Elizabeth McFadden, System Safety Officer Larry Bajwa, Transportation Superintendent Naunihal Singh, Deputy Director of Rail Lindsey Fuji, Environmental Health & Safety Specialist.

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA Hazard Management Program (HMP)
10. VTA Injury Illness Prevention Plan (IIPP)

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Hazard Management Process

Review hazards reported in the past 3-4 years by the RTA. Interview RTA representatives and review records from the past 4 years to determine:

1. If RTA is identifying hazards according to SSPP/PTASP.
2. If the safety department has a mechanism to track identified hazards through analysis and resolution? How is the RTA communicating their data and analysis to appropriate personnel/departments?
3. How is the RTA reviewing operational hazards to assess risk (probability and severity), and reporting unacceptable hazards to CPUC as specified by the SSPP/PTASP? Provide at least three examples.
4. Identified hazards are evaluated, corrective actions are identified, the department responsible for implementation is identified, and a schedule for completion is established.

5. The RTA follows up on reported hazards to assure corrective actions are implemented to mitigate or resolve hazards.
6. RTA has a specified process for reporting hazard resolution activities to CPUC as required by General Order 164-D/E.
7. What are the required minimum qualifications (training) for RTA employees performing hazard analysis to promote consistent results?

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed VTA personnel and noted the following:

1. PTASP Section 5 identifies the Hazard Management Program (HMP) for VTA employees and/or contractors. The HMP provides a procedure that outlines VTA's entire reporting process. VTA employees can report hazards multiple ways such as email, phone, forms etc. VTA has been using since 2019, a tracking online database called Vector Solutions (Previously known as Industry Safe) that tracks all hazards.

   New Employee Orientation covers the HMP. Flyers are provided and posted in every building for VTA employees.
   Only Supervisors have training on Vector Solutions to document hazards. All "high" categorized hazards are reported to the CPUC per VTA's HMP.

   Vector Solutions reported hazards can be linked to events such as incidents, etc. VTA will be making slight changes to the HMP depending on knowledge learned from the recent federal TSI class hosted at VTA offices.

2. Vector Solutions is VTA's database for tracking hazards. All forms and emails are documented into the hazards module. All hazards are tracked to closure and entries have associated CAPs.

   VTA's RSSRB has a monthly tracking spreadsheet for hazards that the Safety Department tracks and monitors through closure. The monthly meetings discuss the hazards with each person/department responsible who provide the status of the hazard. The reminders through Vector Solutions are sent to responsible parties at various frequencies such as 2 weeks, 30 days, etc.

   RSSRB meetings report on all safety related issues and their status. VTA System Safety discusses the open items at their regular meetings as well. In addition, ATU Joint Safety Meetings (Monthly), SEIU Safety Meetings (Every other month), Active ROW meetings (Monthly), Rail Reliability meetings (Monthly) hazards are discussed and tracked.

3. Staff reviewed three samples of operational hazards from 1/1/2017 – 4/22/2022, and there were no unacceptable hazards reported. VTA staff demonstrated to Staff how to access the Vector Solutions and assign a hazard category in Vector Solutions. Staff

requested any unacceptable hazards identified from Preliminary Hazard Analysis (PHA) for capital or major projects. CPUC VTA designated representative made a recommendation on a PHA that was recorded from a previous meeting, that the PHA was missing the rating matrix.

4. VTA staff demonstrated how Vector Solutions have all items logged for tracking.

5. VTA follows up on hazards within or outside the organizations until completion. In addition to Vector Solutions, VTA safety department kept a separate spreadsheet "CPUC-VTA-CAP matrix report 2022" for tracking CAPs including CAPs from hazards. Color coding is used on the spreadsheet to track the status of each item. Staff commented that the spreadsheet has no hazard rating or target date. Staff suggested modifying the spreadsheet to identify the target date. If the purpose of the spreadsheet is for tracking, a target date serves the purpose for tracking items that are either past due or closed.

6. VTA uses the online RTSB web reporting form to report hazards to the CPUC as required by HMP Sections 3.6.5 CPUC requirements. VTA's Hazard Management Plan, states "VTA uses Form R for reporting."

7. In 2018, VTA rolled out a training class on how to use Vector Solutions and to determine hazard categories (Probability & Severity). Each department has designated staff to take the training. Also, New Employee required orientation/training and Vector Solutions guide are reviewed regarding reporting and tracking its hazards online through closure.

   Subject Matter Experts will review and comment on each event after assessing the rating for each hazard. Each hazard has multiple layers of supervision and review. HMP Refresher Training is provided in the form of fliers, hub reminders, safety tailgate meetings, etc. to VTA employees.

   Trend Analysis is conducted via the Vector Solutions which maps out and identifies the most problematic areas. VTA reviews and identifies solutions as needed. Red light violations, switch violations, and other violations are tracked in Vector Solutions for data analysis.

   Train the trainer is used to provide training throughout the agency.

<u>Findings:</u>
None.

<u>Comments:</u>

1. Preliminary Hazard Analysis (PHA) is currently in process of being implemented during minor projects. The initial process of documenting a PHA was not sufficiently conducted. After multiple meetings with VTA's Engineering and Planning Development Department and sharing various PHA documents related to other projects, VTA is working on a plan to incorporate a PHA in all projects moving forward. PHA for major projects is in place but lacking some minor details. Refer Safety Checklist #8 for more details.
2. VTA should update its Hazard Management Plan to remove/update forms that are obsolete such as Form R, and language referring to the "…two reporting hazard forms."
3. VTA should modify its CAPs Matrix tracking spreadsheet to include "Target date" and "Hazard rating."

<u>Recommendations:</u>
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**7**	**Element**	**System Modification**
Date of Audit	April 18, 2022	**Department(s)**	Engineering and Program Delivery (EPD) Maintenance Engineering (ME) System Safety and Compliance (SSC)
Auditor/Inspector	Jamie Lau Steve Espinal	**Persons Contacted**	Ken Ronsse – Deputy Director, EPD Manjit Khalsa, Senior System Engineer, Ops. Engineering Susan Lucero – Deputy Director, SSC Antonio Tovar, Transit System Safety Supervisor, System Safety Unit

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. Light Rail Safety and Security Certification Guideline for Light Rail Engineering
10. VTA applicable policies and procedures.

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

System Modification

Interview RTA representatives and review appropriate records to determine:

1. If the operation, safety, and other applicable departments are 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, inspections and observations performed at work sites.
2. Conformance to relevant Standard Operating Procedures is being met.

Review three recent system modification projects implemented and determine if:

3. The Project followed SSPP/PTASP requirements and subsequent internal procedures which included an evaluation of potential hazards to the system and that no unauthorized modifications were implemented.
4. The hazards were addressed, including an evaluation of potential hazards arising from the proposed modification, and approval was documented.
5. Any system modification changes made are shown in final As-Built drawings for the facility, vehicle and/or equipment specifications.
6. All required approvals are documented prior to implementation.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed VTA representatives and reviewed appropriate records and determined:

1. Operation, Safety, and other applicable departments are involved in assessing safety concerns. Safety concerns are addressed in system modifications by identifying their specific activities in the process such as safety certification checklists, participation in testing, inspections and observations performed at work sites.

2. Conformance to relevant procedures is being met.

Staff randomly selected the following three minor projects for review:

1. Karina Crossover – installation of a crossover near Karina Station and was part of the Rail Rehabilitation Phase 6 Project that was completed in 2018.
2. The OCS Rehabilitation Phase 2 Project – OCS rehabilitation from north of I-880 through the downtown transit mall to San Carlos Street. The project was completed in 2020.
3. LR Transit Safety and Speed Pilot Project – install barrier, signal and lighting improvements in downtown San Jose between East San Fernando Street and East San Carlos Street. The project began in 2017 and is currently on-going.

Staff reviewed three recent system modification projects implemented and determined (Refer above):

1. The Projects followed SSPP/PTASP requirements and subsequent internal procedures which included an evaluation of potential hazards to the system, and that no unauthorized modifications were implemented.
2. The hazards were addressed, including an evaluation of potential hazards arising from the proposed modification, and approval was documented.
3. Any system modification changes made are shown on final As-Built drawings for the facility, vehicle and/or equipment specifications.
4. All required approvals are documented prior to implementation.

Staff interviewed VTA personnel involved with Capital Projects and Operations and Maintenance. Staff learned that minor projects have similar safety certification process as major projects, except minor projects do not require a safety certification plan and safety

certification verification report to be approved by CPUC. Procedures for certifying minor projects are covered under VTA LR Safety and Security Certification Guideline for LR Engineering and PTASP.

Staff learned that minor projects will initially go through a hazard analysis ensuring the Project Manger to sign off the analysis. The next step is Configuration Management Process that informs various departments of the changes and the departments to sign off for acknowledgement; the Project Manager finally closes out the configuration changes after the construction is done. Employees have a share drive access that they can modify and upload files for the projects.

Rail System Safety Review Board (RSSRB) holds monthly meetings to go over project status and action items until complete. Staff reviewed the three most recent RSSRB monthly meeting minutes and verified that meetings include progress updates and action items. The meeting attendees list indicates representatives from departments including System Safety, Maintenance of Way (MOW) and Engineering and Program Delivery EPD.

Like major projects, minor projects also have safety certification checklists that the project team uses for tracking completion status. Minor projects have Site-Specific Work Plan (SSWP) created by contractors for day-to-day work and address job-site safety hazards. At the completion of a project, contractors submit and record drawings.

Staff found both Karina Crossover and OCS Rehabilitation Projects have the necessary General Forms including hazard analysis, configuration management, safety certification worksheets and red-lined as-built plans present in the project closeout binders. The same binders also include verification photos showing finished work. Karina Crossover has a SSWP submitted by the contractor; OCS Rehabilitation Project only has a Site-Specific Safety Plan submitted but not a SSWP because work does not impact train operations. Both projects have testing results for completion.

As for LR Transit Safety and Speed Pilot Project, Staff noted only hazard analysis, configuration management and safety certification worksheets are present because the project is still on-going.

Staff noted all three projects have forms properly signed off at each stage. Project completion certificates are signed off by the project managers.

Staff generally found VTA follows its procedures for system modifications.

<u>Findings:</u>
None.

<u>Comments:</u>

1. Staff suggest adding a process flow chart for minor project safety certification within VTA LR Safety and Security Certification Guideline for LR Engineering.

Recommendations:
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	8	**Element**	**Safety and Security Certification**
Date of Audit	4/19/2022	**Department(s)**	Engineering and Program Delivery (EPD) Maintenance Engineering (ME) System Safety and Compliance (SSC)
Auditor/Inspector	Jamie Lau Daniel Kwok	**Persons Contacted**	Joshua Teo – BART System Safety Bjorn Bergstrand – Traffic Engineering, EPD David Kobayashi – Traffic Engineering, EPD Krishna Davey – Silicon Valley Rapid Transit (SVRT) Manjit Khalsa, Senior System Engineer, Ops. Engineering Ken Ronsse – Deputy Director, EPD Susan Lucero – Deputy Director, SSC Antonio Tovar, Transit System Safety Supervisor, System Safety Unit

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. Light Rail Safety and Security Certification Guideline for Light Rail Engineering
10. VTA applicable policies and procedures.

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Safety and Security Certification

Interview the RTA representative(s) involved in the Safety Certification Plan (SCP) and review the records of their major projects to determine whether:

1. A formal SCP has been submitted by the RTA and approved by the Commission.
2. Each submitted SCP was consistent with General Order 164-D/E, the SSPP/PTASP, and applicable reference documents.
3. CPUC staff have participated throughout Preliminary Engineering Design Phase and other phases.
4. All design and construction changes are properly documented and addressed in the Safety Certification process.
5. All identified hazards have been eliminated or controlled as required under the SCPs.
6. All certifiable elements for Safety Certified projects during the past four 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.
7. Review three (3) minor projects to verify they did not require CPUC approval, and to determine whether the RTA followed a similar process of self-certification for the minor projects.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed VTA representatives involved in the Safety Certification Plan (SCP) and reviewed the records of their major projects and determined:

1. A formal SCP has been submitted by the RTA and approved by the Commission.
2. Each submitted SCP was consistent with General Order 164-D/E, the SSPP/PTASP, and applicable reference documents.
3. CPUC staff have participated throughout Preliminary Engineering Design Phase and other phases.
4. All design and construction changes are properly documented and addressed in the Safety Certification process.
5. All identified hazards have been eliminated or controlled as required under the SCPs.
6. All certifiable elements for Safety Certified projects during the past four 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.
7. Staff reviewed three (3) minor projects to verify they did not require CPUC approval and determined VTA followed a similar process of self-certification for the minor projects.

Staff chose three major projects by VTA for review. The three major projects are:

a) Eastridge to BART Regional Connector
b) Light Rail Signal Priority Detection Upgrades
c) Silicon Valley Berryessa Extension.

On 4/19/2022, Staff interviewed VTA representatives involved in the selected major projects. Below is audit activities documented for each major project, as well as three minor projects that did not require CPUC approval.

Eastridge to BART Regional Connector (EBRC)
EBRC adds 2.4 miles of double track light rail and two new stations along Capitol Expressway in City of San Jose, extending the VTA light rail system from Alum Rock Station to Eastridge Transit Center. The proposed alignment consists of an elevated guideway on retained earth and structure. The project has completed final design and is currently at issued-for-bid phase; estimated to complete construction in 2027. A SCVR has not yet been submitted.

The first SCP for EBRC was submitted by VTA and approved via Commission Resolution ST-88 in 2007. The project was on hold due to funding at the time. The SCP was later revised in 2020 and approved by RTSB with changes from mixed design of at-grade and aerial to exclusively aerial design. A SCP Checklist Review Form shows the SCP revision is consistent with applicable rules.

From prior meeting records and photos, Staff noted CPUC personnel participated in various meetings throughout preliminary engineering design phase, including tours previewing the project site in 2009 and 2018.

The project has not had design changes since SCP revision in 2018. Also, the Project has not had construction changes because the project is not yet in construction. Staff did not have a sample of design or construction changes to review for this project.

EBRC has a Threat and Vulnerability Assessment and Security Measures (TVA) report developed in 2019. The report identified the potential threats and vulnerabilities of the project and established design provisions accordingly. The project also developed a PHA with a hazard resolution matrix identifying initial risk level and mitigations. However, the PHA lacks the methodology for assessing the lowered risk levels after mitigation; therefore, the matrix lacks the lowered risk levels.

Light Rail Signal Priority Detection Upgrades (TSP)
Transit Signal Priority (TSP) is a replacement of the Train-to-Wayside hard-wired system with a new GPS-based light rail vehicle detection system to act as a primary detection system for requesting transit service priority at non-gated signalized intersections. The existing loop-based system will be eventually abandoned. The project will install necessary equipment on 98 light rail vehicles and 89 signalized intersections. The project is approaching construction phase. A SCVR has not yet been submitted, but approvals may come in phases. First phase approval may be requested in 2022 and may take an additional year to complete.

The SCP for TSP was submitted by VTA and approved via Commission Resolution ST-245 in 2021. A SCP Checklist Review Form shows the SCP was consistent with applicable rules.

From prior meeting records, Staff noted CPUC personnel participated in various meetings since the planning phase in 2015. Various meetings occurred throughout preliminary engineering phase.

The project does not have design or construction changes since safety certification. Staff did not have a sample of design and construction changes to review for this project.

Staff reviewed the PHA hazard resolution matrix and did not find issues with the matrix. The project does not have a TVA as the Project Manager indicates it does not need one and there are no changes to the operating environment or facilities.

Silicon Valley Berryessa Extension (SVBX)
SVBX is the Phase I of the 16.1-mile Silicon Valley Rapid Transit (SVRT) extension from BART Warm Springs Station to City of Milpitas, San Jose, and Santa Clara. SVBX consists of a 10-mile extension of BART service from Warm Springs Station headed south, with two new stations at the City of Milpitas and Berryessa area in the City of San Jose. Phase II of SVRT is the remaining extension after SVBX, with stops in Downtown San Jose and the City of Santa Clara. Phase II is still in preliminary design phase, and not in the scope of this audit review. The SVBX started revenue service in June 2020. Although the extension was planned and built by VTA, the operator is BART.

The initial SCP for SVRT was submitted by VTA and approved via Commission Resolution ST-83 in 2007. ST-83 indicates SCP was reviewed by CPUC Staff and found it in accordance with GO 164-C at the time. The initial SCP includes both Phase I and II of SVRT. In 2010, VTA submitted a revised SCP to reflect the updated design of Phase I of SVRT- SVBX. The SCP was revised again in 2010, 2016 and 2019. All revisions were reviewed by RTSB personnel and acceptable. A SCP Checklist Review Form shows the SCP revision was consistent with applicable rules.

From prior meeting records and photos, Staff noted CPUC personnel participated in various meetings and inspections between preliminary engineering design phase and revenue service.

Staff reviewed a General Order 95 fence design and construction variance with the project. The variance was requested to forgo the inclined barb wires on top of the 9-foot fence. The variance request was granted via Commission Resolution ST-173 in 2015.

Staff reviewed the SVBX Hazard Tracking Matrices and verified all hazards identified have been resolved. Tracking Matrices identified hazard risks with their ratings prior and after mitigation. Conformance certificates were signed off by the Project Manager.

Staff reviewed the SVBX SCVR package and verified all eight certifiable elements identified during the SCP were properly submitted with the SCVR. Conformance certificates for the elements were signed off by the Project Manager. The SCVR was submitted on 5/20/2020 with the request to place into revenue service on 6/13/2020. Staff noted the SCVR was submitted more than 21 calendars days before the requested revenue service date as required by GO-164-E. SVBX SCVR was approved by Commission Rail Safety Division Director and allowed to enter revenue service.

Staff randomly picked item Nos. 8, 181 and 197 from SVBX's Contract Change Order Register for review. Staff found the sampled design and construction changes are properly documented and approved with the Project Manager sign off.

Staff reviewed three minor projects from a separate Safety audit Checklist 7. Staff verified that those projects do not require CPUC safety certification. Staff found VTA's minor project's self-certification process is similar to its major project's safety certification process (See Safety Checklist #7).

Findings:

1. The Eastridge to BART Regional Connector (EBRC) PHA lacks the methodology for assessing the lowered risk levels after mitigation; therefore, the matrix lacks the lowered risk levels.

Comments:

1. Staff suggests the Light Rail Signal Priority Detection Upgrades Project (TSP) PHA hazard resolution matrix include a preface describing guidelines and methodology used. Staff understand the matrix was done following the FTA Hazard Analysis Standards guidance document.

Recommendations:

1. VTA's Eastridge to BART Regional Connector (EBRC) PHA must add a methodology for assessing the lowered risk levels after mitigation and identify the lowered risk levels in the PHA hazard resolution matrix per VTA PTASP Safety Risk Assessment process.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)			
Checklist No.	**9**	**Element**	**Safety Data Collection and Analysis**
Date of Audit	4/19/2022 8:00 – 11:00 am	**Department(s)**	Risk Management System Safety and Compliance Engineering and Maintenance Operations Light Rail Vehicles Light Rail Training Maintenance Training
Auditor/Inspector	Matt Ames Claudia Lam	**Persons Contacted**	Susan Lucero, Deputy Director, Safety & Compliance John Cavanaugh, LRV Supervisor, Maintenance Rodante Sagisi, LRV Supervisor, Maintenance Rondale Owens, Operations Supervisor, OARS Lalitha Konanur, Manager, OARS Diana Chasse, Claims Program Manager, Enterprise Risk Management Antonio Tovar, Transit System Safety Supervisor, System Safety Unit Manjit Khalsa, Senior System Engineer, Ops. Engineering Ken Ronsse, Deputy Director, EPD Peter Lim, Claims Analyst, Risk Management Judith Harteau, Enterprise Risk Manager, Enterprise Risk Management
REFERENCE CRITERIA			
1. CPUC General Order 164-D/E 2. CPUC General Order 143-B 3. 49 CFR 659 (renumbered to 49 CFR 674) 4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018			

5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. 2017 & 2022 Internal Safety Audit Reports

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Safety Data Collection and Analysis

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

1. The data collected includes at minimum: information concerning accident and incidents, near misses, employee performance failures, equipment failures, procedural deficiencies, derailments, and rules violations, etc.
2. The safety data is supplied by, and collected from, all appropriate departments.
3. The safety data collected is analyzed and incorporated into their Safety Risk Assessment process as necessary.
4. The safety data and analyses are made available to departments for use in planning their safety-related activities and implemented according to SSPP/PTASP.
5. Periodic reporting regarding the results of the safety data analysis is provided to the Executive Management as appropriate.
6. Review the process for reporting to FTA's National Transportation Database (NTD).

FINDINGS AND RECOMMENDATIONS

Activities:

Staff conducted interviews of VTA representatives responsible for safety data acquisition and analysis. Staff reviewed safety data acquisition and analysis program requirements and reference criteria. Staff reviewed records that support data acquisition and analysis processes.

1. The data collected includes information from reported events, near misses, employee performance and equipment failures, procedural deficiencies, and rules violations.

   Since 2019, the Operations Control Center (OCC) has been using Clever Devices Incident Manager (CDIM) web-based software for collecting data. Data is available for 30 days, and then archived for 4 years. The data includes event information including date, time, location, and description. Data collected also includes chemical incidents and non-chemical events. VTA provided AROMIKE (rail accidents, incidents, mechanical, & near miss logs) event data downloads to Staff for review. VTA is using Vector Solutions (previously known as Industry Safe) software to collect and track safety data.

Supervisory interactions, employee performance failures, and procedural deficiencies are maintained by each light rail department. Way, Power, and Signal will report Roadway Worker Protection near misses to OCC. Light rail departments use Vector Solutions for tracking event data and data is entered manually. The data includes events, equipment failures, and near misses. OCC enters event information into CDIM and Vector Solutions. The Claims department uses a 3rd party administrator to track and analyze data. VTA does not directly use SCADA outputs for safety data acquisition and analysis. SAP is used for tracking work orders not related to incidents. Unusual Occurrence Reports are no longer used to collect data.

Staff verified the 2017 Internal Safety Audit (ISA) Checklist. Nine findings and recommendation were addressed, and the Corrective Action Plan (CAP) was completed. 2022 ISA Checklist 9 recommends addressing high OSHA reportable event rates and timeliness of interdepartmental safety data reporting for continuous improvement.

2. Safety data is supplied by and collected from all light rail departments. CDIM data can be entered by OCC, and daily reports are provided to all light rail departments.

   The Rail System Safety Review Board (RSSRB) meetings discuss safety data trends and results from analysis. RSSRB meetings include input from engineering, operations, and Way Power & Signals departments. The input is event related, which includes trend analysis, LRV, and crossing gate issues. Staff reviewed RSSRB meeting minutes for verification. RSSRB members coordinate with the Transit Asset Management group for trending and tracking.

   Enterprise Risk Management (ERM) provides multiple reports for analysis and discussion and analyzes incident data for potential liability claims. Engineering personnel conduct an analysis for the departments. Training personnel use a learning management system for data acquisition and analysis. Training personnel also provide data for analysis to address mitigations based on safety data analysis. The Form V is also used for data acquisition.

3. Safety data collected is analyzed and incorporated into the Safety Risk Assessment process.

   Safety and Engineering personnel conduct analysis of safety data and perform risk assessments. Safety and Planning departments use the data for project planning and improving the system. The track intrusion project and technical training have made improvements in the curriculum based on data review. Safety risk assessment of data may guide spending on capital projects. The safety certification process includes additional safety risk assessment activities driven by analysis of safety data. Vector Solutions is used for tracking these processes.

Hazards are entered into and tracked using Vector Solutions. Hazard ratings are assigned to each hazard. Hazards rated Medium or higher are addressed. VTA provided examples of Hazards being addressed with mitigation efforts and tracked through completion. Many Hazards are reported, including those rated as unacceptable. Each department is not required to conduct risk assessments.

Near miss data is also analyzed by ERM and locations are mapped by the GIS team.

4. Safety data and analyses are made available to departments for use in planning their safety-related activities and are implemented according to the PTASP.

   Departments contact Safety for data and analysis results. This information is used for budgeting, project planning, and procedure development. Safety related activities are included in procedures.

   Examples of safety related activities driven by data and analysis include: rules of the week, toolbox/tailgate talks, SOP revision, safety vest observations, and repainting light poles in yards.

   Safety related activities, data, and analysis are discussed during the RSSRB meetings and breakout groups are created to handle more complicated issues. Some processes need to be formalized. Light Rail department personnel are not necessarily utilized for data analysis and use. Some data is not being used for these processes.

5. Periodic reporting regarding safety data analysis results is provided to Executive Management (EM). EM receives quarterly and annual reports concerning safety data analyses. The quarterly and annual reports include data from events, hazards, and claims.

   EM receives information from department Chiefs during weekly meetings and regular informal discussions. EM discusses data, analyze and will routinely request more information. An example of these discussions includes a significant increase in reportable events, status of open CAPs, and near misses.

   In the past, VTA conducted primary event analysis and provided the results to the monthly executive round table meeting. The General Manager (GM) now has weekly meetings with the department Chiefs (head of the division – title chief, to deputy director). The GM receives an annual report from each Chief. Chiefs also provide their report to the board. Risk management provides reports to the GM, which includes claims. Safety provides monthly reports regarding inspections, collisions, and safety analysis.

6. Staff reviewed the process for reporting to NTD. Safety and Security personnel manage and enter data into the NTD. The AROMIKE report is reviewed daily, and applicable information is transferred. VTA is not aware of any non-compliance issues with FTA requirements for reporting to NTD.

   VTA has proposed creating a position responsible for backing up the person who enters data into the NTD. The Deputy Director of Safety is currently the backup. Training for the NTD is informal and Safety is producing working instructions for the process.

Findings:
None.

Comments:
1. VTA should include SCADA outputs within the safety data acquisition and analysis process.
2. VTA should track the acceptable review process for all reported hazards with Hazard Ratings at or higher than Medium, per PTASP Safety Risk Assessment processes.
3. VTA should formalize the process for their discussions between departments regarding hazards, hazard ratings, and mitigation efforts.
4. VTA should formalize the process and assign responsible personnel for safety data quality assurance.
5. VTA should update PTASP Section 6.1.1 to reflect that Enterprise Risk Management Department preparation of the Quarterly reports, not just Monthly reports as currently identified.
6. VTA should update PTASP Sections 4.1, 6.0, and 6.1.1 to reflect the existing processes that are currently used for safety performance, safety risk mitigation, safety assurance, and safety data acquisition and analysis. The current PTASP language is not specific enough to determine what VTA processes are in place and how activities discussed are performed, tracked and who is responsible.

Recommendations:
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**10**	**Element**	**Events - Accident/Incident/Occurrences Investigations**
Date of Audit	04/25/2022 8:00am – 11:00am	**Department(s)**	System Safety and Compliance
Auditor/Inspector	Steve Espinal Arun Mehta	**Persons Contacted**	Susan Lucero, Deputy Director of Safety & Compliance Antonio Tovar, Transit System Safety Supervisor Octavio Garcia, Manager of Security Programs Gurpreet Singh, Assistant Superintendent of Service Management

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA SOPs 530 and 531
10. LRA-PR-419.14 Light Rail Event Investigation Procedure (Version 10)
11. SSS-SAC-PR-5001 - On-Call Incident Response Procedure v.9
12. COS-SAF-WI-5001 - Event investigation Reporting Forms v.1

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Events - Accident/Incident/Occurrences Investigations

Interview the RTA representative(s) responsible, and randomly select at least four FTA-reportable accidents (preferably include a fatality, serious injury, and/or derailment) to determine whether:

1. Accidents and incidents were reported within two hours of occurrence, as required by General Order 164-D/E.

2. Immediately reportable accident or incident notifications to CPUC contained all the information required by General Order 164-D/E.
3. Accidents and incidents were investigated in compliance with the requirements of General Order 164-D/E, and the RTA AIP.
4. Video recordings from inward-facing in-cab cameras are reviewed under the required conditions listed in General Order 172, Section 4.3.
5. Verify if FRA (on joint corridor), National Transportation Safety Board, and National Transportation Database notifications were provided according to applicable requirements.
6. A final report was submitted for each accident or incident according to the requirements in General Order 164-D/E.
7. 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.
8. Is the RTA collecting data on incidents and occurrences, in addition to accidents.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed VTA representatives and determined the following:

1. SCVTA for the most part reports CPUC General Order 164-E reportable accidents within the "two-hour requirement." VTA is making a good faith effort to report incidents within the General Order two-hour requirement. It is rare if an accident is reported late.
2. In consideration of all the VTA Accidents reviewed by Staff during the last four-year period, VTA incident notification does provide sufficient information to adhere to General Order 164 D/E.
3. VTA accident investigation reports do adhere to their reported Accident Investigation Procedure.
4. Inward and outward facing cameras recordings are saved and reviewed by VTA staff and are also made available to CPUC Staff upon request. The recordings are saved for the required time dictated by General Order 172 and 164 D/E.
5. Staff reviewed the following accidents on the VTA shared corridor with FRA heavy railroad and determined VTA does send the required information to FRA and the National Transportation Database (NTD):

    Reportable Incident:
    - Stokes Street Grade Crossing date December 13, 2020
      Reported to the NTD: December 14, 2020
    - Lincoln Avenue Grade Crossings date August 20, 2020
      Reported to the NTD: August 20, 2020

- Track 6 800 feet North of Hamilton Light Rail Station, January 22, 2020
  Reported to the NTD: January 22, 2020

6. Final accident reports are provided within the 60-day requirement dictated by General Order 164-D/E. Extensions have been requested and granted to VTA.
7. Accident reports review:
   a. All accident reports provide detailed information including location, pictures taken from the forward-facing and in-cab cameras, primary cause, contributing cause, findings, and the appropriate recommendations. The pictures provided by VTA support the conclusions of the accident investigation reports. Furthermore, SCVTA conducts monthly MS Teams meetings with staff showing the in-cab cameras and forward-facing accident videos. SCVTA accident reports include San Jose Police reports, when available.
   b. VTA provides most probable cause of all accident reports.
   c. VTA also includes contributory causes of all accident reports, when applicable.
   d. VTA provides Corrective Action Plans (CAPs), which are intended to prevent reoccurrence of accidents. Staff reviewed the VTA accident report Corrective Action spread sheet. Currently there are no CAPs over 60 days old. In the last four years, most CAPs are closed within the 60-day accident investigation period.
   e. VTA does include a schedule for implementing CAPs (if any), including completion date or plan for monitoring progress on an on-going basis.
8. VTA is collecting data on incidents and occurrences, in addition to accidents, as reported by train operators and all other VTA employees and passengers.

<u>Findings:</u>
None.

<u>Comments:</u>
None.

<u>Recommendations:</u>
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**11**	**Element**	**Emergency Management Program**
Date of Audit	04/20/2022 12:00pm – 4:00pm	**Department(s)**	System Safety and Compliance Operations Transportation Light Rail Training
Auditor/Inspector	Joey Bigornia	**Persons Contacted**	Elizabeth McFadden, System Safety Officer Ariel Leary, Light Rail Technical Trainer Octavio Garcia, Manager of Security Programs Acting Captain Cardoza, Santa Clara County Sheriff Sgt. Robert Lalonde, San Jose Police Department (BART Campuses)

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA Emergency Operations Plan and Continuity of Operations Plan

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Emergency Management Program

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

1. Determine if RTA's emergency response planning addressed both safety and security related emergency events and performs the required emergency exercise drills per year.

2. Determine if after action reports were developed, and if changes to RTA's Emergency Familiarization Response and/or procedures were necessary. If changes were necessary, how are these changes communicated to RTA personnel?
3. Determine if RTA has held periodic Fire Life Safety meetings, emergency response agency familiarization activities have occurred as scheduled and corrective actions have been implemented.
4. Review training programs to verify they contain training curriculums for emergency response procedures and activities appropriate for each job classification.
5. Verify that emergency drills were critiqued and evaluated by participants and any corrective action plans that entail RTA, were recorded, scheduled, and tracked to completion in a timely manner.
6. Review disaster (including earthquake, fire, flood, major power outage, etc.) recovery plan/continuity of operations plan.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed VTA System Safety Officer responsible for VTA's Emergency Management Program and determined the following:

1. Emergency Response planning for Safety occurs at VTA. There is a current plan in place (draft at this time) which is being revised due to real-life events. Emergency Operations Plan (EOP) dated May 2015 and Continuity of Operations Plan (COOP) were provided and the current version contains the Emergency Management Plan dated May 2015. VTA's contractor is revising the plan. VTA Threat and Hazard Inventory and Risk Assessment (THIRA) and EOP Gap Analysis Report dated 2/21/2019, was conducted by San Jose State University (9/24/2018 to 12/3/2022). The revised COOP, in addition to the checklist, will contain forms. VTA Facility Emergency Plan is a part of the Injury Illness Prevention Plan (IIPP) and is currently under revision. The IIPP is controlled by Safety & Security Division.

   The Fire Life Safety Committee (FLSC) discusses emergency exercises with external agencies. Training of actual staff is provided by Light Rail Technical Training Department which includes courses for NIMS, SIMS, etc. Emergency response familiarization training with VTA equipment, is scheduled, occurs on-site at VTA facility, and provides "hands-on" for accessing trains, buses, property, etc.

   VTA reports functional full-scale exercises which are conducted as required yearly. Regional exercises are also conducted with the Metropolitan Transportation Commission (MTC) to receive funding to assist with VTA's training budget. MTC involves other agencies throughout the Bay Area during regional exercises. Regional wide training (local, special) is sub-categorized into hubs. The south hub (San Jose) is scheduled in May 2022 for a full-scale drill.

At least one fire drill/year is performed, however, delays in 2020 were due to Covid. Social distancing and protocols were implemented and continued into Year 2021.

All information is kept in Industry Safe (now Vector Solutions) and any deficiencies identified are discussed in Fire Life Safety Committee meetings.

VTA's Emergency Operations Plan and Continuity of Operations Plan Table 5.1 identifies the following Drill and Exercise Schedule:

Frequency	**Type**	**Participants**
Annual	Evacuation Drill	All Employees
At Least Annually	Tabletop or Functional Exercise	All Emergency Organizational Management staff
At Least Annually	Full-Scale Exercise	As much Emergency Organization Management and an outside agency
Every 3 Years	Full-Scale Exercise	All Emergency Organization Management staff

VTA performed the following Drills:

a. Milpitas BART Station and VTA Parking Structure Active Shooter Exercise 2018 performed on 8/11/18. After Action Report (AAR) was finalized on 8/11/18. The corrective action matrix showed completion dates of 12/2019.

b. West Hub Critical Transportation TTX performed on 6/6/19 and an Earthquake Exercise was simulated. The AAR Meeting occurred on 7/24/19. Industry Safe Corrective Action Form 31063 – is currently open due to COOP in draft form. The status shows CAP started 8/29/20, was extended to 10/31/20, and is still open.

c. County EOC – drill was a conference call for county/cities/special districts performed on 1/3/2022. No system activation occurred due to weather.

d. Bay Area Exercise 2022 performed on 2/22-25/22 and Chemical Weapons, Biological Weapon Agents, Radiation Dispersal Devices were simulated. AAR - comments have been received and the Final AAR report with recommendations will be issued later. The Final BayEx2022 AAR is pending.

e. Full Scale Rail Exercise – 2/23/2022 simulated a Hazmat Chemical threat.

f. Critical Transportation Planning Workshop 4/11/2022. The workshop reviewed Bay Area context, overview of ESF-1 concepts & considerations, familiarize participants with UASI planning tools, and discussed needs/opportunity for Santa Clara County.

Drill	Date	AAR	
Milpitas BART Station and VTA Parking Structure Active Shooter Exercise	8/11/18	8/11/18	
West Hub Critical Transportation TTX	6/6/19	7/24/19	
County EOC	1/3/2022	*Conference Call for County/Cities/Districts	
Bay Area Exercise 2022	2/22-25/22	Final Pending with recommendations	
Full Scale Rail Exercise	2/23/2022		Emergency Event Logs dated 2019-2022 documented activation of the EOC. VTA's considers the activations as the Full-Scale Exercises applicable for Years 2020 and 2021.

g. The full-scale drills and Table-Top Exercise drills were performed for years 2018-2022 as required by VTA's Emergency Operations Plan and Continuity of Operations Plan Section Nos. Table 5.1 Frequency Requirements. Due to Covid, the Governor's Stay at Home Executive Order in March 2020, and Social Distancing protocols, formal Full-Scale Exercises were not performed in 2020 and 2021, but under Section 5.8.5 of the Plan, if the EOC is activated, that may substitute for a Full-Scale Exercise.

2. For After Action Reports and corrective actions, see No. 1 above write-ups. All information is kept in VTA's database called Industry Safe (Vector Solutions) and discussed at Fire Life Safety Committee Meetings. VTA is working on trend analysis reports from all divisions including the bus side. VTA also shared the PSPS (Pacific Gas &Electric) coordination status meetings between VTA and PG&E, for any ongoing power outages. VTA's goal is to be prepared with back-up power, in case of an outage, for continued revenue service in the area if possible.

3. Staff reviewed the following Fire Life Safety Committee (FLSC) Meeting Minutes dated:
   - 2017- January, April, November
   - 2018: February, June
   - 2019: May
   - 2020: *Due to Covid, FLSC meetings were not held due to the Governor's Shelter in Place Order.
   - 2021: December, November, September.
   - 2022: January, February, April (cancelled).

   No exceptions were noted.

4. All new VTA employees undergo a two-day training class. The VTA Organizational Development & Operations Training Agenda identifies topics covered: system safety and security, PTASP, active shooter, human trafficking, worker's compensations, cyber security, all hazards training, etc. VTA's System Safety and Security Agenda, which is Day 2 of a new employee two-day training course, identifies the protocols for reporting safety or security events.

   Training Program for Law Enforcement – VTA power-point presentation to law enforcement provides the following:
   - In case of emergency
   - Access to the LRV's
   - Access to the Yard and Facilities

   Train Operators (T/O) – VTA provides the following to T/O's:
   - SOP 1.3 How to report emergencies – given in T/O's training class.
   - SOP 9.4 Passenger evacuation – how to leave depending on location (eg. Ballast, elevated areas, etc.) Event cards (quick reference guides).
   - SOP 9.13 Light Rail Emergency Guidelines – responsibilities for T/O's

   Training for First Responders - VTA provides the following to First Responders:
   - Covers the LRV's, protocols, regulations that are exempt (PED, etc.), and hazards.
   - Allow the first responders to perform drills on the facilities - functional and full-scale event (Feb 2022 – Hazmat Response).
   - Training is for five (5) fire departments, VTA staff, National Guard, responders with emergency protocols, terrorist attack, etc.

   Workshops, tabletops exercises – Transit Response Plan (TRP) working on funding for exercises to determine best practices.

ICS/SEMS Classes (in-house training) – contract identifies six (6) classes that are required. VTA has staff attend the classes to receive the funding necessary to assist with VTA's training budget.

Class required (number of hours):

- ICS/SEMS/NIMS (80)
- SEMS EOC Course (80)
- ICS for Field Personnel (40)
- ICS: Advanced Individual Courses (40)
- SEMS EOC Section Training (30)
- ICS 200 covers the ICS principles for a single resource integrating into a larger ICS System & 300.

The System Safety Manager worked with Management to enter the individuals into the system for prompting of re-training if necessary (eg. dates, classes). Staff were provided with copies of mass emails sent from VTA's System Safety Manager to each department/individual to demonstrate how training reminder notifications to VTA employees are made.

During Covid, VTA held twice/day meetings and discussions on events occurring. The meetings provide an opportunity to discuss emergency issues. After receiving input, VTA determines what updates are necessary based upon changes directed from San Jose County requiring implementation. A "parallel notification" is done with a coordination platform (meeting) – of what has been reported to Operations. VTA has more resources allocated to printing out informational cards on "how to handle"; mutual aid agreements with all transit agencies also support the notification process.

The overall Emergency Management Plan, which is part of the IIPP, was reviewed and solicited input from employees. An audit of emergency food & water supplies at each area occurred and resulted in procurement of food and rations. As a result of input from the reviews and post May 2021 incident, Staff requested enhanced evacuation plans/maps for Guadalupe Yard. The comments were also extended to the bus facilities, and the evacuation plans/maps.

Further updates were made to the following:

- Fire Evacuation Procedure updated 8/25/2020.
- Guadalupe Rail Yard, Building A 3rd Floor, 2/1/22
- Guadalupe Rail Yard Building C, 9/2/21
- Emergency Evacuation Route, GRP Building H
- Guadalupe Rail Plan – Building I, 9/1/21
- Lick Spur – Almaden Temporary Trailer – 10/1/21

Staff also reviewed Training Records for first responders/law enforcement:

- Santa Clara City SWAT Training dated 6/15/17.
- Light Rail Technical Training Class dated 6/27/19
- San Jose Fire Department/ NASA: Peterbilt & Lift Familiarization Training dated 6/27/18
- NASA Fire Department: Peterbilt & Lift Familiarization Training dated 1/28/18
- **None for 2020 & 2021 due to Covid and meeting protocols established. The first one started in 2022.**

No exceptions were noted.

5. For After Action Reports and corrective actions, see No. 1 above write-ups.

6. VTA established the "Plan for Service Shutdown and Preliminary Plan for Restart of Service" dated 3/27/2020 following the Covid shutdown. The Plan identified employees who are required to be re-trained: Light Rail Technical Training, Light Rail Operator Trainees, Light Rail Operations, Light Rail Dispatch, Light Rail Maintenance. The plan addresses the reactivation time required for each Department (Operations, Maintenance, Technical, Facilities, Way Power & Signals) prior to service start necessary for each department.

   All activities require a 96-hour notice prior to service, 48-hours for Wayside Power & Signal staff, Light Rail Vehicle and Operations, etc. to address any issues or defects found before public revenue service resumes. This plan was immediately implemented following an 82% ridership decline since the county-wide shelter in-place order was made effective in early March 2020. VTA decided to focus on bus service for public instead of running the trains.

   Currently COOP is being revised (see #1 above).
   VTA has an established Covid-19 Prevention Program dated 10-1-2021. If any changes noted following the Covid-19 Program meeting scheduled on 4/21/22, it will be incorporated into the COOP. If any further changes are necessary, they are voted on, and will be incorporated in 5/6/22.

<u>Findings:</u>
None.

<u>Comments:</u>
None.

<u>Recommendations:</u>
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**12**	**Element**	**Internal Safety Audits/Reviews**
Date of Audit	4/25/2022	**Department(s)**	VTA Safety & Compliance Department
Auditor/Inspector	Daniel Kwok Steve Espinal Rupa Shitole	**Persons Contacted**	Susan Lucero, Deputy Director of Safety & Compliance Antonio Tovar, Transit System Safety Supervisor Elizabeth McFadden, System Safety Officer

REFERENCE CRITERIA

1. CPUC General Order 164-D
2. CPUC General Order 164-E
3. CPUC General Order 143-B
4. 49 CFR 659
5. 49 CFR 674
6. VTA System Safety Program Plan (SSPP) Revision 15 dated February 3, 2016
7. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
8. VTA System Safety Program Plan (SSPP) Revision 17 dated August 31, 2018
9. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
10. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
11. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
12. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Internal Safety Audits (ISA)/Reviews

Interview the RTA 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 21-SSPP/PTASP elements, and GO 172 and 175 series compliance, 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 draft checklist(s) were submitted for review.
4. Verify each audit identifies the appropriate RTA departments, personnel, the safety related activities addressed, and the reference criteria.
5. Verify audits have been properly documented, including references for documents, activities reviewed, criteria for evaluation, and notes to support findings and recommendations.
6. Verify Annual Reports for 2017-2021 are accompanied by annual compliance letters from the Accountable Executive stating RTA's compliance status with its SSPP/PTASP and identify Corrective Action Plans for non-compliant elements.
7. Verify Corrective Actions from the internal safety audit process were scheduled, tracked, and implemented.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed VTA staff involved with internal safety audits and found the following:

VTA's Principal Safety Auditor position was recently vacated earlier in the year, and VTA plans to interview to backfill the position in mid-2022. Prior to that, the position was also vacant in 2019 before being filled in 2020; a Safety Manager performed the Safety Auditor's duties until the position was filled.

VTA's currently developing a Safety Assurance Procedure, which formalizes auditing activities being/to be performed by the sole Principal Safety Auditor. VTA also informed staff the Chief Safety Officer recently left their position.

1. Staff verified VTA have provided CPUC with a 3-year schedule for their Internal Safety Audits (ISA).
2. Due to the onset of COVID-19 and other Security issues in Year 2021, not all audit elements were completed. VTA has notified staff, in advance, of the revision in scheduling and non-compliance. RTSB staff and management acknowledged the schedule revision and concurred with VTA's efforts to complete the remaining required elements in 2022, as well as continuing compliance with the new audit cycle.
3. Due to turnover for VTA's Principal Safety Auditor position and Chief Safety Officer, VTA was unable to provide documentation for the 30-day notification to CPUC. The RTSB Rep was able to provide various emails from VTA as verification of the 30-day notification from VTA to CPUC, and ISA checklists were provided to the CPUC in advance of any audits performed.

4. Based on review of VTA ISAs, Staff verified each audit identifies appropriate departments, personnel, activities addressed, and reference criteria.
5. Based on review of VTA ISAs within audit period, Staff verified audits include references for documents, activities reviewed, criteria for evaluation, and supporting information for findings and recommendations.
6. Based on review of VTA ISAs, ISA package includes a letter attesting to compliance with VTA's SSPP/PTASP and is signed by the accountable executive. VTA annual ISA package formatting has changed over the years. However, the base requirements are still met identifying any findings and subsequent Corrective Action Plans (CAPs). The most recent audit package includes a summary audit results, audit rating, suggestions, and best practices from the auditor. Any corrective actions in response to findings and recommendations which are not completed by the time of audit package submittal are indicated in the report.
7. All CAPs are currently tracked via spreadsheet and will also be tracked via IndustrySafe (VTA's internal database) later in the year. Monthly status updates are provided to the RSSRB Committee as informational and further discussed with RTSB Representative.

Findings:
None.

Comments:
1. It was noted that VTA are in development of a Safety Assurance Procedure, which formalizes auditing activities being or to be performed by the sole Principal Safety Auditor. It was noted during the interviews that there has been turnover for the position. VTA should finalize and publish the procedure to standardize the role and prevent loss of institutional knowledge.
2. Due to the onset of COVID-19 and Security issues in 2021 during the audit period, not all elements were completed. VTA has notified staff, in advance, of the revision in scheduling and non-compliance. RTSB staff and management worked with VTA and were in concurrence on VTA's efforts to complete the remaining required elements in 2022.

Recommendations:
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)			
Checklist No.	**13-A**	**Element**	**Rules & Procedures Compliance: Observation and Enforcement**
Date of Audit	04/27/2022 0800-1200	**Department(s)**	VTA Service Management VTA Transportation Operations VTA Light Rail Technical Training VTA Light Rail Maintenance Training VTA System Safety & Compliance Department
Auditor/Inspector	Michael Rose Richard Fernandez	**Persons Contacted**	Susan Lucero, Deputy Director of Safety & Compliance Antonio Tovar, Transit System Safety Supervisor Larry Bajwa, Superintendent of Light Rail Operations Gurpreet Singh, Assistant Superintendent of Service Management Diego Carrillo, Acting Way, Power & Signal Superintendent Monte Bjerke, Supervising Maintenance Instructor Ariel Leary, Light Rail Technical Trainer

			Elizabeth Jespersen, Manager of Organization & Human Capital Development

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA Operating Rulebook
10. VTA Standard Operating Procedures
11. VTA Maintenance Procedures

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance: Observation and Enforcement

Interview the appropriate RTA representatives, perform field observation of RTA staff and review appropriate records to:

1. Verify RTA performs formal observations of Train Operators as specified in the SSPP/PTASP and/or supporting procedures by accompanying a Field Transportation Supervisor during compliance checks, assess how compliance checks are conducted, and ensure that final report matches field findings.
2. Verify RTA performs observation of Way Power and Signals as specified in the SSPP/PTASP and/or supporting procedures. Interview operations and supervisory staff to determine their familiarity with rules and procedures and how they monitor employee compliance with rules and procedures.
3. Review documentation to verify Supervisors are citing train operating personnel for rule violations. Conduct a random sample inspection of transit operators to determine if they are carrying their rulebook, if they have the proper safety equipment in their cabs, and if their radios are functioning.
4. Verify operations and maintenance employees are evaluated based on their performance during unannounced observations to assess their compliance with safety rules, procedures, and/or practices. Conduct random interviews of operators to verify how often they receive training on rules and procedures and how the transit agency monitors their compliance with rules and procedures.
5. Determine how RTA performs efficiency testing of operating and maintenance personnel and verify CAPs are implemented when appropriate.
6. Verify the Safety Department receives reports from Transportation, Maintenance and Engineering, and Light Rail Vehicle Facilities Departments regarding rules compliance assessment and testing. Are hazards identified from the rules compliance

process, reported to Safety Department, and tracked through the Hazard Management Process?

FINDINGS AND RECOMMENDATIONS

Activities:

1. VTA Operations does conduct formal observations recorded in Success Factors Software. VTA Operation Supervisors conduct three random, and one recertification ride checks on each Operator per year, as well as, conducting random formal field observations. VTA observations are outlined in SOP 1.6 Random Monitoring-Light Rail Performance Evaluations and SOP 1.10 Operator Evaluation/Ride Check.

2. VTA Way, Power, and Signals conducts one random observation per employee, per year and is recorded in Vector Solutions software. VTA Way, Power, and Signals have not recorded any employee failures over this Triennial period. VTA Safety conducts field Roadway Worker Protection (RWP) compliance checks but could only show Staff RWP compliance checks on contractors and nothing for compliance checks that have been performed for RWP on VTA Way, Power and Signal Employees.

   Staff conducted interviews with VTA Supervision and observed a field compliance check on VTA Operators. Staff met with VTA Supervisor #13825, at Civic Center Station where #13825 observed and spoke with seven LRV Operators checking for rail bulletins, rule book, and compliance for station entry rules. All Operators were compliant for applicable rules, one was coached on location for berthing the LRV at the station to ensure proper alignment with the between car barrier bollards. Staff accompanied VTA Supervisor #13825 back to Guadalupe Yard and observed the procedure on how VTA Supervisors enter the data from the field observations into Vector Solutions.

3. Staff reviewed two Operating Rules violations. On 5/17/2021 Operator 15007 bypassed a required stop. Operator 15007 did receive discipline and VTA created a Corrective Action Plan (CAP) by posting a reminder in the train orders for all Operators not to bypass a required stop.

   The second violation was on 5/17/2021, where Operator 15944 did not set the intended route and traversed onto the wrong track. Operator 15944 was released from Rail Operations and sent back to their previous classification as Coach Operator, since the employee was still within their train operator probationary period.
   Staff conducted inspections of Transit Operators, and all had in their possession the updated rulebook, proper safety equipment, and were very knowledgeable of their job duties.

4. All VTA Operators are evaluated four times a year in a process that includes, ride checks and recertification, as per SOP 1.10 Operator Evaluation/Ride Check. VTA

Operations has found no violations while performing unannounced observations in this audit period. Staff interviewed Operators and verified that they are recertified as outlined in VTA's Public Transportation Agency Safety Plan (PTASP). (See Activities #1-3).

5. VTA performs efficiency testing of operating and maintenance personnel as covered in Activities 1 and 2 above. Staff verified VTA CAPs, and how they are implemented when appropriate. Staff reviewed two CAPs for Operations (See Activity #2). Way, Power and Signal Department did not provide any CAPs for Staff to review for this audit period.

6. VTA Safety receives reports from Transportation, Maintenance and Engineering, and Light Rail Vehicle Facilities Departments regarding rules compliance assessments and testing. VTA Safety showed Staff in detail how they are able to access all databases utilized by the different departments and extrapolate data to track trends and mitigate risks through the Hazard Management Process.

Findings:
None.

Comments:

1. Staff found multiple RWP violations (See Checklists 13-B and 23 for Findings), during the two-week field audit. At the time of the audit and during the checklist review on 4/27/2022, VTA could only produce compliance checks on Contractors and nothing for VTA RWP Employees. Staff outlined their findings at the conclusion of the checklist activities, and yet no further documentation regarding VTA employee compliance checks or any resultant CAPs from them were subsequently provided before the CPUC draft report was issued.
   After the CPUC draft report was issued, VTA indicates its query of Vector Solutions shows that compliance checks on VTA RWP crews were conducted and documentation is available.
   VTA Safety must ensure they are conducting field compliance checks on VTA RWP Employees as well as Contractors while tracking the trends found from all RWP findings per Safety Management System (SMS). VTA must also ensure the data captured, differentiates between Contractors and VTA Wayside, Power, and Signals. Way, Power and Signal Department Supervisors must know and understand how to store and access records and documentation in Vector Solutions or whatever database VTA uses.

Recommendations:

1. None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)			
Checklist No.	**13-B**	**Element**	**Rules Compliance: Operations Safety Compliance**
Date of Audit	04/18/2022 0900-1300	**Department(s)**	VTA Service Management VTA Light Rail Operations VTA Light Rail Technical Training VTA Light Rail Maintenance Training VTA Safety & Compliance Department
Auditor/Inspector	Michael Rose Richard Fernandez	**Persons Contacted**	Elizabeth McFadden, Transit Safety Officer Larry Bajwa, Superintendent of Light Rail Operations Gurpreet Singh, Assistant Superintendent of Service

			Management Monte Bjerke, Supervising Maintenance Instructor Ariel Leary, Light Rail Technical Trainer Elizabeth Jespersen, Manager of Organization & Human Capital Development Mel Gonzales, Acting Operations Manager Jason Campbell, Assistant Superintendent of Transit Communications

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA Operating Rulebook
10. VTA Standard Operating Procedures
11. VTA Maintenance Procedures

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance: Operations Safety Compliance

Interview RTA representatives responsible for the various Departments, and randomly select at least ten (10) Wayside staff, Controllers, Train Operators, Electromechanics and Supervisors, in each of the categories below, and perform ride-along or on-site inspections to verify their compliance to determine whether:

1. Maintenance of Way - Wayside Workers:
    a. Know and understand applicable wayside safety rules.
    b. Comply with the Personal Electronic Devices (PED) Rules and Roadway Worker Protection (RWP) rules when performing any duties on or near railways.
    c. Know and understand the rules and procedures for mainline operations.
2. Train Operators:
    a. Are in compliance with the applicable rules and procedures.
    b. Comply with PED Rules while inside operator cabins.

c. Are properly trained and knowledgeable in handling accident/incidents and emergency response situations, and coordinating with Operations Control Center during an incident

3. Controllers:
   a. Are properly preparing and maintaining records, reports, and logs.
   b. Perform duties in accordance with standard operating procedures, rule books, and bulletins.
   c. Are trained and knowledgeable in dealing with accidents/incidents and emergency response situations and coordinating with RTA personnel and other agencies during the same.
4. 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.

FINDINGS AND RECOMMENDATIONS

Activities:

1. CPUC Staff conducted an onsite inspection of a five person VTA Roadway Worker Protection (RWP) Crew at First and Younger. Staff observed the Watchman conversing with the work group and turning his back away from the movement of trains. The Watchman then positioned himself on the other side of the double track main, away from the crew, when a Light Rail Vehicle (LRV) passed by leaving the crew unprotected. Staff interviewed the crew and found Employee ID# 15620 (Watchman) with an expired RWP card dated 12/21, and Employee ID #13053 without an RWP card. The Employee-In-Charge (EIC) Employee ID# 13667 should have identified these findings during a proper job briefing with the RWP Crew before initial work began.

   Staff later found the RWP cards were mislabeled when printed and all employees that received mislabeled cards were identified and issued new cards with correct dates.
2. CPUC Staff conducted field observations on 4/18/2022 at Diridon and San Fernando Stations and found that 3 out of 5 LRV's did not sound an audible warning at the pedestrian crossings at stations within a 30-minute observation period as required by GO143-B, Section 7.09 and VTA SOP 3.5.
3. CPUC Staff interviewed four VTA Controllers on two separate shifts. Staff observed the Controllers performing their duties within the Operations Control Center (OCC). The Controllers were proficient at their duties and were maintaining all required logbooks and computer data management.
4. CPUC Staff interviewed LRV maintenance personnel at Guadalupe Yard. The LRV maintenance personnel interviewed were familiar with VTA's Personal Electric Devices (PED) Policy and VTA's shop safety procedures.

Findings:
1. EIC of the RWP Crew did not perform a complete job briefing before starting work by allowing crew to work at the location with expired RWP cards and one crew member without an RWP card. All are violations of VTA RWP rules outlined in their RWP Program.
2. Watchman was conversing with RWP Crew and then positioned himself away from the rest of the crew leaving them exposed to an on-coming trains without protection. EIC should have corrected this issue and/or replaced the Watchman.
3. Three of five VTA Operators at Diridon and San Fernando Stations did not sound an audible warning at the pedestrian crossings while Staff conducted a 30-minute observation period.

Comments:
1. VTA Way, Power, and Signals Supervision, along with VTA Safety, should conduct observations of RWP Crews and ensure correct safety precautions and rules are being followed.

Recommendations:
1. VTA must ensure EIC's understand all RWP requirements and are conducting safe and thorough job briefings.
2. VTA must ensure the RWP Crews are performing their job as outlined in VTA's RWP Program/Advanced Program and CPUC General Order 175.
3. VTA Operations Supervision must ensure that all Operators are sounding an audible warning at crossings as outlined in CPUC General Order 143-B, Section 7.09 and VTA SOP 3.5.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)			
Checklist No.	**13-C**	**Element**	**Hours of Service - Safety Sensitive Employees**
Date of Audit	04/20/2022 1200-1600	**Department(s)**	VTA Service Management VTA Light Rail Operations VTA Way, Power & Signals Department VTA Light Rail Vehicle Maintenance VTA Safety & Compliance Department
Auditor/Inspector	Michael Rose Richard Fernandez Shane Roberson Eric Madero Laura Espinoza Nicholas Denny	**Persons Contacted**	Susan Lucero, Deputy Director of Safety & Compliance Antonio Tovar, Transit System Safety Supervisor Larry Bajwa, Superintendent of Light Rail Operations Gurpreet Singh, Assistant Superintendent of Service Management

			Mel Gonzales, Acting Operations Manager Diego Carrillo, Acting Light Rail Way, Power & Signals Superintendent Phil Sharp, Light Rail Equipment Superintendent Jason Campbell, Assistant Superintendent of Transit Communications Frances Gutierrez, Office Support Supervisor Betty Oliveira, Maintenance Scheduler, Way Power and Signals

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA policies and procedures

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, Controllers
- WP&S Maintenance Personnel
- 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 for more than 12 hours in any 16-hour period.
2. Each initial on-duty status was preceded by eight consecutive hours of off-duty status.

FINDINGS AND RECOMMENDATIONS

Activities:
1. CPUC Staff reviewed the following VTA Employees Hours of Service Records for December 2018, January 2019, and December 2021:

Controllers Employee ID #14309.
Field Supervisors Employee ID #11013, #9718, #2949, and #12208.
Operators Employee ID #14907, #13465, #16052, #13798, #14075, #14251 #14238, #13101, #14304, #15381, #2804, 14251, and #13971.

Staff reviewed Hours of Service Records for 10% of the LRV Maintenance Personnel for a three-month period in 2018 (August, September, October) for compliance with GO 143-B. Job classifications reviewed included Foreman, Supervisor, Electro-Mechanic, Service Worker, Electronic Technician, Paint/Body.

Maintenance Employee ID: #1618, #5107, #8092, #8944, #13290, #13358, #14307, #14526, #14614, #14715, #14913, #15173, #15674.

Staff Reviewed WP&S Maintenance Personnel Hours of Service records.

Staff found no discrepancies, or violations in their review.

Findings:
None.

Comments:
1. VTA utilizes the computer software Trapeze for tracking hours of service. Trapeze is a very good program that is user friendly. It requires approval before it will allow an Operator to work over 10 hours. Also, it will not allow an Operator to work over 12 hours and starts a countdown to the 12-hour mark after the 10-hour mark is approved.

Recommendations:
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)			
Checklist No.	**13-D**	**Element**	**Rules Compliance: Contractor Safety Program**
Date of Audit	04/19/2022 1300-1600	**Department(s)**	VTA Service Management VTA Light Rail Technical Training VTA Engineering and Program Delivery VTA Safety & Compliance Department
Auditor/Inspector	Michael Rose Richard Fernandez Rupa Shitole – Observer	**Persons Contacted**	Elizabeth McFadden, System Safety Officer Karly Hutchinson, Environmental Health & Safety Specialist Jason Campbell, Assistant Superintendent of Transit Communications Larry Bajwa, Superintendent of Light Rail Operations

			Monte Bjerke, Supervising Maintenance Instructor Ariel Leary, Light Rail Technical Trainer Elizabeth Jespersen, Manager of Organization & Human Capital Development Diego Carrillo, Acting Light Rail Way, Power & Signal Superintendent Edgardo Pasucal, Principal Construction Inspector Usman Husaini, Associate Transportation Engineer Karmjot Singh, Associate Transportation Engineer Linda Durham, Senior HR Analyst

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA policies and procedures

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance: Contractor Safety Program

Interview the RTA representative responsible for the Contractor Safety Program and review documentation to determine whether:

1. Contractor safety program establishes responsibilities and requirements for training, certification, rules, regulations, and procedures applicable to all employees/contractors.
2. Standard operating procedures establish the range of activities for monitoring Contractors and their employees and enforcing compliance with safety requirements through regular unscheduled and unannounced compliance checks and scheduled periodic audits and inspections of construction sites to monitor compliance with their safety requirements.

3. Monitoring and enforcement activities are properly recorded, distributed, and filed.
4. All contractors followed RTA's requirements of Track Allocation/Work Permit process

FINDINGS AND RECOMMENDATIONS

Activities:

1. CPUC Staff reviewed two VTA contracts. Contract number C19001F; FTA CA 2018-081-00 Rail Rehabilitation Phase 7 dated 4/20/2022 and Contract number C16189F Rail Rehabilitation Phase 6, Crossings & Interlockings dated 10/13/17. Within these Contracts, VTA establishes the responsibilities and requirements for training, certification, rules, regulations, and procedures applicable to all employees/contractors while working on VTA property.
   VTA SOP 11.9 Pre-Revenue Contractor Safety Seminar and VTA SOP 11.6 Contractor Safety on or around Rail Construction Sites further define the safety requirements of contractors working on VTA property.
2. CPUC Staff reviewed VTA SOP 1.4 Roadway Worker Protection (RWP) Monitoring Program, which outlines how VTA will conduct scheduled and unscheduled compliance checks to verify Contractors adhere to the safety requirements set forth in VTA's Contract and SOPs.
3. CPUC Staff reviewed Weekly Progress Reports, Construction Inspector's Reports, Inspectors Daily Report, and RWP Working Compliance Inspection. Staff also reviewed the Weekly Construction Progress Meeting minutes which included Agency safety concerns involved with the construction project. All the reports were available on Vector Solutions.
4. VTA provided the following documents: SOP 8.4 Restricted Area Access/Track Allocation, SOP 11.7 Pre-Revenue Track Allocation Meetings, and SOP 11.8 Pre-Revenue Restricted Access Permit. Contractors utilize these SOPs to schedule any required track allocation or work permit. The Track Allocation Meeting occurs every Wednesday at 1300 hours and Contractors/Employees must attend to receive the Allocation and/or work permit.
   VTA informed Staff there have been instances where Contractors were on the property without Track allocation, the contractors were removed from property and either retrained or lost their rights to work on the property.

Findings:
None.

Comments:
None.

Recommendations:
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)			
Checklist No.	**13-E**	**Element**	**Rules Compliance: Operating Rules and Maintenance Procedures Manual and Operations Bulletin Revisions**
Date of Audit	04/19/2022 0800-1200	**Department(s)**	VTA Safety & Compliance Department VTA Light Rail Operations VTA Service Management VTA Light Rail Technical Training VTA Light Rail Maintenance Training VTA Way, Power & Signals Department VTA Light Rail Vehicle Maintenance

Auditor/Inspector	Michael Rose Richard Fernandez	**Persons Contacted**	Elizabeth McFadden, System Safety Officer Larry Bajwa, Superintendent of Light Rail Operations Gurpreet Singh, Assistant Superintendent of Service Management Monte Bjerke, Supervising Maintenance Instructor Ariel Leary, Light Rail Technical Trainer Elizabeth Jespersen, Manager of Organization & Human Capital Development Rodante Sagisi, Transit Maintenance Supervisor Mel Gonzales, Acting Operations Manager Diego Carrillo, Acting Light Rail Way, Power & Signals Superintendent

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA policies and procedures

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance:

Operating Rules and Maintenance Procedures Manual and Operations Bulletin Revisions

Interview RTA representative responsible for operations rules and procedures, maintenance procedures, and review necessary documentation to determine whether:

1. The Standard Operating Procedures, Wayside Maintenance Procedures and all active Rail Operations Bulletins/Train Orders are reviewed, revised systematically, and distributed to the relevant personnel.

2. All Rail Operations Bulletins/Train Orders were approved by the appropriate VTA management with concurrence of affected departments, if applicable, and issued in a timely manner.
3. An employee record of all Operations Bulletins/Train Orders issued and received.
4. Active Operations Bulletins are posted in specified locations, and inactive bulletins are removed in a timely manner.
5. CPUC received all new operating rules and bulletins during the past 12 months, and issuance was tracked.
6. Conduct interviews with Safety Department representatives to discuss their role in ensuring that safety concerns are addressed in rules compliance program.
7. Does the Safety Department representative receive reports from the operations and maintenance departments regarding the performance of rules checks, assessments, and testing?
8. Are hazards identified from the rules compliance process and reported to Safety Department and managed through the hazard management process?

FINDINGS AND RECOMMENDATIONS

Activities:

1. CPUC Staff audited VTA Operations, Wayside and Safety Personnel and discovered that each group makes up the Rail Rules Procedures and Development Committee (RRPD). The RRPD will review, initiate, or make changes to rules, procedures, and/or bulletins as needed. The VTA SOP 1.1 Standard Operating Procedures Program outlines the process and requires RRPD to meet regularly to review and revise if necessary, Bulletins, Rules, and Standard Operating Procedures. Modification of these documents are made on a consensus basis, with careful attention to VTA operating practice and history. Staff did review the new rulebook change and how it was distributed. All changes that are made have been distributed to the relevant personnel in a timely manner.

2. Staff reviewed VTA SOP 3.14 Blue Line, Bulletin LR-1003, and Train Orders 4/19/2022. VTA Personnel demonstrated to Staff the step-by-step process from inception to approval, then how the employees receive the SOP, Bulletin, or Train Orders.

3. All Operations Bulletins/Train Orders are issued and sent to the Dispatcher who ensures the Operators receive Bulletins by placing them at the bottom of the Train Orders. Bulletins are readily available to all employees in the Vector Solutions Portal where they can be read and/or printed.

4. Staff toured VTA Building I where the Operators report for duty and inspected the crew room posting board to ensure all bulletins are posted are correctly identified as active bulletins and removed in a timely manner upon the expiration date. The Light

Rail Superintendent is responsible for proper posting and the removal of expired bulletins.

5. Staff did receive all new operating rules and bulletins during the past 12 months and issuance was tracked.

6. Safety is made aware of rule compliance program findings at the RRPD meetings. The findings are not broken down by infraction, only by the number of findings and rule violations.

7. VTA Safety receives a notification email when data is uploaded into the computer software program Vector Solutions. The information is readily available and accessible by all departments. Safety is not in direct communication with the other Operations or Wayside regarding the performance of rules checks, assessments, and testing.

8. VTA Document Number COS-SAF_PR-3002 outlines the Hazard Management Program.

Findings:
None.

Comments:
None.

Recommendations:
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)			
Checklist No.	**13-F**	**Element**	**Rules Compliance: Operations Control Center & SCADA**
Date of Audit	04/21/2022 1200-1600	**Department(s)**	VTA Service Management VTA Light Rail Operations
Auditor/Inspector	Michael Rose Richard Fernandez	**Persons Contacted**	Elizabeth McFadden, System Safety Officer Gurpreet Singh, Assistant Superintendent of Service Management Naunihal Singh, Deputy Director of Rail Operations Larry Bajwa, Superintendent of Light Rail Operations

			George Sandoval, Operations Manager Joel Milburn, Superintendent James Skaife, Communications Systems Analyst II

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (remumbered to 40 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA policies and procedures
10. OCC Policy and Procedures Manual
11. SCADA Maintenance Procedures

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Rules Compliance: Operations Central Control & SCADA

Interview RTA representatives responsible for operations rules and procedures and review necessary documentation to:

1. Verify revisions to the OCC Rules and Procedures Manual are made either through Operating Bulletins, or other written documents signed by the appropriate Department Managers.
2. Determine whether SCADA records have been maintained as required, and that all preventative and corrective maintenance practices comply with the applicable reference criteria.
3. Review SCADA reports/logs related to intrusion alarms, false presence, and others associated with SCADA monitoring.
4. Verify conformance to the reference criteria documents as applicable.

FINDINGS AND RECOMMENDATIONS

Activities:

1. OCC Rules, Procedures Manual, Operating Bulletins, and other written documents are signed by the appropriate Department Managers.

2. CPUC Staff reviewed SCADA Preventative Maintenance records and PA-Phone Inspection Forms for the time frame of 2018-2020 and months October-December. Records inspected were complete and in order. VTA is in the process of revising MTN-PR-7001 SCADA Configuration Management Procedure.

3. SCADA reports were verified in the software program CLEVER when Staff interviewed VTA OCC Controllers.

4. SCADA Configuration Management Procedure MTN-PR-7001 does not conform to SCADA or its components. This current procedure has a "Potential Hazard Checklist" that has no definition on usage or checklist item that relates to VTA's SCADA System installed. VTA Personnel showed staff the updated MTN-PR-7001 in draft form to address usage and relevance of the SCADA Configuration Management Procedure.

Findings:
None.

Comments:
CPUC Staff will track the draft to implementation of MTN-PR-7001.

Recommendations:
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**14-A**	**Element**	**Facilities and Equipment Inspections: Non-Revenue Facilities and Wayside**
Date of Audit	4/26/2022	**Department(s)**	Environmental, Health and Safety Way, Power and Signals Vehicle Maintenance System Safety and Compliance
Auditor/Inspector	Laura Espinoza Samuel Herroz	**Persons Contacted**	Karly Hutchinson, Environmental Health and Safety Specialist Christina Aguirre, Facilities Maintenance Leo dela Cruz, Transit Safety Officer Manny Borrayo, Technology Infrastructure Supervisor Andres Carmond, Facilities Coordinator Michael Bates, Facilities Manager Carlos Valenzuela, Facilities Maintenance

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA MTN-PR-3003 Facilities and Equipment Maintenance Responsibilities dated 6/3/2003
10. VTA MTN-PR-3004 Responsibilities for the Facilities Maintenance Library dated 7/16/2001

11. VTA MTN-PR-3105 Card Access, Lock and Key Control dated 7/19/2001
12. VTA MTN-PR-3106 Facility Housekeeping dated 12/5/2003
13. VTA MTN-PR-3107 Fire Suppression/Alarm System: Monitoring, Test, Maintenance and Repair dated 12/7/2001
14. VTA MTN-PR-3108 Crane Inspection and Use Procedure dated 10/9/2002
15. VTA MTN-PR-3301Maintenance and Storage of Tools and Equipment dated 3/22/2002
16. VTA MTN-PR-6310 5-Year Dry Standpipe Testing and Certification dated 10/15/2000
17. VTA Injury and Illness Prevention Program (IIPP) Plan

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Facilities and Equipment Inspections: Non-Revenue Facilities and Wayside

Interview RTA representatives, perform field observations of RTA staff inspecting the equipment and review appropriate records for past 3 years to determine whether:

1. Required inspections were performed per supporting references.
2. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
3. Potential hazards found during inspections are immediately reported, documented, and tracked through resolution, Corrective Action Plans developed, and implemented in a timely manner.

FINDINGS AND RECOMMENDATIONS

Activities:

CPUC Staff interviewed VTA representatives to determine compliance with MTN-PR-3003, MTN-PR-3004, MTN-PR-3105, and MTN-PR-3106.

Staff reviewed the five-year Dry Standpipe Inspection and Certification (ref. MTN-PR-6310) that were completed in November 2021, Fire Suppression/Alarm System testing and maintenance records (ref. MTN-PR-3107), crane inspection records (ref. MTN-PR-3108) for compliance with testing and inspections.

Staff reviewed follow up documentation that substantiated required repairs were completed for the standpipe, fire suppression, and crane inspections. Staff reviewed monthly Facilities Inspection Reports for randomly chosen three-month time periods: May-July 2017; LR Vehicle Maintenance Monthly Inspection Reports for August-October 2018; and WP&S Monthly Inspection Reports for January-March 2019 and March 2022.

Staff Inspected the LRV Maintenance Shop and Historic Trolley Barn at the Guadalupe Yard for fire extinguishers, eye wash stations, clearance at electrical panels, and general housekeeping.

Findings:

1) Compressed gas cylinders were not properly secured at the LRV maintenance shop and in the trolley barn. See comment 1 below.

2) Self-closing oily waste can in the daily inspection area was missing lid. See comment 2 below.
3) Emergency exit and fire alarm pull access blocked in trolley barn. See comment 3 below.
4) Fire extinguisher blocked in trolley barn. See comment 4 below.

Comments:
All monthly facility inspection reports were completed on time, and any noted deficiencies had been corrected, except for the WP&S March 2022 inspection report was in-process for completion.

1) VTA personnel corrected the deficiency while CPUC staff were still on site.
2) The damaged self-closing oily waste drum was removed from service and disposed of while CPUC staff were still on site.
3) Access to emergency exit fire alarm pull was cleared while CPUC staff were still on site.
4) Access to fire extinguisher was being worked on while CPUC staff were still on site. VTA provided a follow-up photo to show the access was cleared.

Staff also noted a toolbox blocking an electrical panel in the parts room. VTA personnel moved the box, which had been relocated because of work being performed on the parts carousel.

Staff noted that the safety decals on the fuel tank for the emergency generator were damaged. VTA personnel explained that replacement decals had already been ordered.

Recommendations:
1. VTA must ensure all compressed gas cylinders are secured properly per California Code of Regulations Title 8, Section 4650.
2. VTA must ensure self-closing oily waste drums are in good working order per California Code of Regulations Title 8, Section 5551.
3. VTA must ensure emergency exits and fire alarm pulls are not blocked per CA Fire Code Section 901.
4. VTA must ensure access to fire extinguishers per the CA Fire Code (24 C.C.R.) Section 903.2.1.6.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**14-B**	**Element**	**Facilities and Equipment Inspections: Stations and Emergency Equipment**
Date of Audit	April 20, 2022	**Department(s)**	Way, Power, and Signals
Auditor/Inspector	Shane Roberson Samuel Herroz	**Persons Contacted**	Lynn McFadden, Transit Safety Officer Mel Gonzales, Acting Operations Manager (MOW) Kevin King, Signal Supervisor Diego Carrillo, Acting Way Power & Signals Superintendent Ricky Trujillo, Station Maintenance Supervisor Seth Wright, Transit Safety Officer

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA MTN-PR-6201 Signals Department Platform Preventive Maintenance
10. VTA MTN-PR-6301 WP&S Light Rail Station Maintenance
11. VTA MTN-PR-6302 Trash Removal
12. VTA MTN-PR-6303 Landscape Maintenance
13. VTA MTN-PR-6304 Preventative Maintenance Steam Cleaning and Station Detail
14. VTA MTN-PR-6305 Elevator Preventative Maintenance and Trouble Calls
15. VTA MTN-PR-6309 Annual Backflow Testing for Station Maintenance

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: CPUC reviewed documentation, interviewed appropriate representatives, and performed field inspection of light rail stations and their emergency equipment. Findings: 1. CPUC noted at Santa Teresa Light Rail Station the information board cover is damaged. (MTN-PR-6301) 2. CPUC noted at Cottle Light Rail Station that station dusk to dawn lights are staying on during daylight hours. (MTN-PR-6301) Comments: None. Recommendations: 1. VTA must replace the information board cover per MTN-PR-6301. 2. VTA must replace dusk to dawn sensor per MTN-PR-6301.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**14-C**	**Element**	**Facilities and Equipment Inspections: Tunnels, Bridges, and Aerial Structures**
Date of Audit	4/20/2022	**Department(s)**	Maintenance Engineering (ME) System Safety and Compliance (SSC)
Auditor/Inspector	Jamie Lau Matt Ames	**Persons Contacted**	Manjit Khalsa – ME Athar Tahar - ME Antonio Tovar – SSC Susan Lucero – SSC David Schott – Structural Engineer, LRT Bridge Inspector (Consultant)

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA MTN-PR-7101 Bridge Management Program dated April 10, 2019
10. VTA Transit Asset Management (TAM) Plan dated December 2017
11. Light Rail Standard Operation Procedure (SOP) 9.15 Version 6 – Earthquake Procedures dated July 5, 2018
12. APTA RT-FS-S-001-02 Rev 1 - Rail Transit Fixed Structures Inspection and Maintenance Standards.

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Facilities and Equipment Inspections: Tunnels, Bridges, and Aerial Structures

Interview RTA representatives, perform field observation and review appropriate records to determine whether:

1. Structures inspections were performed in accordance with reference criteria.

2. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.
3. Potential hazards found during inspections were tracked until resolution.
4. There is a mechanism to report to the Safety Department any safety-related findings.

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed VTA representatives, performed field observations, reviewed appropriate records, and determined:

1. Structures inspections were performed in accordance with reference criteria.
2. Inspections were properly documented and noted. Discrepancies are planned to be corrected through contracted projects or in-house maintenance.
3. Potential hazards found during inspections were tracked until resolution.
4. There is a mechanism to report to the Safety Department any safety related findings.

Staff conducted interviews with VTA staff and a field visit to selected locations between 4/20/2022 and 4/21/2022. The audit activities are documented in the categories below.

VTA Structures Overview

VTA manages two categories of structures – structures for light rail transit (LRT) and Union Pacific Railroad (UPRR) shared right-of-way structures. VTA is responsible for inspecting and maintaining both categories of structures.

VTA LRT structures were completed in 1987 at the inception of revenue service. VTA later added new structures as the system expanded between 1990-2005. VTA has a total of 82 LRT structures including bridges, tunnels, and culverts. LRT bridge structures are mostly cast-in-place post-tensioned box girder type; tunnels are all cut and cover type. There are four UPRR bridges, two of them are pre-stressed concrete box girders (PCBG), one is steel plate through girder (TPG) and one is steel rolled beam (RBM). VTA does not have fracture critical member structures.

Bridge Management Program (BMP) Overview

The BMP is managed by a Bridge and Structures Program Manager (BSPM). The role is responsible for overseeing all aspects of the BMP. The program procedure does not require BSPM to be a registered California Professional Civil Engineer. APTA recommended practice RT-FS-S-001-02 Rev 1) recommends the person responsible for the BMP, including both LRT and UPRR structures, should be a registered California Professional Civil Engineer. The former BSPM was a registered professional engineer, but in the mechanical discipline. The position has been recently replaced by a new acting BSPM who is not an engineer. Staff did not have the opportunity to interview the acting BSPM.

LRT structures are inspected by VTA's consultant NV5, while UPRR structures are inspected by VTA consultant Biggs Cardosa Associates (BCA). All inspectors are registered Professional Civil Engineers.

Staff interviewed the LRT Bridge Inspector. The current Inspector has 50 years of qualified experience and is a professional Structural Engineer. He typically inspects with a team of two VTA crews as safety lookouts when accessing track right-of-way. The inspection team attends VTA's on track safety training for contractors.

According to the UPRR inspectors' statement of qualifications, the Railroad Bridge Engineer (RBE) heading the URRR inspections has about 30 years of qualified experience. Staff did not have the opportunity to interview the RBE.

Staff found VTA has qualified personnel inspecting its structures, but the person responsible for the BMP is not an engineer.

Inspection Records Review

LRT structures inspection records are stored in a Bridge Management System (BMS) database. BMS is created by NV5 and managed by VTA. UPRR structures inspection records are stored in both hardcopy and digital files. Staff found both LRT and UPRR structures inspection records were well organized.

Staff reviewed VTA's inspection records and verified LRT structures were inspected biennially in 2018 and 2020; UPRR structures were inspected annually from 2018 to 2021. VTA personnel indicated the LRT 2022 biennial inspection will start in May, while annual UPRR inspection is planned for September. The inspection intervals are consistent with VTA's BMP procedures.

Staff found the LRT and UPRR structures' inspection report formats have condition ratings for individual structural elements and overall. The reports contain site photos showing defects and recommended repair or monitor actions. Staff did not see an indication that observations were conducted for bridges during passage of trains in the reports. Staff found VTA's structures' inspection reports are generally well documented and provide good details.

VTA Management and Safety Department

Staff reviewed Rail System Safety Review Board (RSSRB) monthly meeting minutes from 2019 and noted bridge inspection report status was discussed as a standard item. In 2021, RSRRB meeting minutes show a bridge repair project in the safety certification plan process. The RSSRB meeting is attended by VTA management and Safety Department. Staff found VTA report safety-related findings and repairs to the Safety Department.

Cathodic Protection (CP)

VTA personnel indicated CP systems for its structures corrosion control are present; however, they are not aware whether the systems have been inspected or are functioning since built. VTA personnel had shown Staff a sample location of a CP test station box located

at Los Gatos Creek Bridge. Staff found VTA lacks CP inspection and maintenance procedures. VTA personnel wish to assess VTA structures' existing CP systems but expressed the effort is limited by resources.

Transit Asset Management (TAM)
The VTA TAM Plan categorizes structures in the Guideway asset group. The group consists of 81 assets, although VTA personnel were unsure of how structures were included. The condition assessment rating for guideway elements was good in 2017. VTA personnel were unsure of the current rating for structures. Four percent of Guideway assets were rated as marginal to substandard in 2017 and VTA personnel were unsure if any structures were included. VTA's TAM lists assets are based on what Maintenance Administration/Operations has provided.

Field Verification
Staff conducted a field visit to four selected LRT bridge locations that were previously inspected in 2020:

- #57 Park Avenue Underpass – Common deficiencies are cracks, surface discoloration/staining due to leakage, and graffiti on edge of deck.
- #63 Los Gatos Creek Bridge – Fire damage and debris due to temporary outdoor living areas are notable under the bridge. Although a new fence has been installed since the last fire event to prevent temporary outdoor living areas on the site, Staff still noted evidence of unhoused communities. Staff was not able to see under the bridge due to the presence of informal shelter communities. Staff was able to access deck level from pedestrian walkways. Common issues noted are graffiti on abutments, deck guardrail cable railing cut open and missing, perimeter fencing leaning at some locations, minor debris on trackway, and sidewalk joint seals missing or deteriorated. Inspector recommended a design check on a deck deflection soon. VTA needs to identify location of post-tensioning in relation to fire damage.
- #39 Guadalupe River/San Carlos – The bridge is over a pedestrian and bike path along Guadalupe River trail. Staff accessed under the bridge only. Common deficiencies seen from under the bridge are staining from leakage and debris from encampment.
- #42 San Tomas Aquino/Tasman Drive – The bridge is over a pedestrian and bike path along San Tomas Aquino trail. Staff accessed under the bridge only. Common deficiencies are efflorescence and cracks under the bridge.

Staff concluded that inspection report findings generally reflect field conditions, with proper corrective recommendations from inspectors.

Repair Records
VTA combines structure deficiencies noted during inspections in 2018 and 2020 and plans to implement repairs through different contracts. Deficiencies with higher priority are planned in the 2021 Issued-For-Bid (IFB) contract and the rest are in the 2022 IFB contract. Some

deficiencies are mitigated by VTA maintenance, such as debris removal. The 2021 IFB is approaching 95% design; the 2022 IFB has not started.

From the four sampled LRT structures inspection records reviewed, Staff noted all 2018 and 2020 identified deficiencies are being tracked and planned for correction on a matrix. The 2020 inspection findings are mostly the same as noted in 2018 with additional minor deficiencies. A new and notable deficiency found in 2020 was Defect #63-7, a midspan deck sag deflection at Los Gatos Creek Bridge; it was recommended for VTA to investigate the issue as soon as possible.

Staff reviewed 2020 UPRR structures inspection records and found recommended repairs are being planned and tracked on a matrix. The major work for UPRR is replacement of the UP4 bridge with design underway.

Staff noted repair projects are being discussed during VTA meetings and documented by email correspondence. Repair work is prioritized by condition ratings and assigned to different contracts. Some of the repair work is taking a longer time to complete due to funding and the project bidding process. VTA does have a plan to complete the repair work through projects.

Staff verified that the monitoring of Bridge #63 deflection as recommended in the Inspection Reports is being conducted and analyzed. The Visual Condition Assessment for the condition and element did not change due to deflection data analysis. Staff verified that the City of Santa Clara was notified of this deflection condition.

Reference Criteria Review
VTA's Maintenance Plan described in PTASP Section 6.1.6, includes structures. The Quality Assurance and Warranty Specialist does not audit MTN-PR-7101. VTA personnel are not aware of any immediate hazards or slow orders being reported during structure inspections as described in MTN-PR-7101. VTA personnel are not aware of any Emergency Inspection Reports being issued in the past 4 years per SOP 9.15, Section 4.5.8.

Summary
Staff found that VTA generally follows its BMP procedure. The agency inspects its structures in a timely manner and prioritizes repair work by condition rating. Inspection reports are well documented and generally reflect field conditions. Staff found issues with VTA's BMP procedure related to personnel roles and responsibilities, and VTA's existing CP systems are not being maintained.

<u>Findings:</u>

1. Staff found that in VTA's BMP procedure, a Bridge Structures Program Manager (BSPM) is not required to be a Registered Civil Engineer (RCE). For light rail

structures, responsibilities outlined for the BSPM role are not being conducted by an RCE.

2. Staff found that structure inspection reports do not note when structures are observed during the passage of trains and the effects of vibration and deflection.
3. Staff found that VTA does not inspect, monitor, or maintain structure Cathodic Protection (CP) systems.
4. #63 Los Gatos Creek Bridge deck level has a lamp pole base cover plate missing and exposed electrical cables. Condition likely occurred after the 2020 inspection.
5. Bridge handrail conditions noted during inspections but were not addressed immediately. Handrails are commonly used as fall prevention/protection.

Comments:

1. In BMP procedure Section 3.6, VTA should revise the UPRR RBE qualification from "registered professional engineer" to "registered professional civil or structural engineer."
2. In BMP procedure, Staff noted UPRR Bridge Management has an emergency inspection procedure in Section 4.2.14, but LRT Bridge Management (Section 4.1) does not have a similar procedure. VTA should create a similar emergency inspection procedure for LRT Bridge Management.
3. The BMP procedure may benefit from having a Table of Contents for improved navigation. VTA should add a table of contents to the BMP procedure.
   To provide a clear picture of workflow and chain of command, VTA should add an organization chart for BPM roles, including LRT and UPRR scopes.
4. #43 San Tomas Aquino/Tasman Drive Bridge has deflections and cracks on the portions not within VTA's scope. VTA should notify the local jurisdiction.
5. Homeless encampments are prevalent at VTA bridge locations, as witnessed during Staff's field visit and per VTA's inspection report findings. Some of the bridges were damaged by campfire, and inspection access was impacted by debris. Staff understand that VTA has an Addressing Homeless Encampment Procedure in place and encourages the agency to continue following the guidelines to deter encampments under bridges.
6. New deficiency #63-7, a midspan deck sag deflection at Los Gatos Creek Bridge, was recommended by the inspector for VTA to study as soon as possible. Staff noted the action is planned for 2023 IFB. VTA should implement the study soon.
7. VTA Personnel should determine how structures are included in the TAM asset inventory and if any are rated below Adequate (2.9 or less).
8. The duties described in PTASP section 6.1.6 for the Quality Assurance and Warranty Specialist should include audits of MTN-PR-7101.
9. VTA personnel responsible for bridge management program should accompany structure inspection activities.
   VTA personnel should be trained on the VTA Tunnel Safety Plan.
10. Bridge walkway conditions noted during inspections should be communicated to the Safety Department as potential hazards requiring additional assessment.

11. VTA should ensure that the following inspection items are addressed: structural elements that cannot be inspected due to encampments need to be inspected in a timely manner; structures with confined space elements need to be inspected in a timely manner; conduct additional/special inspections recommended by the Bridge Inspector in a timely manner and prior to next scheduled inspection.

Recommendations:

1. VTA must revise the BMP procedure to specify a responsible person for tasks outlined in the BSPM role. The responsible person must be a registered professional Civil Engineer.
2. Structures' inspection reports must note when structures are observed during the passage of trains and the effects of vibration and deflection.
3. VTA must assess existing structure Cathodic Protection (CP) systems for corrosion control, and develop a CP systems inspection, monitoring, and maintenance program.
4. VTA must make the appropriate corrections to #63 Los Gatos Creek Bridge deck level has a lamp pole base cover plate missing and exposed electrical cables. VTA should report the condition to the appropriate department for mitigation of the electrical safety hazard.
5. VTA must repair the bridge handrail conditions noted during inspections.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**14-D**	**Element**	**Facilities and Equipment Inspections: GO 95 Right-of-Way Compliance**
Date of Audit	4/25/2022	**Department(s)**	Way Power and Signals
Auditor/Inspector	Shane Roberson Sal Herrera	**Persons Contacted**	Erica Casillas, Acting Power Supervisor Kevin King, Signal Supervisor Diego Carrillo, Acting Way Power & Signals Superintendent Lyndsey Fuji, Environmental Health & Safety Specialist Mel Gonzales, Acting Operations Manager (MOW)

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA-MTN-PR 6150 Inspection of Overhead Catenary
10. MTN-PR-6403 Wayside (Track and Right-of-Way) Inspections
11. MTN-PR-6404 WPS Wayside (Track and Right-of-Way) Maintenance
12. MTN-PR-6419 WPS Inspection and Maintenance of Right-of-Way Fencing

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

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

Select at least two (2) of mainline or yard track sections at random from the:

- Orange Line – Mountain View to Alum Rock
- Green Line – Old Ironsides to Winchester
- Blue Line – Baypointe to Santa Teresa

Interview the appropriate representatives, perform field observations of Personnel inspecting the Overhead Catenary System and performing measurements, and review appropriate records for the past 3 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 3 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 interviewed the appropriate representatives, performed field observations/ inspections of the Overhead Catenary System on Orange, Green, and Blue line, and reviewed appropriate records for the past 3 years.

1. The Right-of-Way inspection and maintenance standards and programs are compliant with General Order 95.
    a. CPUC found no defects.
2. The required inspections were performed during the past 3 years per supporting references.
    a. CPUC found no defects.
3. Inspections were properly documented, noted, and discrepancies were corrected in a timely manner.
    a. See findings.
4. Hazards and Safety Concerns found during inspections are immediately reported, documented, Corrective Action Plans developed and implemented in a timely manner as well as tracked through resolution.
    a. CPUC found no defects.
5. The Right-of-Way components inspected are following the applicable reference criteria, or variances approved by CPUC.
    a. See findings

Findings:

1. CPUC noted OCS inspection forms on South line in 2019 were missing signatures. See comments.
2. CPUC noted during Field inspection, vegetations encroaching on OCS at: See recommendations.
   a. Green line at Race and Parkmoor Crossing
   b. Orange line at Whisman station
   c. Orange line at Middle field crossing
   d. Blue line at switch 1046
   e. At Lincoln crossing

Comments:

Due to a recent change in management, VTA has already noted and corrected the defects. No further CAP is needed at this time.

Recommendations:

1. VTA must maintain 18" of vegetation clearance from OCS per GO 95.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**14-E**	**Element**	**Facilities and Equipment Inspections: Signal Communication and Train Control**
Date of Audit	April 26, 2022	**Department(s)**	Way Power and Signals
Auditor/Inspector	Shane Roberson Eric Madero Sal Herrera	**Persons Contacted**	Antonio Tovar, Transit System Safety Supervisor Susan Lucero, Deputy Director, System Safety & Compliance Mel Gonzales, Acting Operations Manager (MOW) Erica Casillas, Acting Light Rail Power Supervisor Diego Carrillo, Acting Way Power & Signals Superintendent Kevin King, Signal Supervisor Gurpreet Gill, Way Power & Signals Supervisor

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. MTN-PR-6205 Grade Crossing Warning System Inspection and Preventive Maintenance
10. MTN-PR-6206 Vital Relay Testing
11. MTN-PR-6204 WPS Power Switch Preventative Maintenance
12. MTN-PR-6207 Ten-Year Cable Inspection & Insulation Resistance Test

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:

- Orange Line – Mountain View to Alum Rock
- Green Line – Old Ironsides to Winchester
- Blue Line – Baypointe to Santa Teresa

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:
   a. The required inspections were performed during the past four 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 four 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 AND RECOMMENDATIONS

Activities:

CPUC selected 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:

- Orange Line – Mountain View to Alum Rock
- Green Line – Old Ironsides to Winchester
- Blue Line – Baypointe to Santa Teresa

CPUC interviewed the appropriate representatives, performed field observations of personnel conducting safety inspections Grade Crossings, and reviewed appropriate records for the past 3-10 years of crossing inspection, relays, and insulations resistance:

<u>Findings:</u>
Insulation resistance testing

1. On the Vasona Line, all insulation resistance testing was not verified by the supervisor. (MTN-PR-6207)
2. On Mountain View Line, test forms were signed by a supervisor two years post inspection. (MTN-PR-6207)
3. 5th Street crossing insulation resistance test failures noted on test forms with no follow through or retest in 2012 (MTN-PR-6207)
4. Evelyn failure in 2012 with no follow through till 2015; and the 2015 tests did not have Supervisor signature. (MTN-PR-6207)

Relay testing;

1. Tasman Line four-year relay test with most current conducted in 2015. (MTN-PR-6205)

Grade crossing inspections:

A. Race Crossing 750157A
    1. Inconsistent gate striping. (CAMUTCD)
    2. Outdated and redlines in plans. (MTN-PR-6205)
    3. G gate tip light is out. (MTN-PR-6205)
    4. ENS is missing at E ped crossing. (MTN-PR-6205)
    5. Flasher jbox at I gate is missing cover. (MTN-PR-6205)
    6. G gate labels are incorrect and need updating. (MTN-PR-6205)
B. Lincoln Crossing 750155L
    1. Gate stripes are inconsistent. (CAMUTCD)
    2. Gate lights need to be turned toward vehicular traffic. (MTN-PR-6205)
C. Whisman station crossing 926828M
    1. Vegetation touching gate B. (MTN-PR-6205)
D. Middlefield 755024A
    1. Vegetation touching gate D. (MTN-PR-6205)
E. Baypointe ped crossing is missing ENS per MTN-PR-6205.

<u>Comments:</u>
None.

Recommendations:

Insulation resistance findings 1-4:

1. VTA must ensure all Insulation Resistance Test forms are reviewed, signed, and filled prior to inspection due date per MTN-PR-6207.

Relay testing:

2. VTA must perform relay tests at Tasman Line per MTN-PR-6205.

Grade Crossings:

3. VTA must ensure all gates system wide are consistently striped with either vertical or horizontal striping on the same gate per CA MUTCD CAMUTCD 8C.04.
   VTA must ensure all plans are up to date, all flashers are facing toward oncoming traffic, all vegetation is cleared around all signal equipment, all circuits are properly labeled, all equipment is properly covered and secured, and a ENS is installed at Baypointe per MTN-PR-6205.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**14-F**	**Element**	**Facilities and Equipment Inspections: Measurement and Testing Instrumentation**
Date of Audit	4/21/22	**Department(s)**	Maintenance Engineering Way, Power, and Signals Vehicle Maintenance
Auditor/Inspector	Laura Espinoza Nicholas Denny	**Persons Contacted**	Brigido Sanchez, Quality Assurance Specialist Lynn McFadden, Transit Safety Officer Phillip Sharp, Light Rail Vehicle Maintenance Superintendent Rodante Sagisi, Maintenance Supervisor Mark Osborn, Light Rail Vehicle Maintenance Supervisor John Cavanaugh, Light Rail Vehicle Maintenance Supervisor Ferdie Centero, Senior Communications Analyst

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. MTN-PR-8502 Precision Measuring Equipment (PME) Calibration Program
10. MTN-PR-7202 Precision Measuring Equipment (PME) Calibration Program

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:

CPUC staff inspected calibration records, measuring and testing instruments for compliance with VTA procedures MTN-PR-8505 and MTN-PR-7202. The tools were randomly selected from a variety of work areas, including Cerone Yard (WP&S), Electronic Shop, Component Rebuild, SCADA Shop, Supervisor's Office, Truck Shop, Running Repair, Engineering Tools, Signal and Power Tools, Quality Assurance Tools, and Training Tools.

Findings:

None.

Comments:

CPUC staff noted a sound level meter in the SCADA Shop did not have a calibration sticker. VTA personnel recently purchased the meter, are evaluating it to determine whether it meets their inspection needs before putting it into service, and the meter is pending notification to the QA Specialist.

Recommendations:

None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)			
Checklist No.	**15-A**	**Element**	**Maintenance Audits and Inspections: Light Rail Vehicles & Non-Revenue Vehicles**
Date of Audit	4/18/2022 – 4/19/2022	**Department(s)**	Vehicle Maintenance (including Historic Trolleys) Operations Maintenance Engineering
Auditor/Inspector	Laura Espinoza Nicholas Denny	**Persons Contacted**	Phillip Sharp, Light Rail Vehicle Maintenance Superintendent Rodante Sagisi, Maintenance Supervisor Mark Osborn, Light Rail Vehicle Maintenance Supervisor John Cavanaugh, Light Rail Vehicle Maintenance Supervisor Athar Taha, Associate Engineer Sarah Castillo, Light Rail Vehicle maintenance scheduler Lyndsey Fuji, Environmental Health Safety Specialist Michael Bates, Facilities Maintenance Manager Erica Casillas, Power Supervisor

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020

8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA MTN-PR-8501 Light Rail Maintenance Division Hi-Rail and On-Track Equipment Operation, versions 1 and 2
10. VTA MTN-PR-5102 Light Rail Vehicles with Hazardous Defects
11. VTA MTN-PR-5120 LRV Wheel Inspections and Reprofiling
12. VTA MTN-PR-5139 A-PM Inspection KI Light Rail Vehicles
13. VTA MTN-PR-5140 B-PM Inspection KI Light Rail Vehicles
14. VTA MTN-PR-5141 Major Inspection "C" Procedure
15. VTA MTN-PR-5142 Overhaul I "D" Inspection
16. VTA MTN-PR-5143 Overhaul II "E" Inspection
17. VTA MTN-PR-5149 Daily Inspection KI Light Rail Vehicles
18. VTA MTN-PR-5154 Light Rail Vehicle Testing Procedure
19. VTA MTN-PR-5156 Preventive Maintenance (PM) Scheduling for Light Rail Vehicles
20. VTA MTN-PR-5158 Light Rail Vehicles Maintenance Work Orders
21. VTA MTN-PR-5159 Light Rail Vehicles Placement and Status Report

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Maintenance Audits and Inspections: Light Rail Vehicle (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 four 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 RTA 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 four 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

Activities:

1) CPUC staff inspected LRV 963 that was in the shop for a D-PM. Staff reviewed the inspection checklist items for compliance with procedure MTN-PR-5142. Staff inspected roof, interior, and undercar components. VTA personnel demonstrated wheel measurements and explained inspection tasks for couplers, trucks, brakes, and gearboxes. VTA personnel demonstrated the door obstruction test on LRV 945 and explained inspection task for the passenger doors.
2) CPUC staff inspected LRV Maintenance records from randomly chosen time periods between 2018 - 2022 for vehicles # 910, 921, 925, 943, 945, 962, 980, 987, and 990. Staff inspected preventive maintenance inspections (PM's) and major overhauls (F-PM's) for compliance with the PM cycles identified in procedure MTN-PR-5156. Staff compared daily pullout records for randomly chosen dates to the corresponding daily inspection records for compliance with procedure MTN-PR-5149 for vehicles # 938, 973, 995, 984, 917, and 929.
3) CPUC staff inspected F-PM's for major change-out/overhaul of safety critical systems per procedure MTN-PR-5144 for vehicles # 915, 924, 933, 938, 965.
4) CPUC staff inspected PM, daily pre-operational, and unscheduled maintenance records for non-revenue vehicles for compliance with MTN-PR-8503. Staff inspected vehicles # 29240, 29278, 27009, 59414, 29254, 21734 for fire extinguishers, lights, beacons, horn, back-up alarms, and high rail gear.

Findings:

1) Multiple LRV PM records were missing the Foreman's signature on various pages throughout the PM packets.
2) LRV PM's were performed outside the required inspection frequency interval. See comment below.
3) Pre-operational inspections were not completed before use of on-track or hi-rail vehicles. See comment below.
4) Hi-rail vehicle had an expired fire extinguisher. See comment below.

Comments:

1) PM's are performed every 10k miles, except for the F-PM at 488k miles. VTA's software does not allow for an adjustment between the F-PM and the following A-PM. Because of this, A-PM's that follow F-PM's may exceed the 10,000 (-500/+1000) criteria.
2) VTA personnel from LRV Maintenance and WP&S do not consistently follow MTN-PR-8503 for on-track or hi-rail vehicles. Multiple vehicles had more miles or hours than was listed in the most recent daily inspection form.
3) VTA personnel immediately replaced the fire extinguisher in non-revenue vehicle #29254.

Recommendations:

1. VTA must properly document all records with the necessary review and approvals.
2. VTA must perform LRV PM inspections at the required maintenance frequency intervals.
3. VTA must perform hi-rail and on-track vehicle pre-operational checklists and properly document per MTN-PR-8503.
4. VTA must ensure current certification on all vehicle fire extinguishers per MTN-PR-8503.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**15-B**	**Element**	**Maintenance Audits and Inspections: Traction Power System**
Date of Audit	4/25/2022	**Department(s)**	Way Power and Signals
Auditor/Inspector	Sal Herrera Shane Roberson	**Persons Contacted**	Erica Casillas, Acting Power Supervisor Diego Carrillo, Acting Way Power & Signals Superintendent Mel Gonzales, Acting Operations Manager (MOW)

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. MTN-PR-6151 Inspection of Way, Power, and Signal Substations

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Maintenance Audits and Inspections: Traction Power System

Interview RTA representatives and select at least one substation from each of the following areas:

- Orange Line – Mountain View to Alum Rock
- Green Line – Old Ironsides to Winchester
- Blue Line – Baypointe to Santa Teresa

For each area, review the appropriate documentation and perform a visual inspection to determine whether:

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

Review RTA's stray current procedure and processes to determine whether:

3. Is RTA active in mitigating the effects of stray current either received by or generated by its own facilities and surrounding structures?
4. Does RTA have procedures in place to identify and correct hazards caused by stray current?
5. Have any hazards been identified, addressed, and tracked through Corrective Action Plans to completion?

FINDINGS AND RECOMMENDATIONS

Activities:

CPUC conducted field inspection, interviewed appropriate personnel, and reviewed documentation for traction power substations.

Findings:

1. CPUC noted, due to VTA's recent challenges and being short staffed, VTA is not currently conducting any semi-annual and annual substation inspections per MTN-PR-6151.
2. CPUC noted substation eye wash stations are well past expiration dates.

Comments:

1. In discussion of the missing semi-annual and annual substation inspections, VTA informed CPUC that VTA had put the PM's out to bid to contractors. However, VTA's union filed a grievance. In turn, VTA withdrew the request for bid. CPUC informed VTA during the audit they need to reissue the request for bid. Union grievance is not an acceptable reason for allowing critical inspections to go unchecked when VTA is facing such work force challenges.
2. VTA has a contract with an outside contractor to help with the track inspection for earth resistance testing and corrosion control. However, they are waiting for a contractor to submit a plan project schedule.
3. VTA does not currently have an SOP in place to identify and correct hazards caused by stray current.

Recommendations:

1. VTA must conduct semi-annual and annual substation inspections per MTN-PR-6151.
2. VTA must verify and replace as need all eye wash stations per MTN-PR-6151.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**15-C**	**Element**	**Maintenance Audits and Inspections: Train Control and Signal Systems Maintenance**
Date of Audit	April 21, 2022 April 26, 2022 (Field)	**Department(s)**	Way Power and Signals
Auditor/Inspector	Shane Roberson Samuel Herroz Sal Herrera Eric Madero	**Persons Contacted**	Antonio Tovar, Transit System Safety Supervisor Susan Lucero, Deputy Director, System Safety & Compliance Mel Gonzales, Acting Operations Manager (MOW) Erica Casillas, Acting Light Rail Power Supervisor Diego Carrillo, Acting Way Power & Signals Superintendent Kevin King, Signal Supervisor Gurpreet Gill, Way Power & Signals Supervisor Field – Lynn McFadden, Seth Wright, Jose & Joe (Signal Maintainers)

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. MTN-PR-6205 Grade Crossing Warning System Inspection and Preventive Maintenance

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:

- Orange Line – Mountain View to Alum Rock
- Green Line – Old Ironsides to Winchester
- Blue Line – Baypointe to Santa Teresa

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 3-5 years to determine whether:

1. The required frequency inspections were performed 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

Activities:

CPUC reviewed records, interviewed appropriate VTA staff and conducted field inspections. Staff determined whether the required frequency of inspections were performed and properly documented.

Findings:

CPUC noted:

1. Baypointe interlocking and Pedestrian crossing house has unsealed pipes entering the house. (MTN-PR-6205)
2. Children's Discovery Museum interlocking house has construction set of plans with red and yellow markings. (49CFR 236.1)

Comments:

None.

Recommendations:

1. VTA must seal all pipes entering into a crossing house per MTN-PR-6205.
2. VTA must update construction plans at crossing houses system wide per 49CFR Part 236.1.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**15-D**	**Element**	**Maintenance Audits and Inspections: Tracks and Turnouts**
Date of Audit	4/22/2022, 4/26/2022, and 4/27/2022 8:00am – 5:00pm	**Department(s)**	Track Maintenance
Auditor/Inspector	Samuel Herroz Sal Herrera Shane Roberson	**Persons Contacted**	Leo Dela Cruz, Transit Safety Officer Mel Gonzales, Acting Operations Manager Diego Carrillo, Acting Light Rail Way, Power & Signal Superintendent Kevin King, Signal Supervisor Rich Soloro, Senior Track Inspector Martin A, Senior Track Inspector Joe, Keith, Sean, Terry Norman, Signal Maintainers

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. MTN-PR-6403 Wayside (Track and Right-of-Way) Inspections
10. MTN-PR-6404 WPS Wayside (Track and Right-of-Way) Maintenance
11. MTN-PR-6405 Track Geometry Standards
12. MTN-PR-6406 Inspection and Maintenance of Ballast
13. MTN-PR-6407 Inspection and Maintenance of Ties
14. MTN-PR-6408 Inspection and Maintenance of Rail

15. MTN-PR-6409 Maintenance of Fastenings
16. MTN-PR-6410 Inspection and Maintenance of Joints
17. MTN-PR-6411 Inspection and Maintenance of Continuous Welded Rail (CWR) Track
18. MTN-PR-6415 Inspection and Maintenance of Turnouts and Diamond Crossings
19. MTN-PR-6416 Inspection and Maintenance of Rail Crossings

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:

- Orange Line – Mountain View to Alum Rock
- Green Line – Old Ironsides to Winchester
- Blue Line – Baypointe to Santa Teresa

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 4 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 4 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 Orange, Green, and Blue Lines.

1. Orange Line, Turnout Inspections: T1056, T1057, T1059, T1054.
2. Green Line, Turnout Inspections: T2020, T2021, T2022, T2023.

3. Blue Line, Turnout Inspections: T1049, T1048, T1047, T1046, T1050.

1a. The required inspections were performed during the past four years per supporting references.

CPUC conducted interviews with track personnel and representatives on when inspections were performed over the past four years. Reviewed the turnout inspection records for the Y2020-2022. VTA's inspection team showed no defect found or repaired on-site immediately noted by VTA's track inspectors. In addition, defects or deficiencies that require remedial action are repaired. During the records review process, the repairs of any defect or deficiencies could not be tracked through a resolution or corrective action plan.

1b. Inspections were properly documented and noted, and discrepancies were corrected in a timely manner.

Reviewed turnout inspection and track inspection records for Years 2020-2022. VTA's Inspection team did not record any defects or discrepancies.

1c. Defective conditions, Hazards, and Safety Concerns found during inspections are immediately reported, documented, and Corrective Action Plans developed, implemented in a timely manner, and tracked through resolution.

During the record review for 2020-2022, safety concerns, defects, or deficiencies were not recorded over the past three years due to the following conditions such as Covid-19, meeting restrictions, the May 2021 security incident, etc. As a result of the security incident, VTA was unable to complete inspections from March 2020-2021.

2. Review Geometry Car and Internal Rail Defect Detector inspection reports for the past four years to determine whether:

2a. The required inspections were performed during the past three years per supporting references.

Geometry Car/ Ultra-Sonic Test performed during the past three years supported by proper and timely documentation.

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

Due to Covid-19 and various security situations, VTA was unable to complete inspections from March 2020-2021.

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

Due to Covid-19 and various Security situations, VTA was unable to complete inspections from March 2020-2021.

Findings:

1. Orange Line: East Tasman, Cross-Over Switches T1054/T1056 noted screw spikes loose through the switch point area at T1056 also screw spikes loose from the heel block through the closer rail at T1054.
2. Blue Line: Baypointe, Vegetation in walkway from Switch T1048 to Zanker Rd. Track Three.
3. Blue Line: Baypointe, Cross-Over Switches T1048/T1049 Three, twenty-three-foot switch ties, screw spikes not holding, and ties condemnable.
4. Green line: Children's Discovery Museum, Switch T2020 Reverse Points showing excessive wear.
5. Green Line: Children's Discovery Museum, Switch T2023/T2022 Reverse Points showing excessive wear.
6. Green Line: Children's Discovery Museum, Switch 2022 was noted out of service with no point clamp, lock, spike, or tag, to protect the condition. The clamp was installed before the next train.
7. Orange Line, Blue Line, Green Line: System-wide, Insulated Joints at turnouts missing fasteners.
8. Geometry Car Reports 2020: Geometry Car Report indicates that four defects were found from Guadalupe south. Train orders do not show that remedial action was taken within the proper time. In addition, no work orders were found showing the defects were repaired and tracked through resolution.
9. CPUC staff noted that current track conditions do not reflect current track inspection records.

Comments:

- Staff noted the current VTA's Track/ Turnout Inspection form has no open field to track changing turnout measurements data.
- VTA track personnel informed CPUC that they all keep separate notebooks of any maintenance or defective conditions without documenting them on inspection forms.

Recommendations:

1. VTA personnel must record defects on VTA's track/turnout form to reflect current real-time track conditions, in accordance with state, federal, and VTA rules and regulations.
2. VTA personnel must keep repair records of geometry car defects, with remedial action, and repair through resolution.

3. VTA must record all maintenance/defective conditions should be noted on inspection forms of items repaired or addressed in the field during inspections and track corrective action through resolution.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**15-E**	**Element**	**Maintenance Audits and Inspections: WP&S Audit Program**
Date of Audit	April 27, 2022	**Department(s)**	Way Power and Signals
Auditor/Inspector	Shane Roberson Samuel Herroz Eric Madero	**Persons Contacted**	Seth Wright, Transit Safety Officer Lynn McFadden, Transit Safety Officer Brigido Sanchez, Quality Assurance Specialist Mel Gonzalez, Operations Manager Way Power and Signals Diego Carrillo, Acting Superintendent Way Power and Signals

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA MTN-PR-6801 WPS Quarterly Audit

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Maintenance Audits and Inspections: WP&S Audit Program

Interview RTA and review records for the past 4 years to determine if:

1. The audit it being performed at the required frequencies stated in the procedure.
2. All WP&S Department is being audited under this program
3. Audit reports are properly maintained
4. Corrective Action Plan are well documented
5. Follow up of Corrective Action Plan takes place in a timely manner until completion

FINDINGS AND RECOMMENDATIONS
Activities: CPUC interviewed appropriate personnel and reviewed documentation for WP&S Audits. Findings: 1. CPUC noted in 2019 no audits were conducted due to staffing issues. No CAP needed. 2. CPUC noted no dates are being put on the CAP's addressing the defects found during internal audits. (MTN-PR-6801) 3. CPUC noted in 2021 no audit was conducted due to the May 26, 2021, mass shooting security incident and temporary cessation of service. No CAP is needed. 4. CPUC noted in 2020 audit, first aid kits were noted as expired. However, when CPUC conducted field inspections, it was noted expired first aid kits were still on site. (MTN-PR-6801) 5. CPUC noted in the 2020 audit, VTA had identified missing supervisor signatures, and the corrections were made at time of Audit. The supervisors back dated the forms. (PU Code 99152) Comments: None. Recommendations: 1. VTA must comply and adhere to its existing SOP MTN-PR-6801 WPS Semi-Annual Audits and conduct the audits at prescribed intervals. 2. VTA must date all CAP's generated to ensure they were identified and implemented within the allotted time allowed per MTN-PR-6801. 3. VTA must conduct follow up inspections to ensure CAPs are being implemented per MTN-PR-6801. 4. VTA must sign forms in real time instead of backdating them per PU Code 99152.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**16-A**	**Element**	**Training and Certification Programs: Train Operators, Controllers, and Line Supervisors**
Date of Audit	04/26/2022 1300-1700	**Department(s)**	VTA Light Rail Technical Training VTA Service Management
Auditor/Inspector	Michael Rose Richard Fernandez	**Persons Contacted**	Leo dela Cruz, Transit Safety Officer Ariel Leary, Light Rail Technical Trainer Elizabeth Jespersen, Manager of Organization & Human Capital Development Larry Bajwa, Superintendent of Light Rail Operations Gurpreet Singh, Assistant Superintendent of Service Management

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. Light Rail Operating Rulebook
10. VTA SOP 1.5 Operator Certification
11. VTA SOP 1.9 Light Rail Operator Retraining/Refresher
12. OCC Training Policy

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Training and Certification Programs: Operators, Controllers, and Foremen

1. Select at least five (5) employees at random in each of the following classifications:
   - Train Operator

- Train Controller
- Light Rail Supervisor
- Motormen/Conductors of Historic Streetcars

2. Review training, certification, and recertification records of the selected employees related to Roadway Protection, Personal Equipment Device, and other specific job required training to determine whether:
    a. All employees successfully completed initial training programs, and any discrepancies were addressed and resolved.
    b. All employees have been recertified at the required frequency and are currently certified to perform their duties.
3. Verify that a process for maintaining and accessing employee training records is in place.
4. Verify categories of safety-related work requiring training and certification have been identified.
5. Verify employee and contractor job classifications requiring initial and refresher training and certification have been identified.
6. Verify RTA has a process is in place to assess compliance with its training and certification requirements.
7. Verify corrective actions taken to discipline employees and contractors for failure to follow established procedures after training and certification

FINDINGS AND RECOMMENDATIONS

Activities:

1. CPUC Staff randomly selected employees from the list of Train Operators, Train Controllers and Light Rail Supervisors provided by VTA. Motormen/Conductors of Historic Streetcars are Certified Operators who receive further training to operate the Historic streetcars. The Historic Streetcars have not been in revenue service since 2019 due to the 2020 pandemic. VTA informed Staff that there have been no Operators further trained/certified to operate the vehicles.

2. Staff reviewed the following randomly chosen VTA Employee Certification Training for years 2018-2021.

    Controllers ID #'s: 13100, 13243, and 5543
    Supervisor ID #'s: 2949, 9718, 12208, and 11013
    Operator ID #'s: 2804, 13101, 13465, 13798, and 13971.

    All employee records reviewed by CPUC Staff contained the required recertification documentation and are currently certified to perform their duties. Roadway Worker Protection (RWP), Personal Electronic Device (PED) Training is included in all employees' recertification classes, while Contractors receive the RWP training and/or retraining independently of VTA Employees.

3. VTA is utilizing Success Factors, a Talent Management Software program, to track all VTA employee training. The training is entered into the system by employees designated as Learning Management System Schedulers. Success Factors were implemented in 2016 and all training is being entered as it occurs. Training prior to implementation of Success Factors is being retained as per CPUC General Orders and on spreadsheets and training databases.

4. Categories of safety-related work requiring training and certification are outlined in VTA's PTASP, Section 7.1.3 and 8.2.2 both titled "Training and Certification Programs."

5. VTA employee and contractor job classifications requiring initial and refresher training and certification are outlined in VTA's Public Transportation Agency Safety Plan (PTASP). PTASP Section 7.1.3 Training and Certification Programs details employee training. VTA includes in depth SOP's 1.5 Operator Certification, SOP 1.9 Light Rail Technical Training Refresher/Retraining, and procedure MTN-PR-7401 Light Rail Training and Certification Requirements, all of which were reviewed by CPUC Staff.

6. VTA assesses compliance with its training and certification requirements through testing (PTASP 8.2.2 Training and Certification Program), Rules Compliance (PTASP 6.1.3 Rules Compliance-Light Rail) and Internal Audits (PTASP 6.1.2 Internal Safety Audits).

7. Employee discipline is in the employees personal file and was not available for review. VTA did provide CPUC Staff with examples of employees not successfully passing required training and/or recertification tests. The employee would receive an opportunity to re-test which is also kept on file. If the employee fails training, they are returned to their previous assignment/department.

<u>Findings:</u>
None.

<u>Comments:</u>
1. VTA's utilization of Success Factors software for documenting and tracking will enable and help VTA Personnel monitor upcoming training deadlines with improved efficiency.

<u>Recommendations:</u>
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**16-B**	**Element**	**Training and Certification Programs: Maintenance Employees and Contractors**
Date of Audit	April 28, 2022	**Department(s)**	Light Rail Maintenance Training
Auditor/Inspector	Shane Roberson Erica Madero Samuel Herroz Laura Espinoza	**Persons Contacted**	Seth Wright, Transit Safety Officer Elizabeth Jespersen, Manager of Organization & Human Capital Development Lynn McFadden, Transit Safety Officer Ariel Leary, Light Rail Technical Training Supervisor Monte Bjerke, Supervising Maintenance Instructor

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA MTN-PR-6800 WPS Training Program
10. VTA MTN-PR-7401Light Rail Training & Certification Requirements

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Training and Certification Programs: Maintenance Employees and Contractors

1. Select at least three (3) employees at random in each of the following classifications:
    - Track Workers
    - Track Equipment Operators
    - Overhead Line Workers
    - Electro-Mechanics / Electronic Technicians

- Light Rail Maintenance Foreperson
- Substation Maintainers
- Signal Maintainers
- Contractors

2. Review the training and certification records for the last four (4) years to determine whether or not:
   - The employee has received the required training to perform his/her duties
   - The employee qualifications are on file.
   - The employee has been re-certified at the required frequency
3. Verify that RTA has a process is in place to assess compliance with its training and certification requirements.
4. Verify corrective actions to discipline employees and contractors for failure to follow established procedures after training and certification are established and consistent.
5. Verify that contractor training requirements are specified in contract documents.

FINDINGS AND RECOMMENDATIONS

Activities:

1. CPUC staff reviewed training records for at least three randomly selected employees in the following classifications: track worker, track equipment operator, overhead line worker, electro-mechanic, electronic technician, foreperson, substation maintainer, and signal maintainer.
2. Staff reviewed records from 2018 – 2022 to determine whether the employees received the required training, the qualifications were on file, and the employees were re-certified at the required frequency.
3. Staff reviewed spreadsheets and online tracking system to verify that VTA has a process in place to assess compliance with training requirements.
4. Staff interviewed VTA personnel and reviewed records to verify that corrective actions for failure to follow procedures are established and consistent per the IIPP.
5. Staff reviewed randomly selected contract documents to verify that contractor training requirements were specified.

Findings:

1) Track workers did not receive FRA training at the required interval per 49 CFR Part 213.7. See comment below.

Comments:

The most recent FRA training was completed in 2019. CPUC acknowledges the difficulty in scheduling this training due to COVID and the May 2021 Security incident. Staff was informed VTA is working on a contract to complete required training.

Recommendations:

1. VTA must provide FRA training to Track Worker per 49 CFR 213.7.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**17**	**Element**	**Configuration Management and Control**
Date of Audit	4/28/2022	**Department(s)**	Maintenance Engineering (ME) Engineering and Program Delivery (EPD) Information Technology (IT) Supervisory Control and Data Acquisition (SCADA) Contract Procurement System Safety and Compliance (SSC)
Auditor/Inspector	Jamie Lau Steve Espinal	**Persons Contacted**	Manjit Khalsa (ME) Ken Ronsse (EPD) Usman Husaini (EPD) George Sandoval (SCADA) Manny Borrayo (IT) Phoung Mai (IT) Daren Gee (Contract Procurement) Antonio Tovar (SSC) Susan Lucero (SSC)

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA MTN-PR-1001 Light Rail Configuration Management Program
10. EPD Configuration Management (ET-CO-PR-0001)
11. System Development Configuration and Change Management Policy

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION
Configuration Management and Control 1. Verify that Configuration Changes were reviewed and approved in accordance with the reference criteria or any SOPs identified during the review. 2. Verify that a coordination process exists that ensures all organizational entities have an opportunity to review preliminary design and acceptance of final design. 3. Verify that any hazards identified with configuration changes of any kind are resolved. 4. Have significant changes in the organizational structure been analyzed for configuration change management? 5. Randomly select three RTA configuration changes during the last 4 years to ensure configuration management included, at minimum: a. Engineering Design Peer Review; b. Design and Analysis Review by the Systems Safety Department and/or other departments, if required; c. Design and Analysis Review by CPUC, if required d. The modification or change was reviewed and approved by RSSRB Committee. e. The modification or change was circulated to the proper departments prior to implementation; f. All necessary parties or contract employees within or outside the agency were properly notified of the modification or change. g. As-Built or In-Service Drawings are updated accordingly and filed properly
FINDINGS AND RECOMMENDATIONS
<u>Activities:</u> Staff interviewed VTA personnel involved in configuration management and control and reviewed appropriate records. Staff determined: 1. Configuration Changes were reviewed and approved in accordance with VTA reference criteria or any SOPs identified during the review. 2. VTA coordination process ensures all organizational entities have an opportunity to review preliminary design and acceptance to achieve a final design. 3. Hazards identified with configuration changes are resolved. 4. VTA does not have significant changes in the organizational structure that needs to be analyzed for configuration change management. 5. Staff selected three VTA configuration changes during the last four years which included: a. Engineering Design Peer Review; b. Design and Analysis Review by the Systems Safety Department and/or other departments, if required; c. Design and Analysis Review by CPUC, if required; d. The modification or change was reviewed and approved by RSSRB Committee.

e. The modification or change was circulated to the proper departments prior to implementation.
f. All necessary parties or contract employees within or outside the agency were properly notified of the modification or change.
g. As-Built or In-Service Drawings are updated accordingly and filed properly;

VTA requires that each department that oversees systems, vehicles, equipment, or physical infrastructure to develop a configuration management procedure. Representatives from five departments involved with configuration management changes attended the audit:

- Way, Power, and Signal (WPS)
- Light Rail Vehicle (LRV)
- Engineering and Program Delivery (EPD)
- Information Technology (IT)
- Supervisory Control and Data Acquisition (SCADA)

Staff verified that all departments have their own configuration management procedures. Each procedure contains a process and a sample check/approval form for changes. The only exemption is IT that doesn't have an approval form for changes, as they have a digital online ticketing system, which Staff verified on-screen. The approval forms ensure changes were reviewed and approved in accordance with reference criteria. For example. LRV configuration change requires modification proposal to be routed to different departments for technical review. Each department is responsible for review and approval on their behalf.

Staff interviewed LRV representative regarding the process for changes. The representative indicated once a configuration change is requested, projects files are uploaded to individual folders by project name for stakeholders' review for about two weeks. Comments are addressed and submitted for RSSRB Committee review for another two weeks. Once approved by RSRRB, a bulletin or notification will be sent out to all affected parties.

Staff verified that VTA's departments have a potential hazard checklist form within the configuration process. For example, Roadway Worker Warning Device on LRV change request has a potential hazard checklist identified sharp edges and limited work area as potential hazards. Staff verified that VTA properly mitigated the hazards.

Staff learned that VTA did not have significant organizational structure changes in the past four years. Therefore, no configuration change management was analyzed during this review.

Staff interviewed the SCADA representative regarding their change management procedure. Staff learned that the VTA individual is new to head the program. The procedure will be updated soon to reflect criteria defining projects qualified as safety certification projects

required to undergo Rail System Safety Review Board (RSSRB) reviews, and minor configuration changes that are not required. When first taking over the department about six weeks ago, the VTA personnel found their staff were not following the minor configuration change process nor were aware of the change to the management procedure. The representative conducted a re-training class on the current procedure. However, the current SCADA procedure will be updated, and a training will be held again.

Staff randomly selected the following three configuration changes from different departments for review:

- "SCB-L047" - Roadway Worker Warning System installed to vehicles (LRV)
- "Karina EPD" - Construction changes for a new crossover at Karina (EPD)
- "Karina SCADA" - SCADA changes for a new crossover at Karina (SCADA)

Staff found that SCB-L047 configuration management peer review, review by RSSRB, and CPUC participation are demonstrated by various meeting minutes, email correspondence and configuration change checklist. RSRRB meeting minutes and email correspondence indicated the Board concurred on the changes with comments addressed. The Change Bulletin documented the notification of changes. No external parties were contacted regarding the changes. No As-Built drawings are available for the changes, but Change Bulletin shows locations of changes on existing vehicles.

Similar to SCB-L047, Staff found Karin EPD configuration management peer review, review by RSSRB, and CPUC participation are demonstrated by various meeting minutes, email correspondence and configuration change checklist. RSRRB meeting minutes and email correspondence indicated the Board concurred with the changes. Configuration checklist and email correspondence shows change notifications were circulated to different departments and CPUC. Meeting minute shows approval by RSSRB. City of San Jose was informed by VTA's request of encroachment permit for the work. Changes were documented on red-lined as-built drawings.

Staff found SCADA Karina's peer review is done via various testing by both VTA and contractors; Staff verified testing documents present. Configuration management checklist shows different departments were notified of the changes. Email correspondence shows changes were communicated to System Safety and CPUC. Meeting minutes show RSSRB's approval for changes. Project documents show current vs. new changes on an OCS display of Karina interlocking. OCC personnel were trained for new changes per training sign-in sheets. The changes do not require external notification.

<u>Findings:</u>

1. The SCADA Configuration Management Procedure does not define what changes are considered as a safety certification project requiring RSSRB approval, and minor configuration changes that don't require RSSRB approval.

Comments:
None.

Recommendations:

1. The SCADA Configuration Management Procedure must be updated to define what changes are considered as a safety certification project requiring RSSRB approval, and minor configuration changes that don't require RSSRB approval. VTA personnel who are involved in SCADA configuration management must be trained in the updated procedure.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**18**	**Element**	**Local, State, and Federal Requirements: Employee Safety Program**
Date of Audit	April 22, 2022	**Department(s)**	Environmental Health and Safety System Safety and Compliance
Auditor/Inspector	Arun Mehta Jimmy Xia	**Persons Contacted**	Leo Dela Cruz, Transit Safety Officer Lyndsey Fujii, EH&S Specialist Seth Wright, Transit Safety Officer Antonio Tovar, Transit System Safety Supervisor Susan Lucero, Safety & Compliance Deputy Director Sonya Banford, Office Specialist I Frank Lucarelli, Safety & Security Oversight SVBX

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA Injury and Illness Prevention Program (IIPP)

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Local, State, and Federal Requirements

Interview appropriate representatives and review appropriate records for the past 4 years to determine whether:

1. A procedure and reporting form is 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 RSSRB Committee 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 RSSRB Committee 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.
9. What did the RTA do in response to COVID-19 issue? Did any employee or patron test positive within the VTA system? If yes, how did VTA handle it?

FINDINGS AND RECOMMENDATIONS

Activities:

CPUC Staff interviewed VTA Safety & Compliance staff regarding the Local, State, and Federal Requirements for VTA's Employee Safety Program. Staff determined the following:

1. VTA has a Hazard Management Program (HMP) procedure, COS-SAF-PR-3002, version 5, dated 9/28/2018, that describes methods VTA employees and contractors may utilize to report safety hazards in the workplace through the use of the Safety/Hazard and Close Call Report Form, COS-SAF-FR-3002A. Hazards reported through these avenues are entered into VTA's Vector Solutions software program. The Hazards Summary module is used for follow-up and tracking to resolution via corrective action(s).

2. VTA holds separate safety committee meetings with their two employee unions, ATU Local 265 and SEIU Local 521. The Joint Union/Management Safety Committee meetings with ATU 265 are monthly. The meetings with SEIU 521 are every other month. ATU 265 covers rail and bus operators and mechanics, etc., and SEIU 521 covers River Oaks staff, office specialists, administrative and technology staff, etc. The Chief of System Safety & Security jointly with union leadership, chairs the meetings. The purpose of the meetings is to address employee health and safety related issues and if the required proposed corrective actions are necessary for both VTA bus and light rail systems.

   VTA staff presented the 11/16/2021 VTA/ATU Local 265 Joint Safety Committee Meeting Agenda and the 9/21/2021 VTA/ATU Local 265 Joint Safety Committee Meeting Minutes

to Staff for review which identified issues discussed. The 11/16/21 meeting agenda covers review of open items (short term items and longer term or recurring items). The 9/21/21 meeting minutes mention a longer-term open item related to resolving an issue related to the ergonomic factors of driver's seats in LRVs in order to ensure operator comfort. The minutes also discuss COVID-19 updates regarding face mask rules at the time. They also mention a pending item #2 under a Track Intrusion Project to continue installation of the railing that prevents pedestrians from crossing their tracks. The project is to prevent pedestrians from crossing tracks in areas not designated for pedestrian crossing.

3. The RSSRB provides a forum for light rail personnel and other VTA management to review and act on various safety issues in general without consideration of the employees. The RSSRB is chaired by the Chief of System Safety & Security or designee. Committee representation includes voting members from all affected VTA Departments. The RSSRB holds monthly meetings.
   Discussions are held to ensure that personnel are working together to eliminate or mitigate hazards to an as Low as Reasonably Practicable (ALARP) level. Supervisors and project managers are responsible for updating the individual(s) or employee(s) who report hazards as well as the results of the hazard analysis and status of mitigation measures.

   VTA Transit Safety Officer provided two examples of prominent issues brought up by employees which were generic enough for RSSRB to investigate and resolve the following:
   a. Example 1: Train to wayside communications operations thumb switch, that helps route trains through different interlockings and employees were having problems with. The settings were changing without the thumb switch activation by the operators. The operators thought that they were going in one particular route, but they would get routed differently when coming to an interlocking. This issue was brought up on both the Joint Union/Management Safety Committees and the RSSRB, because it is required to go through the configuration management process/review/approval to purchase a new thumb switch.
   b. Example 2: Coupler issue. LRV's were experiencing coupler separation from, not the couplers themselves, but the piston that was holding the coupler. The coupler was not held to the coupler base. This issue is currently undergoing VTA's corrective actions tracking and resolution process via Vector Solutions.

4. VTA's IIPP Committee conducts committee meetings at the end of every month. The monthly IIPP Committee meetings are led by the Safety Department. At these meetings, the members discuss the policies and procedures outlined within VTA's IIPP program document. They use a spreadsheet in each meeting. The spreadsheet lists which procedures have been updated, which ones are in the process of being updated, and which ones are to be updated.

VTA uses the term "IIPP Program Document" as a compilation of the policies and procedures contained in their IIPP booklet. The Injury Illness Prevention Program procedure, SSS-SAF-PL-IIPP-0100, is the main IIPP procedure. The latest revision of this procedure is dated 2/15/2016. Each of the procedures within the booklet are updated individually as needed based on VTA's decisions. Approved updated procedures with the revision date and signature(s) are immediately posted on the VTA Hub Intranet site and a newly revised IIPP Program Document is published each year to replace the previous Program Document. Any updated procedure would contain on each page, the revision date, and at the end of the procedure, a summary of changes describing what was updated. According to VTA's EH&S Specialist, the following three items: Personal Protective Equipment, Storm Water, and Hard Hat policies are the most recently updated items in their IIPP booklet.

5. VTA does input all their corrective actions into Vector Solutions, and they also have a separate tracker for each corrective action. VTA staff presented the CPUC VTA-CAP Matrix Report 2022 and showed an example of a Vector Solutions record regarding a track intrusion incident. A CAP was generated as a result of the incident. When VTA uploads a corrective action in Vector Solutions, it asks for an estimated completion date. When a completion date approaches and the corrective action hasn't been resolved, Vector Solution starts emailing the responsible parties, letting them know that the date is getting closer, and it stops doing that once the safety department updates Vector Solutions to indicate that the item has been resolved. In summary, corrective actions are tracked on Vector Solutions through completion.

6. Any new employees must undergo the new employee orientation, and they are provided with a New Hire Safety training during the second day. All employees receive initial safety training from their supervisor for their specific location and assigned job duties before starting regular assigned work activities. Subsequent safety training, which is required, is outlined in Section 4.1, Tables 1 and 2 of the Safety Training Procedure, SSS-SAF-IIPP- 0401. These are provided on a regular basis as needed (i.e., Initial, Annual, and Periodical). Supervisors review various procedures within the IIPP program document with employees periodically during the monthly tailgate safety training sessions to refresh employees on these procedures in accordance with SSS-SAF-IIPP- 0401. If an employee violates any rules, they will be re-trained, and they must undergo another test that is focused on the rules they have violated. Employee Safety Program and tailgate safety trainings are documented using the VTA Safety Training Sign-in Sheet. Sign-in sheets showing employees have received their required trainings are maintained at the work site for at least three years.
   Staff reviewed VTA's Light Rail Technical Training Class Registers from 2018-2021 for the following three Train Operators for the recertification classes:

   - Employee #12401 – has attended:
     - Line Instructor Recertification class on 10/17/18

- Line Instructor Recertification class on 12/30/19
- LRO Recertification class on 11/09/20
- Safety + Yard + Mainline Operation Recertification class on 8/19/21

- Employee #13098 – has attended:
  - LRO Recertification class on 9/24/18
  - LRO Recertification class on 11/26/19
  - LRO Recertification class on 10/15/20
  - Safety + Yard + Mainline Operation Recertification class on 8/23/21

- Employee #14537 – has attended:
  - LRO Recertification class on 9/06/18
  - LRO Recertification class on 12/17/19
  - LRO Recertification class on 10/05/20
  - Safety + Yard + Mainline Operation Recertification class on 8/19/21

Staff reviewed VTA's Learning History documents for the following three Light Rail Signal Maintainers, which show that they have completed the following recertification trainings from 2018-2021:

- Employee #13083 – has successfully completed:
  - Type 24 Signals Recertification on 11/20/2018
  - Understanding Track Circuits class on 10/16/2019
  - Type 12 WPS Safety Recertification on 11/21/2019
  - Electrical Safety & LOTO Recertification and High Voltage Safety & NFPA 70E Recertification on 6/9/2020
  - Type 24 Signals Recertification on 10/21/2020
  - Signal Course - Signal System Overview and Signal Course - Signal System Maintenance on 10/30/2020
  - Signal Course - Signal System Overview and Signal Course - Signal System Maintenance on 5/14/2021
  - Light Rail Safety Recertification on 8/4/2021

- Employee #15019 – has successfully completed:
  - Type 12 WPS Safety Recertification on 10/3/2019
  - Electrical Safety & LOTO Recertification and High Voltage Safety & NFPA 70E Recertification on 2/5/2020
  - Type 24 Signals Recertification on 10/22/2020
  - Signal Course - Signal System Overview and Signal Course - Signal System Maintenance on 10/30/2020
  - Signal Course - Signal System Overview and Signal Course - Signal System Maintenance on 5/14/2021
  - Light Rail Safety Recertification on 8/11/2021

- Employee #11398 – has successfully completed:
    - Type 24 Signals Recertification on 11/16/2018
    - Understanding Signal Aspects and Signal Drawings and Plans classes on 6/19/2019
    - Understanding Track Circuits class on 10/16/2019
    - Type 12 WPS Safety Recertification on 11/21/2019
    - Electrical Safety & LOTO Recertification and High Voltage Safety & NFPA 70E Recertification on 6/17/2020
    - Type 24 Signals Recertification on 10/20/2020
    - Signal Course - Signal System Overview and Signal Course - Signal System Maintenance on 10/30/2020
    - Signal Course - Signal System Overview and Signal Course - Signal System Maintenance on 5/14/2021
    - Light Rail Safety Recertification on 8/4/2021

The records reviewed show that all six employees have attended annual recertification trainings for their respective job classification between years 2018 and 2021 in accordance with VTA's SSPP and PTASP.

7. Any non-compliance with local, state, or federal requirements, which results in a corrective action, is recorded in Vector Solutions and then it gets tracked through implementation by the RSSRB. For instance, when VTA has a severe incident, it gets put on the RSSRB meeting agenda and on the meeting calendar notice as well. That's essentially how RSSRB communicate monthly to the group regarding CAPs or open items. For example, VTA's red light signal violations are reported to the RSSRB.
VTA's Transit System Safety Supervisor stated that there is another meeting called Fire Life Safety Meeting at VTA. Originally, that meeting was intended to discuss and disseminate items related to fire life safety and would coordinate safety training on the light rail system between different local emergency response agencies. One item on the agenda for that meeting is open OSHA inspections.
VTA's EH&S Specialist responded that if VTA does have a corrective action, it is usually resolved the same day it is discovered or at the end of the 30 days they have been given, but they report out on items like those from the city and the county as well as OSHA in the Fire Life Safety meetings. They don't report those out on RSSRB meetings. On the rail side, in the last four years, they did not have any fines imposed due to local, state, or federal non-compliance violations. They did have a minor violation for a wastewater treatment plant about two years ago and it didn't result in a fine. Consequent to the audit, VTA's EH&S Specialist provided staff with the Warning Notice WN-009540, dated 3/3/20, that was issued by Source Control regarding violation of San Jose-Santa Clara Regional Wastewater Facility Industrial Discharge Permit #SJ-680B for the Guadalupe Division and VTA's response letter and documentation describing how this violation was resolved. The violation was found on 2/11/20 by an Environmental Inspector from the

city of San Jose Environmental Services Department. The notice provides that the required wastewater sample was not completed within the reporting period of 8/1/19 through 1/31/20. According to VTA's response letter dated 3/19/20, to address the notice, VTA has completed the required sampling event, and the report was included in the Self-Monitoring Report that was submitted on 2/25/20. VTA also conducted training for the Facilities Maintenance Representatives who oversee all wastewater operations at the Divisions. This training was completed on 2/13/20 and included relevant topics such as sampling requirements for each division, notification, and the permit requirements. As a result of the training, VTA is confident this warning has been resolved. This is an example of a minor violation of a local requirement, and it was resolved and tracked through resolution. In addition, VTA does currently have an active investigation by Cal/OSHA at light rail that is a result of a hospitalization of an employee who had COVID-19.

8. VTA's contractors for construction projects must follow, at a minimum, the VTA's safety rules and protocols, which apply to VTA employees. VTA maintains the yearly project review logs of procedures with respect to IIPP, SSPP, and SDS associated with construction projects to ensure worker protection and public safety on the job site. Staff reviewed the project review logs for 2018, 2019, 2021, and 2022, which are in order. The logs are in Excel spreadsheet format and have the following column headings: date, project, contract number, review item, reviewed by and status. VTA does not have documentation of violations by their construction contractors of VTA's safety rules and protocols. Sometimes, VTA has safety officers go to construction sites to check on construction.

   VTA's Transit Safety Officer discussed an incident involving RWP violation that happened recently at River Oaks Station, where VTA had to stop work of a crew of subcontractors who were not trained and violated Genera Order 175 by working within 6 feet of VTA track. The subcontractor crew were required to have their RWP card with them and necessary documentation; they are required to have their restricted access permit, and they must have authorization from OCC and must be signed by said contractors. In this case, the crew did not have all the required training and documentation required per RWP rules, so VTA had to stop their work.

   VTA has a practice to conduct random checks on construction crews to determine if they have been certified on RWP training. Every month, they are required to conduct inspections on work crews using certain checklists to make sure that they abide by the VTA rules. VTA staff showed CPUC staff the RWP inspection form as an example. That form is inputted by a VTA inspector that performs the RWP inspection on an active work crew on the ROW. They showed staff what elements of the inspections they check on the form. This summary is documented under the RSSRB agenda item entitled "Roadway Worker Protection (RWP) Monitoring Program" on the RSSRB meeting minutes. Staff reviewed the RSSRB meeting minutes generated from January through December 2021

and January and February 2022, and the summaries for that section of the meeting are in order on all the minutes reviewed.

9. CPUC Staff also interviewed VTA Staff regarding VTA's COVID-19 prevention program in addition to the original eight (8) elements for this checklist audit and determined the following. In accordance with CDC and Cal/OSHA COVID-19 ETS, whenever there is a positive COVID case, it is reported out to VTA via email. Then, the affected worksite is cleaned and disinfected. VTA has had positive cases of COVID and they followed the procedures in Cal/OSHA ETS in response. They also follow all the regulations set forth by CDC. They did require every employee who had tested positive for COVID to have a note from his/her doctor allowing him/her to return to the workplace.
   There was one hospitalization of an employee who caught COVID at Guadalupe light rail facility. As a result of the employee hospitalization, there is an investigation that is currently being conducted by Cal/OSHA. Cal/OSHA sent VTA a violation regarding this case, and VTA is currently in the process of appealing it, which is being handled by their legal team. It is being investigated by Cal/OSHA because they are investigating all hospitalizations that originate from the workplace.

<u>Findings:</u>
None.

<u>Comments:</u>
None.

<u>Recommendations:</u>
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**19**	**Element**	**Hazardous Materials Program**
Date of Audit	April 22, 2022	**Department(s)**	Environmental Health and Safety (EH&S) System Safety and Compliance Operations Maintenance Department
Auditor/Inspector	Jimmy Xia Arun Mehta	**Persons Contacted**	Lyndsey Fujii, EH&S Specialist Leo Dela Cruz, Transit Safety Officer Seth Wright, Transit Safety Officer Michael Bates, Facilities Manager Manjit Khalsa, Sr. Systems Engineer Andres Carmona, Facilities Coordinator Ricky Trujillo, LR Stations Supervisor

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA Injury and Illness Prevention Program (IIPP)

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION
Hazardous Materials Program 1. Interview RTA safety department representatives to discuss RTA's hazardous materials program and the role of the safety department in enforcing this program and determine the following: a. The procurement process for insecticides, herbicides, chemicals, and solvents. b. If a Safety Data Sheet (SDS) for each hazardous material is on file with the safety department. c. All approved SDS are on-file and available for all employee access and verify process for employee access to the SDS. 2. Select at least six (6) RTA employees who are 1) qualified/trained to handle hazardous materials, and 2) trained to report, respond to, and clean up hazardous materials spills; and review their training records to verify they are qualified for handling hazardous materials and/or spill incident reporting, response, and clean-up. 3. Verify hazardous materials discharge/spill reports for incidents reported in the past 4 years have been prepared and filed properly.
FINDINGS AND RECOMMENDATIONS
Activities: 1. Staff interviewed VTA safety department representatives to discuss VTA's hazardous materials program and the role of the safety department in enforcing this program. Staff determined the following. a. The procurement process for new chemicals is detailed in the New Chemical Procurement procedure, SSS-EHS-IIPP-1202. The Integrated Pest Management Program, SSS-SAF-IIPP-1205, describes the procurement process for pesticides and herbicides. b. A Safety Data Sheet (SDS) for each hazardous material/chemical is kept on MSDS Online on The Hub (VTA Intranet) by EH&S for the life of the chemical. Also, VTA has a hard copy binder of all chemicals used, that is kept at each of the divisions. The binder contains SDS's, DPR information, and a list of the hospitals in the area. c. Employees at each work site, through the use of the computer network, can access MSDSOnline to review and print out the SDS's. All employees have access to the SDS's through MSDSOnline on The Hub. There is at least one computer available for employees' use in all the Divisions, maintenance areas, and worksites. The SDS's can be looked up and printed by employees whenever they want to access the information. Foremen of work units can access the SDS's on their smartphones. When SDS's are updated EH&S will archive the old SDS and replace it online with the revised one on MSDSOnline. Whenever new SDS's are received for chemicals, EH&S will identify any new hazards and update MSDSOnline with the new SDS's. New chemicals were introduced in the last four years. VTA's EH&S Specialist provided Staff with a spreadsheet listing four new chemicals from 2021, all of which have been added to MSDSOnline. VTA staff stated recently worked with

engineering to find a substitute chemical for a grease that's used on gears because there was a supply chain issue for the current grease used.

d. Staff asked VTA staff if the 2017 Triennial Audit recommendation(s) for lack of required inspections of hazardous waste facilities was corrected, and if the required inspections are being performed. VTA Safety Inspections procedure, SSS-SAF-IIPP-0701, Sections 3.3 and 3.4 indicate superintendents and facilities maintenance representatives are to schedule and conduct monthly safety inspections of facilities, grounds, and equipment. During each safety inspection, the Facilities Maintenance Representative uses the separate section "Monthly Chemical Safety Inspection" of the Facilities Monthly Safety Inspection Form that covers the inspection of hazardous materials storage and use areas to document the monthly inspections of the hazardous materials storage areas.

The Facilities Maintenance Representative inputs the monthly safety inspection results into Vector Solutions software program. The Guadalupe Light Rail facility is where most of the chemicals are stored for the light rail division.

As a result of VTA's security incident at the Guadalupe Light Rail facility in May 2021, the facility was shut down from end of May to end of August 2021. VTA didn't have any representatives at the facility during this time period, and therefore no inspections were performed. VTA has conscientiously looked at the results of the 2017 Triennial Audit findings and they have shown a good faith effort to ensure the same violations didn't occur. VTA's EH&S Specialist stated that the department follows up every single month and makes sure that the monthly inspections are entered in Vector Solutions. To her knowledge, all the monthly inspections are done other than during the time period when the Guadalupe yard was shut down after the May 2021 security incident. The VTA EH&S Specialist provided inspection forms to CPUC Staff to review later to confirm inspection accuracy.

Staff reviewed the facility monthly safety inspection records for Guadalupe WP&S generated by Vector Solutions from January –December 2020. All monthly inspections were properly documented on the monthly safety checklists as required, and no deficiencies were noted. Staff also reviewed VTA's spreadsheet containing the monthly safety inspection summaries from January 2017 - December 2021. The spreadsheet shows that all the monthly inspections were completed, except during the time period when the Guadalupe yard was shut down after the May 2021 security incident.

Staff reviewed the weekly inspections of hazardous waste containers at the Guadalupe Yard, Building F, which are documented on the Hazardous Materials/Waste Aboveground Storage Area Inspection Forms from 9/4/2018 - 4/13/2022. Staff found VTA conducted the weekly inspections as required by its

SSS-SAF-IIPP-0701, Section 4.1.2, during the time period reviewed, except during the week of 3/23/2020 and the first two weeks of November 2021.

Staff reviewed Daily Hazardous Waste Tank Inspection Checklist SPCC Inspection Forms for hazardous waste storage tanks at the Guadalupe Division dated from February 1, 2019 - April 13, 2022. Staff found that out of the approximate three years and 1 month period, VTA did not perform daily inspections of such tanks as required by its SSS-SAF-IIPP-0701, Section 4.1.1, on the following dates, the fields for which were left blank on the forms:

- July 31, 2019;
- February 15-18, 2021;
- September 7, 11, 13, 2021;
- October 1, 11, 20, 29, 2021;
- November 11, 24, 26, 2021;
- December 6, 8, 15, 24, 25, 27, 31, 2021;
- January 21, 22, 2022;
- February 13, 20, 23, 24, 25, 2022;
- March 11, 2022.

On May 23, 2022, Staff notified Ms. Lyndsey Fujii, EH&S Specialist, to inform her that in spite of Staff prematurely telling VTA at the end of the audit on April 22, 2022 of zero findings, there was one finding resulting from review of additional weekly/daily inspection form documents provided to Staff towards the end of the audit.

2. VTA offers two trainings for hazardous materials. One type of training is for employees who handle hazardous materials, and the other training is for employees who report, respond to, and clean up hazardous materials spills. VTA has a tailgate training and an in-class training regarding these topics that are conducted annually. The tailgate training is similar to in-class training; it's provided by the supervisor, and employees are given an opportunity to ask questions. The initial training and annual refresher training are essentially the same.

   Staff randomly selected the following six VTA employees from the rail division who are either trained to handle hazardous materials or trained to report, respond to, and clean up hazardous materials spills. Staff reviewed their training records as summarized below.

- Employee #15354 – Electro Mechanic – responsible for spills
    - Staff reviewed the following for this employee:
        - Guadalupe Maintenance 2018 Maintenance Staff – Safety Tailgate Sign-In Sheet for the Hazardous Waste: Oily Contaminated Debris tailgate training held on 5/17/18
        - Guadalupe Maintenance 2018 Maintenance Staff – Safety Tailgate Sign-In Sheet for the Recordable and Reportable Spills tailgate training held on 7/16/18

        - Guadalupe Maintenance 2019 Maintenance Staff – Safety Tailgate Sign-In Sheet for the Hazardous Waste: Oily Contaminated Debris tailgate training held on 5/8/19
        - Guadalupe Maintenance 2019 Maintenance Staff – Safety Tailgate Sign-In Sheet for the Recordable and Reportable Spills tailgate training held on 7/10/19
        - Guadalupe Maintenance 2020 Safety Tailgate Sign-In Sheet for the Handling and Documenting Waste tailgate training
        - Guadalupe Maintenance 2020 Safety Tailgate Sign-In Sheet for the Recordable and Reportable Spills tailgate training held on 7/28/20
        - Guadalupe Maintenance 2021 Safety Tailgate Sign-In Sheet for the Handling and Documenting Waste tailgate training held on 4/22/21
        - LRV Maintenance Safety Tailgate Sign-In Sheet for the Recordable and Reportable Spills tailgate training held on 9/8/21
- Employee #14129 – Body Shop Painter – trained on spills
    - Staff reviewed the following for this employee:
        - Guadalupe Maintenance 2018 Maintenance Staff – Safety Tailgate Sign-In Sheet for the Hazardous Waste: Oily Contaminated Debris tailgate training held on 5/18/18
        - Guadalupe Maintenance 2018 Maintenance Staff – Safety Tailgate Sign-In Sheet for the Recordable and Reportable Spills tailgate training held on 7/16/18
        - Guadalupe Maintenance 2019 Maintenance Staff – Safety Tailgate Sign-In Sheet for the Hazardous and Non-Hazardous Waste tailgate training held on 5/8/19
        - Guadalupe Maintenance 2019 Maintenance Staff – Safety Tailgate Sign-In Sheet for the Recordable and Reportable Spills tailgate training held on 7/9/19
        - Guadalupe Maintenance 2020 Body Shop Staff – Safety Tailgate Sign-In Sheet for the Handling and Documenting Waste tailgate training
        - Guadalupe Maintenance Tailgate Sign-In Sheet for the Recordable and Reportable Spills tailgate training held on 7/28/20
        - Guadalupe Maintenance 2021 Tailgate Sign-In Sheet for the Handling and Documenting Waste tailgate training held on 4/22/21
- Employee #10162 – Facility Maintenance – handled hazardous materials
    - Staff reviewed VTA Safety Training Sign-in Sheet for the Hazardous Waste: Oily Contaminated Debris training class held on 5/18/18 for this employee. He changed roles in 2018-2019 and his current role does not require this training.
- Employee #5463 – Facilities Maintenance – handles hazardous materials
    - Staff reviewed the following for this employee:
        - Guadalupe Maintenance 2018 Maintenance Staff – Safety Tailgate Sign-In Sheet for the Hazardous Waste: Oily Contaminated Debris tailgate training held on 5/18/18

        - Guadalupe Maintenance 2018 Maintenance Staff – Safety Tailgate Sign-In Sheet for the Recordable and Reportable Spills tailgate training held on 7/16/18
        - Guadalupe Maintenance 2019 Maintenance Staff – Safety Tailgate Sign-In Sheet for the Hazardous and Non-Hazardous Waste tailgate training held on 5/8/19
        - Guadalupe Maintenance 2019 Maintenance Staff – Safety Tailgate Sign-In Sheet for the Recordable and Reportable Spills tailgate training held on 7/9/19
        - Guadalupe Maintenance 2020 Body Shop Staff – Safety Tailgate Sign-In Sheet for the Handling and Documenting Waste tailgate training
        - Guadalupe Maintenance Tailgate Sign-In Sheet for the Recordable and Reportable Spills tailgate training held on 7/28/20
        - Guadalupe Maintenance 2021 Tailgate Sign-In Sheet for the Handling and Documenting Waste tailgate training held on 4/22/21
- Employee #14546 – LRV maintenance
    - Staff reviewed the following for this employee:
        - Guadalupe Maintenance 2018 Safety Tailgate Sign-In Sheet for the Hazardous Waste: Oily Contaminated Debris tailgate training held on 5/3/18
        - LRV Maintenance Safety Tailgate Sign-In Sheet for the Hazardous Waste tailgate training held on 5/7/19
        - LRV Maintenance Safety Tailgate Sign-In Sheet for the Handling and Documenting Waste tailgate training held on 4/9/20
        - LRV Maintenance Safety Tailgate Sign-In Sheet for the Handling and Documenting Waste tailgate training held on 4/13/21
        - LRV Maintenance Safety Tailgate Sign-In Sheet for the Recordable and Reportable Spills tailgate training held on 9/8/21
- Employee #14130 – LRV maintenance
    - Staff reviewed the following for this employee:
        - Guadalupe Maintenance 2018 Safety Tailgate Sign-In Sheet for the Hazardous Waste: Oily Contaminated Debris tailgate training held on 5/3/18
        - LRV Maintenance Safety Tailgate Sign-In Sheet for the Hazardous Waste tailgate training held on 5/7/19
        - LRV Maintenance Safety Tailgate Sign-In Sheet for the Handling and Documenting Waste tailgate training held on 4/9/20
        - LRV Maintenance Safety Tailgate Sign-In Sheet for the Handling and Documenting Waste tailgate training held on 4/13/21
        - LRV Maintenance Safety Tailgate Sign-In Sheet for the Recordable and Reportable Spills tailgate training held on 9/8/21

All six employees attended annual training on handling hazardous materials and/or spill incident reporting, response, and clean-up between years 2018-2021 except for Employee #10162 who changed roles in 2018-2019, and his current role does not require this type of training.

3. Any recordable spill needs to be recorded on the VTA Hazardous Materials Spill Log, Form A302A (SSS-SAF-IIPP-1601, Appendix A). Any reportable spill must be recorded on the Emergency Hazardous Materials Spill/Leak Report Form, Form A302B (SSS-SAF-IIPP-1601, Appendix B). VTA also logs spill incidents in Vector Solutions. If any amount of spill goes down a storm drain, they must report it to California Office of Emergency Services (Cal OES), which is mentioned on the Recordable and Reportable Spills tailgate training material provided in September 2021. An oil or anti-freeze spills occasionally occurs at VTA. VTA does have a contractor that handles most of their spills. If a spill is small enough, there are crews who can clean it onsite. If a spill is large and takes considerably more effort to clean it up, a contractor is called to clean it up.
VTA Staff provided CPUC Staff with the following two incidents as examples to show that spill incidents have been documented and filed properly. Staff reviewed the Initial Incident Forms for these incidents as documented on Vector Solutions, which are summarized below.
   - Cal OES #19-1863 (FY19-01641) – 3/13/2019
     - The Snell Station escalator/elevator line was clogged, and a contractor was onsite to unclog the pipe which activated the pumps. The water pumped directly into the "park and ride" lot and into a storm drain. Cal OES was notified on 3/19/2019 with a report number of 19-1863. Operations and Environmental Planning were aware of this issue and have worked to resolve it. The Department of Fish and Wildlife contacted VTA and requested manholes be opened to ensure the oily water did not make it further down the line. This was verified, and Fish and Wildlife were satisfied with opening of five manholes to verify no sheen on the water was present.
   - Cal OES #19-3002 (FY19-01937) – 5/7/2019
     - At the Guadalupe Light Rail division, a contractor was washing ducting from WPS with a hose into the storm drain. The unauthorized discharge was dust and hose water. Less than 10 gallons entered into the storm drain. This was reported to Cal OES on 5/8/19 and the report number is 19-3002.

   In addition, Staff reviewed the VTA Hazardous Materials Spill Log for the recordable spill that occurred on 7/24/19 and Emergency Hazardous Materials Spill/Leak Report Forms for the reportable spills that occurred on 5/11/18, 10/28/20, 11/3/20, 3/5/21, and 4/15/21 at the Guadalupe Light Rail facility. The spills/leaks reported on these forms were contained and cleaned up immediately after they were reported as noted on the forms in accordance with the spill cleanup methods mentioned on the Spill Cleanup, Reporting and Recording procedure, SSS-SAF-IIPP-1601. Based on Staff's review of the records mentioned above, Staff determined that the hazardous materials discharge/spill

reports for incidents reported in the past 4 years have been prepared and filed properly as per SSS-SAF-IIPP-1601.

Findings:

1. VTA had missed a few weekly inspections of hazardous waste containers at the Guadalupe Division during the past four years as required by its SSS-SAF-IIPP-0701, Section 4.1.2, as mentioned in the Activities section, element 1d, above.
2. VTA did not perform a number of daily inspections of hazardous waste storage tanks at the Guadalupe Division during the past four years as required by its SSS-SAF-IIPP-0701, Section 4.1.1, as mentioned in the Activities section, element 1d, above.

Comments:

None.

Recommendations:

1. VTA must comply with its document SSS-SAF-IIPP-0701, Sections 4.1.1 and 4.1.2 and conduct and document inspections accordingly.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**20**	**Element**	**Drug and Alcohol Program**
Date of Audit	04/28/2022	**Department(s)**	Human Resources - Substance Abuse Program
Auditor/Inspector	Daniel Kwok Yan Solopov	**Persons Contacted**	Leo dela Cruz, Transit Safety Officer Linda Durham, Senior HR Analyst Sommer Gonzalez, Senior HR Analyst Vickie Leyva, Human Resources Assistant

REFERENCE CRITERIA

1. CPUC General Order 164-D
2. CPUC General Order 164-E
3. CPUC General Order 143-B
4. 49 CFR 659(renumbered to 49 CFR 674)
5. VTA System Safety Program Plan (SSPP) Revision 15 dated February 3, 2016
6. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
7. VTA System Safety Program Plan (SSPP) Revision 17 dated August 31, 2018
8. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
9. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
10. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
11. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
12. VTA Drug and Alcohol Policy

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Drug and Alcohol Program

Interview RTA representatives and review appropriate records prepared in the past 3 years to:

1. Verify RTA has a policy for managing the use of over-the-counter drugs.
2. If the RTA does not have a termination policy upon positive testing, select at least two (2) safety-sensitive employees who tested positive for drugs or alcohol in the past 5 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.
    d. Employees who retested positive are disciplined in accordance with the RTA's zero-tolerance policy.
3. Determine if RTA has ever undergone a federal audit of its drug and alcohol program?
    a. What were the recommendations if any?
    b. Have corrective actions to recommendations been addressed?
4. Confirm that this information was accurately reported to FTA through the RTA's annual submission to the Drug and Alcohol Management Information System (DAMIS).

FINDINGS AND RECOMMENDATIONS

Activities:

Staff interviewed VTA representatives and found the following:

1. Staff verified VTA has a policy for use of over-the-counter drugs in VTA's Drug and Alcohol (D&A) Policy. VTA stated employees must notify supervisors use of drugs altering performance, and VTA staff must verify if medication would interfere with their job duties.
2. VTA's D&A Policy indicates progressive discipline for employees testing positive, including termination.

    Per FTA requirements and reflected in VTA D&A Policy, VTA must test 50% of current employees for drugs and 10% of current employees for alcohol annually. Random drug testing period is Monday through Sunday every two weeks. If selected, VTA employees who are on leave during an entire testing period are excused for that period. However, if the selected employee returns during the period, the test is administered upon return. Tested employees are not excluded in the next round of testing.

    There have been two rail safety sensitive employees in 2021 who either tested positive or refused testing. Staff reviewed employee records and determined the following:
    a. Both employees were evaluated by a Substance Abuse Professional (SAP) per VTA and respective employee union agreements. Currently, both employees were in midst of a substance abuse program.
    b. Staff verified both employees testing positive for D&A violations were administered return to duty testing.
    c. Staff verified employees have been re-tested at the following frequencies post return-to-duty:

	Refusal/ Positive date	Retest dates (Year 1)	Retest dates (Year 2)	Retest dates (Year 3)
Employee A	10/7/2021	12/22/2021 1/25/2021 3/14/2022 ***Ongoing**	N/A	N/A
Employee B	3/8/2021	4/30/2021 9/14/2021* 9/22/2021 10/13/2021 11/8/2021 12/23/2021 1/4/2022 2/2/2022 2/28/2022	4/12/2022 ***Ongoing**	N/A

*9/14/2021 was deemed an invalid test due to "negative dilution" and employee B was retested on 9/22/2021

VTA requires at least six tests within one year of a positive result, four tests within second year of a positive result, four tests within third year of a positive result. Record results remain for a duration of five years, if an employee tests positive repeatedly from a random test, the discipline is escalated.

d. Staff reviewed re-test records above and neither employee A or B re-tested positive.

3. VTA has undergone a Federal Transit Administration (FTA) audit of their drug and alcohol program on-site visit on August 5, 2021. FTA's report identified "no deficiencies" for the drug and alcohol program as a result of the audit.
4. Staff reviewed "U.S. Department of Transportation Drug and Alcohol Testing MIS Data Collection Form" from VTA and verified the following:

	Total Positive	Rail Only
2017	5	0
2018	8	0
2019	10	0
2020	6	0
2021	8	2

It was noted the forms do not differentiate between rail-related and bus-related employees, and included several more findings, which VTA staff attributed to bus-related employees.

Findings:
None.

Comments:
None.

Recommendations:
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**21**	**Element**	**Procurement Process**
Date of Audit	4/21/2022	**Department(s)**	Procurement, Contracts and Material Management (PCMM) Operations Maintenance Engineering System Safety and Compliance
Auditor/Inspector	Daniel Kwok	**Persons Contacted**	Leo dela Cruz, System Safety Officer Daren Gee, Construction Contracts Administration Manager Naunihal Singh, Deputy Director of Rail Operations Manjit Khalsa, Senior Systems Engineer Athar Taha, Associate Systems Engineer Seth Wright, Transit Safety Officer

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA Procurement Policy, Memos, and Procedures
10. VTA MTN-PR-8001 Inspection, Testing for Parts Certification
11. VTA Quality Assurance Plan

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

Procurement Process

Interview RTA representatives and review appropriate documentation for the past 4 years to:

1. Verify RTA 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 RTA System.
    a. Are procurements of new equipment and material first reviewed by engineering, transportation, and/or maintenance staff to verify the new equipment or materials won't present a hazard to the existing system?
    b. Do all procurement processes for hazardous materials address all appropriate rules and regulations?
3. Have unexpected problems or process complications delayed the procurement of necessary goods or services available for use?

FINDINGS AND RECOMMENDATIONS

Activities:

Staff met with VTA representatives and determined the following:

1. Based on interviews, VTA procures contractors for a predetermined scope of work, and seek competitive solicitations to hire the correct vendor, which is based on the lowest bid. A similar overarching process is utilized for procurement of material goods.

   VTA's Procurement, Contracts and Material Management (PCMM) department utilizes a monetary threshold invoking a different process and authorizations levels. If procurement is $100k or under for services, a minimum of three quotes is needed for comparison, or is placed out for to market for solicitation. For construction, this threshold is $250k. The VTA Department Director may approve procurements for any amount; however, if the procurement is $1 million or more, the procurement would need to be approved by the VTA Board.

   These discussions outline the general processes outlined in VTA's PCMM Policies and Procedures.

   Staff reviewed the following Procurement Contract Request Forms (PCRF):

VTA Contract #	**Comments:**
C17297F	Project Procurement over $1 mil. Board Approval on 12/7/2017 Procurement in 2018
P17352	Project Procurement under $250k Department Manager signed off Procurement in 2018
P18228	Procurement under $100k for parts; Utilizes Suggested Vendor List Procurement in 2019

C19001F	Procurement over $1 mil. Board Approval on 3/7/2019 Procurement in 2019
C19222	Project procurement over $1 mil Board Approval on 2/6/2020 Procurement in 2020
P22094	Procurement over $100k Division Director signed off Procurement in 2021
P1037	Procurement over $1 mil Board Approved Procurement in 2021

Staff verified the procurements include safety department review and signoff via Procurement Contract Request Form. Interviews indicated this process was documented via "work instructions," however work instructions were not found in provided documentation.

2. Staff reviewed VTA's procedures and controls and determined the following:
    a. Procurements are reviewed by various departments as part of the PCRF process, which includes a hazard review checklist as part of the PCRF package for some projects. Staff verified PCRF Procurements in Q1; relevant VTA departments have reviewed and signed off on purchases, including the Safety Department. After procurement of goods is received, then the procured item is checked by the requestor for any deficiencies.
    b. New chemicals and hazardous materials are reviewed by the Environmental Health and Safety group, which approves the chemicals for procurement prior to purchasing. The Environmental Health and Safety group reviews the new chemicals' SDS sheets, PPE required, storage requirements, and disposal requirements before approval.
    Chemicals with prior approval are already in use at the VTA system and may be purchased per VTA procurement procedures.
    VTA contractors on site who uses chemicals must submit to VTA their work plan, and all chemicals with SDS sheets to be used for the job.
    Staff reviewed Contractor Procurement C17297F following this process, no deficiencies were found.
3. VTA described to Staff they have experienced unexpected procurement delays primarily due to COVID-19 and supply chain issues, and delays are still being experienced at the time of audit. VTA has also faced complications for procurement of vehicle parts due to their aging fleet and vendors no longer producing parts or holding inventory. The result is longer lead times than anticipated, but if there is an immediate need, VTA will contact other RTAs to inquire purchasing from them.

Findings:
None.

Comments:

1. Based on review of PCRF documents, VTA is following the process of reviews and approvals. From the documents provided, there were no written work instructions per audit interview. VTA should formalize the PCRF process in the PTASP or generate a procedure.

Recommendations:
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)

Checklist No.	**22**	**Element**	**CPUC GO 172 – Personal Electronic Device Prohibitions/In-cab Cameras**
Date of Audit	04/28/2022 1200-1600	**Department(s)**	VTA Light Rail Vehicle Maintenance VTA Light Rail Operations VTA Way, Power & Signals VTA Safety & Compliance Department
Auditor/Inspector	Michael Rose Richard Fernandez	**Persons Contacted**	Leo dela Cruz, Transit Safety Officer Larry Bajwa, Superintendent of Light Rail Operations Gurpreet Singh, Assistant Superintendent Phil Sharp, Light Rail Equipment Superintendent Mark Osborn, Transit Maintenance Supervisor Christopher Aguilar, Assistant Superintendent of Service Management Marysela Alcazar, Light Rail Transit Division Supervisor Linda Durham, Senior HR Analyst

REFERENCE CRITERIA

1. CPUC General Order 164-D/E
2. CPUC General Order 143-B
3. 49 CFR 659 (renumbered to 49 CFR 674)
4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022

9. VTA PED Policy
10. VTA SOP 1.2 Video Based Random Monitoring and Enforcement

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

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

Interview RTA representatives and review appropriate documentation to documentation to determine the following:

1. Does RTA's PED procedures comply with General Order 172?
2. Determine if RTA has developed and implemented a PED zero-tolerance policy and program usage, as required by General Order 172, Section 5.
3. Is RTA's zero tolerance policy being enforced?
4. What is the failure rate of in-cab cameras and how many video recording systems (cameras and digital recording drive) failed in the last three years? Verify RTA's recording retention complies with General Order 172.
5. Verify RTA has conducted random evaluations and video-based enforcement for PED usage as required by General Order 172 Section 6.
6. Verify if train operator(s) comply with PED rules (Field Activity See checklist 13-B).

FINDINGS AND RECOMMENDATIONS

Activities:

1. Personal Electronic Device (PED) Policy is available for review and printing on the HUB, which is VTA's internal website and document repository. The PED policy is posted in the Operators Crew Room as well. Employee family members are instructed to call Operations Control Center (OCC) if they need to contact the working family member while on duty, as outlined in CPUC General Order 172 Section 7. During Initial Training and recertification, the employee is provided instruction on VTA SOP 1.2 Video Based and Random Monitoring Enforcement Program for PED. VTA ensures all Union Agreements are included in the discipline policy regarding their PED Policy and can be found in VTA OP-PL-0001. 0001(a)(b)(c).

2. VTA has outlined the Zero-Tolerance Policy as required in General Order 172, up to and including termination. Staff viewed two PED events, including discipline received during the Triennial Period. In 2019 VTA Supervision found Operator #14541 with an improperly stowed PED during a random video review. Operator #14541 was disciplined and received a 2-day suspension from work. In November 2021, VTA Supervision witnessed a PED violation with Operator #14696 wearing a Bluetooth device placed in their ear. Operator #14696 was disciplined and received a 2-day suspension from work.

3. Yes, as covered in Activities #2. VTA also has GO 172 posters outlining PED compliance located in the new Operator's Crew Room in Building I. This helps serve as a reminder of PED requirements for the operators as they go on duty.

4. The failure rate for in-cab cameras from December, 2018 to the present was 56. The year 2021 had 27 total failures. These numbers are updated at the Monthly AROMIKE

meeting for record keeping. The LRV camera system is contracted to Allied Tellesis, responsible for keeping and storage of all records and video for the LRV camera system.

Video requests are created as follows: If VTA Supervision needs to review a video, they contact VTA Protective Services who creates a work order. The work order is sent to Allied Tellesis, and they pull the video by date and time requested. This process takes about one day to complete. VTA and Allied Tellesis are in a seven-year contract that extends until 2027.

Operators have a status bar to inform them the camera system is working properly, which displays across the bottom of the screen 'Ready', or 'Not Ready'. VTA currently has 98 LRV's and all run this video system. In 2020 VTA switched to the new camera system which is an improvement from the previous system. Work orders and repairs for the camera system are fixed within 72 hours. If a failure happens in revenue service, the LRV is taken out of service or moved to center of consist. Having the Operator recycle the On/Off Breaker Switch has corrected a lot of the camera issues. Staff randomly chose video footage dated 4/20/22 from LRV's 980, 982, 985, 994, 998 to determine if the required 8-day retention period requirements are met. All LRV's chosen surpassed the minimum 8 days and had a 30-day retention period though Allied Tellesis. Allied Tellesis tracks all failures and trends, to which, VTA must retrieve for data analysis.

5. VTA has 107 total Operators and conducts ten random video reviews of operators per quarter. VTA randomly selects from three different lines, and 3 shifts of the day. By the numbers VTA adheres to General Order 127 Section 6.

6. Staff spoke with VTA LRV Operators throughout the Audit and found no PED violations while performing field observations. VTA Operators quoted the PED rules and all phones inspected were powered 'OFF' and properly stowed.

<u>Findings:</u>
None.

<u>Comments:</u>
With a total of 107 Operators and the rotating cycle of employees on leave of absence, and/or vacation, VTA should conduct a minimum of one more video evaluation per quarter. This will ensure the General Order 10% minimum requirement is achieved.

<u>Recommendations:</u>
None.

2022 CPUC SYSTEM SAFETY REVIEW CHECKLIST FOR SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)			
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 Audit	April 18, 2022	**Department(s)**	Transportation Operations Light Rail Technical Training Maintenance Training System Safety and Compliance
Auditor/Inspector	Sal Herrera Shane Roberson Samuel Herroz	**Persons Contacted**	Lynn McFadden, Transit Safety Officer Ariel Leary, Light Rail Technical Training Supervisor Diego Carrillo, Acting Way Power & Signals Superintendent Elizabeth Jespersen, Manager of Organization & Human Capital Development Larry Bajwa, Superintendent of Light Rail Operations Monte Bjerke, Light Rail Maintenance Training Supervision Phil Sharp, Light Rail Equipment Superintendent Mel Gonzalez, Acting Operations Manager (MOW) Seth Wright, Transit Safety Officer Antonio Tovar, Transit System Safety Supervisor Susan Lucero, Deputy Director System Safety & Compliance
REFERENCE CRITERIA			
1. CPUC General Order 164-D/E 2. CPUC General Order 143-B 3. 49 CFR 659 (renumbered to 49 CFR 674)			

4. VTA System Safety Program Plan (SSPP) Revision 16 dated February 6, 2018
5. VTA System Safety Program Plan (SSPP) Revision 18 dated March 6, 2019
6. VTA System Safety Program Plan (SSPP) Revision 19 dated December 11, 2019
7. VTA Public Transportation Agency Safety Plan (PTASP) Revision 1 dated May 19, 2020
8. VTA Public Transportation Agency Safety Plan (PTASP) Revision 2 dated January 10, 2022
9. VTA RWP Program

ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION

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

Interview RTA representatives and review appropriate documentation to determine the following:

1. Determine if RTA is following their procedure and adhering to General Order 175-A.
2. Verify RWP training records and compliance testing (Sections 9.3 and 9.4) has been performed and:
    a. Verify employees whose duties require work on the right-of-way have received the required training, at maximum intervals of 24 months.
    b. Verify training records for employees in different job classifications are on file for the past 4 years, per GO 175-A
3. Verify RTA documents their near-miss program, unsafe acts, and right to challenge rule, and has these records available for 4 years.
4. Witness a job safety briefing, if possible, and work site for verification. .
5. Verify if roadway workers have a roadway worker rule book.
6. What is the status of RTA's early warning alarm technology?

FINDINGS AND RECOMMENDATIONS

<u>Activities:</u>

CPUC Staff interviewed VTA representatives, reviewed documentation, and field verified RWP:

1. CPUC inspected and reviewed VTA's RWP program per GO 175 requirements. CPUC noted VTA is not conducting compliance checks on contractors or vendors. Nor are they routinely conducting compliance testing for VTA employees as required by GO 175.
2. Refer Checklists 13 and 16 series.
3. VTA has a RWP near-miss program, and any near miss reporting is tracked and followed upon.
4. Refer Checklist 13-B.
5. Refer Checklist 13-B.
6. CPUC noted VTA is currently using an early warning system.

<u>Findings:</u>

VTA staff could not provide RWP compliance checks on VTA employees and contractors.

Comments:
None.

Recommendations:
VTA must conduct compliance checks on VTA employees and contractors as required by GO 175.